



IBM i

Connecting to IBM i
IBM i Access for Web

7.1





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Note

Before using this information and the product it supports, read the information in “Notices,” on page 163.

| This edition applies to IBM i 7.1 of IBM i Access for Web (5770–XH2) and to all subsequent releases and
| modifications until otherwise indicated in new editions. This version does not run on all reduced instruction set
| computer (RISC) models nor does it run on CISC models.

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IBM i Access for Web

IBM® i Access for Web (5770-XH2) is a key offering in the IBM i Access Family (5770-XW1). It offers Web browser-based access to IBM i resources on IBM i systems. IBM i Access for Web enables end users to leverage business information, applications, and resources across an enterprise by extending the IBM i resources to the client desktop through a Web browser.

IBM i Access for Web has the following advantages:

- It is server based.
- It is implemented using Java™ servlet and portlet technology.
- It uses industry standard protocols: HTTP, HTTPS, and HTML.
- It is lightweight, requiring only a browser on the client.
- It provides a 5250 user interface and access to IBM i resources, such as the IBM i database, integrated file system, printers, printer output, jobs, batch commands, and messages.

What's new for IBM i 7.1

For i 7.1, IBM i Access for Web contains numerous new functions for both the Web application server and portal environments.

New Web application server environment support

The following information describes the new support in the Web application server environment:

- **Addition of Supported Web application servers:** The IBM i Access for Web licensed program now supports the following Web application servers for logical partitions running on IBM i 6.1, or later. For the latest information about this support, see the IBM i Access for Web home page.
 - WebSphere® Application Server V7.0 for IBM i (Base, Express, and Network Deployment Editions)
 - integrated Web application server Instances
- **Print function:** The print support has been enhanced as follows:
 - Support for the AFP to PDF Transform (option 1) of the IBM Transform Services for i (5770-TS1) licensed program product when viewing printer spool output as a PDF document
- **Removal of Supported Web application servers:**
 - WebSphere Application Server V6.0 for IBM i (Base, Express, and Network Deployment Editions)



New portal environment support:

The following information describes the new support in the portal environment:

- **Addition of Supported Portal Environments:** The IBM i Access for Web licensed program now supports the following portal environments for logical partitions running on IBM i 6.1, or later. For the latest information about this support, see the IBM i Access for Web home page.
 - IBM WebSphere Portal V6.1
- **Portal application (Standard) Print function:** The print support has been enhanced as follows:
 - Support for the AFP to PDF Transform (option 1) of the IBM Transform Services for i (5770-TS1) licensed program product when viewing printer spool output as a PDF document
- **Removal of Supported Portal Environments:**
 - IBM WebSphere Portal V6.0
 - IBM WebSphere Portal V5.1

How to see what's new or changed

To help you see where technical changes have been made, this information uses:

- The  image to mark where new or changed information begins.
- The  image to mark where new or changed information ends.

In PDF files, you might see revision bars (|) in the left margin of new and changed information.

To find other information about what's new or changed this release, see the Memo to users.

PDF file for IBM i Access for Web

Use this to view and print a PDF version of this information.


To view or download the PDF version of this document, select IBM i Access for Web (about 670 KB).

Saving PDF files

To save a PDF on your workstation for viewing or printing:

1. Right-click the PDF link in your browser.
2. Click the option that saves the PDF locally.
3. Navigate to the directory in which you want to save the PDF.
4. Click **Save**.

Downloading Adobe Reader

You need Adobe Reader installed on your system to view or print this PDF. You can download a free copy from the Adobe Web site .

License information for IBM i Access for Web

IBM i Access for Web is a licensed program. All components of IBM i Access for Web require an IBM i Access Family (5770-XW1) license before you can use them. The license requirements are in the IBM International Program License Agreement included with IBM i Access Family (5770-XW1).

Important: A software license key is required for IBM i Access Family 5770-XW1. IBM i Access is included on the Keyed Stamped Media that comes with all IBM i software orders. You receive a license key if you order 5770-XW1. If you have not ordered 5770-XW1, you can evaluate the product from the keyed stamped media for 70 days. At the end of the 70-day evaluation period, the product is disabled if you have not ordered the product and received a software license key. The software license key is an 18-digit authorization code that allows the software product and feature on the keyed stamped media to be used on a specified system.

Licensing is managed at the IBM i Access Family (5770-XW1) level, not at the individual client level. Therefore, any combination of the IBM i Access for Windows, IBM i Access for Web, and IBM i Access for Linux clients is allowable up to the license limit. Customers who acquire IBM i Access licenses are entitled to use the IBM i Access for Windows, IBM i Access for Web, and IBM i Access for Linux clients in any combination.

To determine the IBM i Access Family usage limit:

1. Type the WRKLCINF command on the system to which you intend to connect. A list of products appears.

2. Type a 5 in the entry field next to the product 5770XW1 Base, Feature 5050. The details for the IBM i Access Family, including the usage limit is displayed. The usage limit must equal the number of licenses that are purchased for the IBM i Access Family. Any number exceeding the purchased limit violates the IBM license agreement.

To update the usage limit for the 5770-XW1 product on your system, follow these steps:

1. Enter the WRKLICINF command on the system to which you intend to connect. A list of products appears.
2. Enter 2 in the entry field next to the product 5770XW1 V7, Feature 5050. Change the usage limit to the number of licenses that you have purchased for IBM i Access. If you have purchased the processor-based option for IBM i Access, enter the value *NOMAX for usage limit. Entering any number that exceeds the purchased limit violates the IBM license agreement.

To enter the license key information, follow these steps:

1. Enter the WRKLICINF command on the system to which you intend to connect. A list of products appears.
2. Enter 1 in the entry field next to the product 5770XW1 V7R1M0, Feature 5101. Enter the license key information.

Notes: ADDLICKEY values for Usage Limit and Processor Group for Feature 5101:

- Always enter the value *NOMAX in the **Usage Limit** field for Feature 5101. The usage limit value *NOMAX is required as part of the software key. The value *NOMAX is not a representation of the number of users licensed under a user-based license.
- For a user-based license, enter the value *ANY in the **Processor Group** field. A processor-based license has a processor group value that corresponds to the processor group licensed.

WebSphere Application Server or integrated Web application server

IBM i Access for Web running under WebSphere Application Server or integrated Web application server is licensed by the number of concurrently active HTTP sessions. How sessions behave depends on the browser's implementation. For example, each new instance of Internet Explorer results in a new session, thus a new, unique license is used for each instance of Internet Explorer. Each new instance of Mozilla uses the same session, therefore, only one license is used.

IBM i Access for Web expires licenses at five minute intervals. The license is released for a session that is idle for more than five minutes. Activity (retrieving a new Web page) after the license has expired results in a new license being used. For example, when a user uses IBM i Access for Web to request some data from IBM i, a license is retrieved and "held" by the session. If the browser is then left idle for five to ten minutes, the license being used for the session is released. When another action is performed to IBM i Access for Web from this browser, a new license is requested and used.

Note: Only activity to IBM i Access for Web would result in a license being used. Browsing other Web sites in the same browser window would not result in a new license being requested.

Portal environment

The IBM i Access portlets running under a portal environment can be used one or more times on a page, or across multiple pages. Each instance of a portlet is configured to connect to a system with a specific IBM i user profile. A license is used for each unique system and user profile combination within a portal session.

A license is requested when a page containing configured IBM i Access portlets is visited. A license is requested for each portlet only if a license for the configured system and user profile has not been

requested during this portal session. Licenses are held until the portal session ends.

Related reference:

“IBM i software requirements” on page 12

Before installing and using IBM i Access for Web, ensure that you have the appropriate software installed.

Planning for IBM i Access for Web

Before installing IBM i Access for Web, you need to plan for its use by learning conceptual information and considerations of which you need to be aware, and by completing checklists to help you get ready to use IBM i Access for Web.

IBM i Access for Web offerings

IBM i Access for Web has offerings for both the Web application server and the portal server environments. Use the information in these topics to learn about each offering and decide which is best for you.

Related concepts:

“IBM i Access for Web in a portal environment” on page 129

IBM i Access for Web provides a set of portlets to access IBM i resources through a browser interface. These portlets run in the portal environment on an IBM i system.

“IBM i Access for Web in a Web application server environment” on page 20

IBM i Access for Web provides a set of Java servlets to access IBM i resources through a browser interface. These servlets run in a Web application server environment on a system running IBM i. IBM WebSphere Application Server and IBM integrated Web application server for i are supported.

Web application

IBM i Access for Web provides a Web application that runs in an instance of a Web application server.

The Web application is a set of servlets that provide functions for accessing IBM i resources. Each function is accessed as an individual Web page. Additional browser windows are needed to access multiple functions at the same time. You can create bookmarks for quick access to frequently used functions.

The Web application running in an instance of a Web application server provides access to IBM i resources on a single system. The system being accessed does not need to be the system where the Web application is running. To access IBM i resources on a second system, the Web application must be running in a second Web application server instance.

The Web application can run in multiple Web application server instances on the same system with each instance accessing IBM i resources on a different system.

Web serving environment

The combination of an HTTP server and a Web application server provides the Web serving environment for the Web application provided by IBM i Access for Web. The HTTP server receives client HTTP requests from a browser and routes them to the Web application server instance for processing.

For the most current list of supported Web serving environments, refer to the Web page for IBM i Access for Web. This page will be updated with information about any additional Web serving environments supported.

Related concepts:

“Browser considerations” on page 15

There are several considerations regarding browser use that you need to be aware of when using IBM i Access for Web.

“IBM i Access for Web in a Web application server environment” on page 20

IBM i Access for Web provides a set of Java servlets to access IBM i resources through a browser interface. These servlets run in a Web application server environment on a system running IBM i. IBM WebSphere Application Server and IBM integrated Web application server for i are supported.

Related information:

[IBM WebSphere Application Server for IBM i](#)

| [IBM HTTP Server for i](#)

Portal application (Standard)

IBM i Access for Web provides a standard portal application that runs in a portal environment, such as WebSphere Portal.

The standard portal application is a set of portlets, written to the Java Specification Requests (JSR) 168 Portlet Specification, that provide functions for accessing IBM i resources. Each portlet is accessed as part of a page. The portlets can be combined on pages to allow access to multiple functions at the same time. Each portlet can appear on a page multiple times. The portlets can be combined on pages with portlets from other applications to integrate information from IBM i with data from other information sources.

The portal application can provide access to IBM i resources on multiple systems. Each portlet on a page can access IBM i resources on a different system. If a portlet appears on a page multiple times, each instance of the portlet can access a different system.

Web serving environment

The combination of an HTTP server and a portal server, such as WebSphere Portal, provides the Web serving environment for the portal application provided by IBM i Access for Web. The HTTP server receives client HTTP requests from a browser and routes them to the portal environment for processing.

For the most current list of supported portal environments, refer to the Web page for IBM i Access for Web. This page will be updated with information about any additional Portal environments supported.

Related concepts:

Portal application (Standard)

IBM i Access for Web provides a standard portal application that runs in a portal environment, such as WebSphere Portal.

Portal application (IBM)

IBM i Access for Web provides an IBM portal application that runs in a portal environment, such as WebSphere Portal.

The IBM portal application is a set of portlets, written to the IBM Portlet API, that provide functions for accessing IBM i resources.

Note: The IBM Portlet API is a specification, defined by IBM, for developing portal applications. A standard specification, Java Specification Requests (JSR) 168, now exists for developing portal applications. IBM i Access for Web also provides a portal application written to this standard specification. The standard implementation is the strategic IBM i Access for Web portal offering. Each portlet is accessed as part of a page. The portlets can be combined on pages to allow access to multiple functions at the same time. Each portlet can appear on a page multiple times. The portlets can be combined on pages with portlets from other applications to integrate information from IBM i with data from other information sources.

The portal application can provide access to IBM i resources on multiple systems. Each portlet on a page can access IBM i resources on a different system. If a portlet appears on a page multiple times, each instance of the portlet can access a different system.

Web serving environment

The combination of an HTTP server and a portal server, such as WebSphere Portal, provides the Web serving environment for the portal application provided by IBM i Access for Web. The HTTP server receives client HTTP requests from a browser and routes them to the portal environment for processing.

For the most current list of supported portal environments, refer to the Web page for IBM i Access for Web. This page will be updated with information about any additional Portal environments supported.

Related concepts:

“Portal application (IBM)” on page 140

IBM i Access for Web provides an IBM portal application that runs in a portal environment, such as WebSphere Portal.

Security considerations

Security considerations for IBM i Access for Web include user authentication, specifying user access, object-level security, using a security protocol, the use of exit programs, and Single sign-on considerations.

Authentication

IBM i Access for Web needs to have the user identity authenticated so that IBM i resources are accessed with the correct user profile. The methods of authenticating the user identity are different for the Web application and the portal applications.

• Web application

The Web application can be configured to authenticate users or to allow WebSphere to authenticate users.

The Web application authenticates the user identity with IBM i using a user profile and password. HTTP basic authentication is used to prompt for a user profile and password. HTTP basic authentication encodes the user profile and password, but does not encrypt them. To secure authentication information during transmission, secure HTTP (HTTPS) should be used.

WebSphere authenticates the user identity with the active user registry. WebSphere uses HTTP basic authentication, form-based authentication, or Simple and Protected GSS-API Negotiation Mechanism (SPNEGO) to obtain the user credentials. HTTP basic authentication encodes the user ID and password, but does not encrypt them. Form-based authentication sends the user ID and password in clear text. SPNEGO uses Integrated Windows Authentication to obtain the Windows domain logon information for the user. To secure authentication information during transmission, secure HTTP (HTTPS) should be used..

Allowing WebSphere to authenticate the user identity using form-based authentication or SPNEGO enables the Web application to participate in WebSphere single sign-on (SSO) environments. For information on WebSphere single sign-on, see Single sign-on considerations.

• Portal applications

The portal applications rely on the portal server to authenticate the user identity.

Once the portal server has authenticated the user identity, the IBM i Access portlets can be used. Each portlet provides an option in edit mode for selecting the credential to use when accessing IBM i resources. Select one of these options:

Use credential specific to this portlet window

An IBM i user profile and password are supplied for this portlet instance. This credential cannot be used by other portal users or other portlet instances for the current portal user.

Use credential set with IBM i Credentials portlet

An IBM i user profile and password is selected from a list of credentials that were defined using the IBM i Credentials portlet. This credential can be used by other portlet instances for the current portal user, but cannot be used by other portal users.

Use system shared credential set by administrator

An IBM i user profile and password is selected from a list of credentials that were defined by the portal administrator using the Credentials Vault administration function. This credential can be used by all portal users.

Use authenticated WebSphere credential

The authenticated portal environment user identity is mapped to an IBM i user identity using EIM. For information about IBM i Access for Web and EIM, see the "Single sign-on considerations" topic.

For information about how WebSphere Portal authenticates the user identity, see **Securing your portal > Security Concepts > Authentication** in the WebSphere Portal Information Center.

Restricting access to functions

Users can be restricted from accessing IBM i Access for Web functions. Different methods of restricting access are used in the Web application and the portal application.

For information on restricting access to functions for the Web application, see the "Policies" topic.




For information on restricting access to functions for the portal application, see the "Portal roles" topic.

Object level security

IBM i Access for Web uses object level security when accessing IBM i resources. Users will not be able to access IBM i resources if their IBM i user profile does not have the proper authority.

Secure HTTP (HTTPS)

You can configure the system to use a security protocol, called Secure Sockets Layer (SSL), for data encryption and client/server authentication. For information about SSL, HTTPS, and digital certificates, see the following:

- Security and SSL information in the HTTP Server for i documentation .
- Security and SSL information in the WebSphere Application Server documentation .
- Securing your portal in the WebSphere Portal V6.1 information center .
- Using digital certificates and the SSL to enable secure communications for many applications in the Digital Certificate Manager (DCM) topic.

Exit programs

IBM i Access for Web makes extensive use of the following Host Servers:

- Signon
- Central
- Remote Command/Program Call
- Database
- File
- Network Print

Exit programs that restrict access to these servers, especially Remote Command/Program Call, will cause all or portions of IBM i Access for Web to not function.

Related concepts:

"Browser considerations" on page 15

There are several considerations regarding browser use that you need to be aware of when using IBM i

Access for Web.

“Policies” on page 85

The Customize Policies function controls access to IBM i Access for Web functions. Individual policy settings can be administered at the IBM i user and group profile level.

“Portal roles” on page 149

In WebSphere Portal, access to portlets is controlled by roles. A role defines a set of permissions to a resource, such as a portlet, for a specific user or group. By default, the *Privileged user* role is assigned to the IBM i Access portlets, for the *All Authenticated Users* group, when these portlets are deployed.

Related information:

 Digital Certificate Manager (DCM)

Single sign-on considerations

IBM i Access for Web can be used in single sign-on environments. This topic will discuss the single sign-on environment options available to IBM i Access for Web.

WebSphere Application Server SPNEGO

In WebSphere Application Server V7.0, Simple and Protected GSS-API Negotiation Mechanism (SPNEGO) Web authentication enables use of Integrated Windows Authentication to authenticate users to secured web resources using Windows® domain login information. In addition, in WebSphere Application Server, a Simple and Protected GSS-API Negotiation Mechanism (SPNEGO) Trust Association Interceptor (TAI) is provided that also enables use of Integrated Windows Authentication to authenticate users to secured web resources using Windows domain login information. With SPNEGO, single sign-on is extended to the Windows workstation so that the web browser does not prompt for credentials when accessing WebSphere Application Server secured web applications like IBM i Access for Web.

WebSphere Application Server Identity Token Connector

In WebSphere Application Server and WebSphere Portal environments, a user is authenticated with the WebSphere user registry and Enterprise Identity Mapping (EIM) is used to map the authenticated WebSphere user identity to an IBM i user profile. With the Identity Token Connector support, users signon to the WebSphere web application server and all resources and web applications secured within the environment use the authenticated WebSphere credentials.

WebSphere Application Server SPNEGO


| SPNEGO Web authentication and a SPNEGO TAI are available in WebSphere Application Server. In this
| environment, users logon to their Windows workstation using a Windows domain account. The Windows
| domain login information is then used to grant access to WebSphere Application Server secured resources
| and web applications like IBM i Access for Web.

The authentication method used by Windows domain login environments is Kerberos based. SPNEGO is a protocol designed to enable web servers to negotiate authentication using Kerberos based credentials when web browser requests are received. Web browsers must be specifically configured to recognize SPNEGO based requests. When configured for SPNEGO, web browsers are able to negotiate Kerberos based authentication with the web server instead of the more traditional HTTP Basic Authentication scheme (in which the browser prompts for the user name and password). With SPNEGO, single sign-on is extended to the Windows workstation. The web browser does not need to prompt for user credentials when accessing WebSphere Application Server secured resources.

To begin using a SPNEGO environment, additional configuration is required:

- Kerberos must be set up on IBM i
- A SPNEGO enabled WebSphere web application server environment must be configured
- An EIM domain configuration to enable mapping of Windows domain users to IBM i user profiles.
- IBM i Access for Web must be configured to the WebSphere web application server

- The Windows domain user account set up must be completed

To help complete the required setup listed above, documentation is available on the IBM i Access for Web site .


WebSphere Application Server Identity Token Connector

IBM i Access for Web supports participating in WebSphere SSO environments using an Identity Token Connector. When enabled, users provide WebSphere credentials when accessing IBM i resources with IBM i Access for Web. The user is authenticated with the active WebSphere user registry and Enterprise Identity Mapping (EIM) is used to map the authenticated WebSphere user identity to an IBM i user profile. The IBM i user profile is used to authorize access to the requested IBM i resources. Single sign-on with WebSphere is supported in both the Web application server and portal environments.


SSO with WebSphere and IBM i Access for Web require the following configurations:

- WebSphere Application Server with global security enabled and an active user registry to authenticate users.
- An EIM domain configuration to enable mapping of WebSphere user identities to IBM i user profiles.
- The EIM Identity Token Connector (resource adapter) installed and configured into WebSphere Application Server.
- IBM i Access for Web must be configured to the WebSphere web application server.

WebSphere global security

For information on WebSphere global security, search for "Configuring global security" in the appropriate version of the WebSphere Application Server information center. Links to the WebSphere information centers are in the WebSphere Application Server documentation .


EIM domain configuration

For information on EIM domain configuration, documentation is available on the IBM i Access for Web site .

EIM Identity Token Connector

The EIM Identity Token Connector is a resource adapter that must be installed and configured into WebSphere when enabling IBM i Access for Web for WebSphere SSO. The IBM i Access for Web application and portal application request identity tokens from the connector. Identity tokens are encrypted data strings that represent the currently authenticated WebSphere user. Identity tokens are input to EIM lookup operations, which map an authenticated WebSphere user identity to an IBM i user profile.

The connector supports J2C connection factories with JNDI names `eis/IdentityToken` and `eis/iwa_IdentityToken`. By default, IBM i Access for Web attempts to use configuration values from the factory defined with JNDI name `eis/iwa_IdentityToken`. If this factory is not found, configuration values from the factory defined with JNDI name `eis/IdentityToken` are used.

For information about EIM Identity Token Connector configuration, refer to the Configure the Enterprise Identity Mapping (EIM) Identity Token Connection Factory topic in the WebSphere Application Server information center. Links to the WebSphere information centers are in the WebSphere Application Server documentation .

Configuration examples

See the Configuring WebSphere Application Server V7.0 for i with Single sign-on topic or the Configuring WebSphere Application Server V6.1 for i with Single sign-on for examples of configuring IBM i Access for Web with Identity Token SSO in a Web application server environment.

Related concepts:

“IFrame” on page 155

The IBM i Access for Web IFrame portlet lets you access IBM i Access for Web servlet functions from a portal environment.

“Login template” on page 95

The login template supplies content to display before and after the login form when IBM i Access for Web is configured for form-based, application server authentication. For information on form-based, application server authentication, see Security considerations.

“Default page content” on page 85

IBM i Access for Web generates most of its page content dynamically in response to user actions. The remainder of the content is retrieved from static HTML files, which you can customize. A style sheet is also used to control certain aspects of the content's appearance.

Related tasks:

“Configuring WebSphere Application Server V7.0 for IBM i with Single sign-on” on page 30

This example is for users that are not familiar with the Web serving environment. It describes all the steps necessary to get IBM i Access for Web running in a WebSphere Application Server V7.0 for IBM i environment with single sign-on (SSO) enabled. It also describes how to verify that the setup is working.

“Configuring WebSphere Application Server V6.1 for IBM i with Single sign-on” on page 50

This example is for users that are not familiar with the Web serving environment. It describes all the steps necessary to get IBM i Access for Web running in a WebSphere Application Server V6.1 for IBM i environment with single sign-on (SSO) enabled. It also describes how to verify that the setup is working.

Related reference:

“Configuring IBM i Access for Web in a Web application server environment” on page 20

Installing IBM i Access for Web on the system running IBM i does not make it available for use. To use IBM i Access for Web, it must be configured in the Web application server environment.

“Configuring IBM i Access for Web in a portal environment (IBM)” on page 142

Installing IBM i Access for Web on the system running IBM i does not make it available for use. To use IBM i Access for Web, it must be deployed to the portal environment.

Related information:

Enterprise Identity Mapping

Checklist: Planning, installing, and configuring

This checklist guides you through the steps necessary to plan, install, verify, and configure a simple IBM i Access for Web environment. These steps do not take into account other Web applications or more complex Web environments.

1. Verify that your IBM i has the necessary hardware listed in “IBM i hardware requirements” on page 11.
2. Verify that your system running IBM i has the prerequisite software and PTFs listed in “IBM i software requirements” on page 12.
3. Verify that your Web browser meets the requirements listed in “Web browser requirements” on page 15.
4. Install the IBM i Access for Web product and PTFs on the IBM i system using the instructions in “Installing IBM i Access for Web” on page 18 and “Installing IBM i Access for Web PTFs” on page 19.
5. If you want to use the Web application provided by IBM i Access for Web, follow the instructions in “Configuring IBM i Access for Web in a Web application server environment” on page 20.

Note: This step is required even if you are upgrading from a previous release.

6. If you want to use the standard portal application provided by IBM i Access for Web, follow the instructions in “Configuring IBM i Access for Web in a portal environment (Standard)” on page 131.

Note: This step is required even if you are upgrading from a previous release.

7. If you want to use the IBM portal application provided by IBM i Access for Web, follow the instructions in “Configuring IBM i Access for Web in a portal environment (IBM)” on page 142.

Note: This step is required even if you are upgrading from a previous release.

Related concepts:

“IBM i Access for Web offerings” on page 4

IBM i Access for Web has offerings for both the Web application server and the portal server environments. Use the information in these topics to learn about each offering and decide which is best for you.

Related tasks:

“Saving and restoring IBM i Access for Web in a Web application server environment” on page 128

The commands SAVLICPGM and RSTLICPGM can be used to save and restore IBM i Access for Web from one system to another. Using these commands has the same effect as installing IBM i Access for Web using the install media (CD-ROM). However, the advantage of using the commands is that any IBM i Access for Web PTFs that have been applied are saved from the source system and restored to the target system.

Related reference:

“Upgrade considerations” on page 16

When upgrading IBM i Access for Web from a previous release, there are considerations when using the Web application and IBM portal application.

Saving and restoring IBM i Access for Web in a portal environment

IBM i Access for Web can be propagated to other IBM i systems but there are considerations that need to be reviewed before saving and restoring it.

Saving and restoring IBM i Access for Web in a portal environment

IBM i Access for Web can be propagated to other IBM i systems but there are considerations that need to be reviewed before saving and restoring it.

Prerequisites for installing IBM i Access for Web

Before you begin your installation, use this information to ensure you meet all the hardware, software, and Web browser requirements.

IBM i hardware requirements

Before installing IBM i Access for Web, ensure you have the appropriate models, features, memory, and disk space.

System models, processor features, and memory

For information about the system models, processor features, and system memory required for your IBM i system, depending on your application server type, see the following:

- WebSphere Application Server.
 1. Click the appropriate WebSphere Application Server version and edition.
 2. Click **Prerequisites**.
- WebSphere Portal .
 1. Navigate to the Hardware and Software requirements section for your IBM i version of WebSphere Portal.
 2. Follow appropriate links for your release of software.

- HTTP Server for i.

The integrated Web application server is part of IBM i. There are no additional hardware requirements for the integrated Web application server.

System disk space

IBM i Access for Web requires 380 MB of free disk space on the system.

Note:

1. IBM i Access for Web consists of servlets and portlets. Take this into consideration when reviewing the hardware requirements for Web application servers.
2. For help with sizing all system configurations, use the IBM Workload Estimator, located under **Tools** on the Support for IBM System i® Web page.

Related concepts:



“IBM i Access for Web offerings” on page 4

IBM i Access for Web has offerings for both the Web application server and the portal server environments. Use the information in these topics to learn about each offering and decide which is best for you.

Tune performance:

The workload required to support a Web serving environment is greater than traditional workload environments. Your system running IBM i may need to be tuned to operate efficiently for a Web serving environment.

The following Web sites provide information to help tune the system running IBM i for this environment:

- [WebSphere Application Server \(i5/OS\) Version 6.1 Tuning performance](#) 
- [WebSphere Application Server \(IBM i\) Version 7.0 Tuning performance](#) 
- [IBM Systems Workload Estimator](#)

Related concepts:

“IBM i Access for Web offerings” on page 4

IBM i Access for Web has offerings for both the Web application server and the portal server environments. Use the information in these topics to learn about each offering and decide which is best for you.

IBM i software requirements

Before installing and using IBM i Access for Web, ensure that you have the appropriate software installed.

The following table lists required and optional software needed to run IBM i Access for Web. Each product should be installed at the latest fix level. There are additional software requirements associated with each of the supported Web environments. The steps needed to access these prerequisites are listed after the table.

Table 1. Required and optional software

Product	Option	Description	Optional
5770-SS1		IBM i 7.1	
5761-SS1		IBM i 6.1	
5770-SS1	3	Extended Base Directory Support	
5761-SS1		Note: The integrated Web application server is part of this product.	

Table 1. Required and optional software (continued)

Product	Option	Description	Optional
5770-SS1	8	AFP Compatibility Fonts	
5761-SS1			
5770-SS1	12	Host Servers	
5761-SS1			
5770-SS1	30	QShell Interpreter	
5761-SS1			
5770-SS1	34	Digital Certificate Manager Note: This is required only to use the Secure Sockets Layer (SSL) protocol.	X
5761-SS1			
5722-IP1	Base	IBM Infoprint Server Note: This software product is optional. It is not required to view basic PDF output. Install this product for advanced PDF functions.	X
5761-JV1	Base	IBM Developer Kit for Java	
	7	Java Developer Kit 5.0	
	8	J2SE 5.0 32 bit	
	9	J2SE 5.0 64 bit	
	10	Java SE Development Kit 6	
	11	Java SE 6 32 bit	
	12	Java SE 6 64 bit Note: <ul style="list-style-type: none"> Refer to the WebSphere Application Server, or WebSphere Portal documentation for the required version. Options 7 & 10 are only available on IBM i 6.1 	
5770-TC1	Base	TCP/IP Connectivity Utilities	
5761-TC1			
5770-DG1	Base	IBM HTTP Server Note: The integrated Web application server is part of this product.	
5761-DG1			
5770-XW1	Base	IBM i Access Family IBM i Access Enablement Support	
5761-XW1			
5733-W61	See the WebSphere application server Web site.	IBM WebSphere Application Server V6.1 for i5/OS (Base, Express, and Network Deployment Editions)	
5733-W70		IBM WebSphere Application Server V7.0 for IBM i (Base, Express, and Network Deployment Editions) Note: For a current list of supported WebSphere Application Server environments, refer to the IBM i Access for Web home page	
		WebSphere Portal for Multiplatforms V6.1 Note: <ul style="list-style-type: none"> This is required only if you want to use the portal application provided by IBM i Access for Web. For a current list of supported portal environments, refer to the IBM i Access for Web home page. 	

Table 1. Required and optional software (continued)

Product	Option	Description	Optional
5770-TS1	Base 1	IBM Transform Services for i Transform Services - AFP to PDF Transform Note: This software product is optional. It is not required to view basic PDF output. Install this product for advanced PDF functions.	

WebSphere Application Server prerequisites

1. Access the WebSphere Application Server documentation.
2. Choose the appropriate WebSphere Application server version and edition.
3. Choose **Prerequisites**.

WebSphere Portal prerequisites

1. Access the WebSphere Portal documentation.
2. Choose the appropriate version category.
3. Choose **Hardware and Software Requirements**.
4. Select the appropriate option for your version of WebSphere Portal.

Related concepts:

“License information for IBM i Access for Web” on page 2

IBM i Access for Web is a licensed program. All components of IBM i Access for Web require an IBM i Access Family (5770-XW1) license before you can use them. The license requirements are in the IBM International Program License Agreement included with IBM i Access Family (5770-XW1).

“IBM i Access for Web offerings” on page 4

IBM i Access for Web has offerings for both the Web application server and the portal server environments. Use the information in these topics to learn about each offering and decide which is best for you.

“Security considerations” on page 6

Security considerations for IBM i Access for Web include user authentication, specifying user access, object-level security, using a security protocol, the use of exit programs, and Single sign-on considerations.

Related reference:

“Print” on page 118

IBM i Access for Web provides support to access spooled files, printers, printer shares, and output queues on a system running IBM i. It also provides support for automatic transformation of SCS and AFP printer output to PDF documents.

PTF requirements:

After the required software has been installed on the system, the latest available fixes should also be loaded and applied.

Cumulative PTF package

You should install the currently available cumulative PTF package for the IBM i version you are running before installing any other fixes. You must install the latest IBM i cumulative PTF package before installing the group PTF for WebSphere Application Server, WebSphere Portal, or integrated Web application server.

WebSphere Application Server

WebSphere PTFs are delivered as group PTFs. These group PTFs contain all the fixes required, across different software products, to bring WebSphere up to a specific fix level. To obtain the correct PTFs, refer to the WebSphere application Server PTFs Web page. From the Support tab, select your version of operating system and WebSphere.

WebSphere Portal

To access fix information, refer to the WebSphere Portal and Lotus® Web Content Management page.

Web browser requirements

To use IBM i Access for Web, your Web browser must accept cookies and support the current HTTP, HTML, and CSS specifications. This topic lists specific browsers that have been tested with IBM i Access for Web.

- | • Firefox 2.0 (Windows and AIX®)
- | • Firefox 3.0 (Windows and Linux)
- | • Firefox 3.5 (Windows)
- | • Internet Explorer 7 (Windows)
- | • Internet Explorer 8 (Windows)
- | • Google Chrome (Windows)

Other browsers (for these and other platforms) that support the current HTTP, HTML and CSS specifications should work, but have not been tested with IBM i Access for Web.

IBM i Access for Web requires that your browser be configured to accept cookies that persist for the duration of the browser session and are returned to the originating system. For more information about cookies, see your browser's help information.

Browser considerations:

There are several considerations regarding browser use that you need to be aware of when using IBM i Access for Web.

- **Browser plug-ins**

A browser plug-in or a separate application may be needed to view some of the content returned by IBM i Access for Web.

- **Opera 6.0 browser**

The Opera 6.0 browser cannot display PDF documents using the Adobe Acrobat Reader plug-in if the URL used to access the document contains parameters.

Web application

The following considerations apply to the Web application provided by IBM i Access for Web.

- **Content-type (MIME-type) mapping**

When downloading a file to the browser, IBM i Access for Web uses the file extension to determine the file content-type (MIME-type). The file content-type is used by the browser to determine how best to render the information. IBM i Access for Web provides a way to extend or override the included file extension to file content-type mapping. See Content-type (MIME-type) mapping in "File considerations" for more information.

- **Force a Save As window when downloading files**

When using Microsoft Internet Explorer and any of the IBM i Access for Web functions to download a file to the browser, often Internet Explorer will display the file's content in the browser window without offering an opportunity to save the file. Internet Explorer examines the data in the file and

determines that it is capable of displaying the data within the browser window. See Forcing a Save As window when downloading files in "File considerations" for information on working around this issue.

- **Log out**

HTTP basic authentication does not have a means of logging out a user. You must close all browser windows to clear the user identity from the browser.

- **Bookmarks**

Pages of the Web application may be bookmarked for easier access. In wizards, only the first page may be bookmarked.

- **Realm**

The term Realm is used by some browsers when prompting for user name and password with HTTP basic authentication. When the Web application is configured to authenticate the user identity, the realm is the host name of the system containing the IBM i resources you are accessing.

- **URL**

Use `http://<system_name>/webaccess/iWAMain` to access the main page of the Web application. Use `http://<system_name>/webaccess/iWAHome` to access the home page. Both of these pages can be customized.

Related concepts:

"Web application" on page 4

IBM i Access for Web provides a Web application that runs in an instance of a Web application server.

"Portal application (IBM)" on page 140

IBM i Access for Web provides an IBM portal application that runs in a portal environment, such as WebSphere Portal.

"Portal application (Standard)" on page 130

IBM i Access for Web provides a standard portal application that runs in a portal environment, such as WebSphere Portal.

"Security considerations" on page 6

Security considerations for IBM i Access for Web include user authentication, specifying user access, object-level security, using a security protocol, the use of exit programs, and Single sign-on considerations.

"Default page content" on page 85

IBM i Access for Web generates most of its page content dynamically in response to user actions. The remainder of the content is retrieved from static HTML files, which you can customize. A style sheet is also used to control certain aspects of the content's appearance.

Related information:

|  [IBM WebSphere Application Server for IBM i](#)

|  [IBM HTTP Server for i](#)

Upgrade considerations

When upgrading IBM i Access for Web from a previous release, there are considerations when using the Web application and IBM portal application.

Upgrade process

Upgrading IBM i Access for Web from a previous release is performed in two steps.

1. Install the new release of IBM i Access for Web on the IBM i system. This overlays the previous release of the product.
2. Configure, or reconfigure, IBM i Access for Web. This enables the new functions provided in the new release and preserves all of the existing user-generated data.

Web application considerations

The web application servers supported in the new release of IBM i Access for Web are not the same as those supported in the previous release. Older versions of WebSphere Application Server are no longer supported.

If you are using IBM i Access for Web with an older version of WebSphere Application Server, you will need to configure a supported web application server. The IBM i software requirements topic lists supported web application servers.

After installing the new release of IBM i Access for Web, you will configure IBM i Access for Web to a supported web application server using the CFGACCWEB2 command. Parameters can be specified on the CFGACCWEB2 command that allow a new configuration to be based on an existing configuration. Using these parameters, all configuration settings and user data can be copied from an existing configuration to a new configuration.

The New web application considerations topic discusses the use of these parameters.

IBM portal environment considerations

If the IBM i Access for Web default pages were created during the original portal configuration and you changed those pages, it is recommended that you do not re-create the default pages when you upgrade. If you recreate the pages, all customization and configuration settings are lost.

The page creation option is a parameter on the IBM i Access for Web configuration command CFGACCWEB2. Specify WPDFTPAG(*NOCREATE) if you do not want to re-create the default pages. Specify WPDFTPAG(*CREATE) to create the default pages. Refer to the help text for the CFGACCWEB2 command and its parameters for more detail.

Note:

- If you used the IBM Web Administration for IBM i wizard interface to create the portal instance and deploy the IBM i Access for Web portlets, the IBM i Access for Web default pages were created automatically.
- This consideration applies only to the IBM portal application.

Related concepts:

“Checklist: Planning, installing, and configuring” on page 10

This checklist guides you through the steps necessary to plan, install, verify, and configure a simple IBM i Access for Web environment. These steps do not take into account other Web applications or more complex Web environments.

Related tasks:

“Installing IBM i Access for Web” on page 18

Follow these instructions to install IBM i Access for Web on the system. You can install 7.1 IBM i Access for Web on 6.1 and later releases of IBM i.

Related reference:

“Configuring IBM i Access for Web in a Web application server environment” on page 20

Installing IBM i Access for Web on the system running IBM i does not make it available for use. To use IBM i Access for Web, it must be configured in the Web application server environment.

“Configuring IBM i Access for Web in a portal environment (IBM)” on page 142

Installing IBM i Access for Web on the system running IBM i does not make it available for use. To use IBM i Access for Web, it must be deployed to the portal environment.

“IBM i software requirements” on page 12

Before installing and using IBM i Access for Web, ensure that you have the appropriate software installed.

“New Web application server considerations” on page 84

Use this information when IBM i Access for Web is already configured for a Web application server and a new Web application server is added to the environment. In this situation, IBM i Access for Web can be configured for the new Web application server based on the existing configuration. All user-generated data and configuration settings can be copied from the existing environment to the new environment.

Related information:

CFGACCWEB2 CL command

Installing IBM i Access for Web

- | Follow these instructions to install IBM i Access for Web on the system. You can install 7.1 IBM i Access for Web on 6.1 and later releases of IBM i.

If you are using an earlier release of the system, see Install, upgrade, or delete IBM i and related software for instructions on upgrading your system to a supported release. If you need to install a new release of IBM i, install the new release before installing IBM i Access for Web.

Note: In order to install IBM i Access for Web, your IBM i profile needs the correct special authorities. You need to have these special authorities: *ALLOBJ, *IOSYSCFG, *JOBCTL, *SECADM. This security level is required for installation and configuration only, not for regular use of IBM i Access for Web.

Installing IBM i Access for Web (5770-XH2) on the system will:

- Overlay a previously installed release of IBM i Access for Web
- Create the required library QIWA2
- Set up the directory structure in the integrated file system:
 - /QIBM/ProdData/Access/Web2/...
 - /QIBM/UserData/Access/Web2/...
- Copy the files from the install media to your system
- Not perform any configuration within an HTTP server or Web application server
- Not start or end any jobs on your system

To install IBM i Access for Web on the system:

1. Sign on to the system with *SECOFR authority.
2. If a previous release of IBM i Access for Web is currently installed and actively running within a Web application server instance, you must stop that Web application server instance or the IBM i Access for Web Web application. Use the QIWA2/ENDACCWEB2 command or the Web application server administrative console to stop the running application.
3. Use the WRKACTJOB SBS(QSYSWRK) command to display all running jobs under the QSYSWRK subsystem. If the QIWAPDFSRV job is running, use option 4 with the OPTION(*IMMED) parameter to end it.
4. Load the medium containing the licensed programs on the installation device. If the licensed programs are contained on more than one medium, you can load any one of them.
5. Type RSTLICPGM in the IBM i command prompt, then F4 to prompt the command.
6. Specify the following values on the Install Options display and press **Enter**:

Table 2. Licensed program install values

Parameter name	Parameter Key	Value
Product	LICPGM	5770XH2
Device	DEV	OPT1 is an example

Table 2. Licensed program install values (continued)

Parameter name	Parameter Key	Value
Optional part to be restored	OPTION	*BASE

The licensed program will now install. If the licensed program is on multiple volumes, the install program will prompt you for a new volume. Load the next media volume, press G and then **Enter**. If you do not have any additional media volumes, press X and then **Enter**.

Note:

1. After the installation of IBM i Access for Web, 5770-XH2 IBM i Access for Web will be listed as an installed licensed program. You can view the list using the command GO LICPGM and selecting option 10.
2. The installation of IBM i Access for Web will not perform any configuration or start any jobs on the system. The configuration must be performed as a separate step for the Web application server or portal server you intend to use. This configuration must be performed even if you are upgrading from a previous release of IBM i Access for Web.

Related reference:

“Upgrade considerations” on page 16

When upgrading IBM i Access for Web from a previous release, there are considerations when using the Web application and IBM portal application.

“Configuring IBM i Access for Web in a Web application server environment” on page 20

Installing IBM i Access for Web on the system running IBM i does not make it available for use. To use IBM i Access for Web, it must be configured in the Web application server environment.

“Configuring IBM i Access for Web in a portal environment (Standard)” on page 131

Installing IBM i Access for Web on the IBM i system does not make it available for use. To use IBM i Access for Web, it must be deployed using the WebSphere Portal administration functions.

“Configuring IBM i Access for Web in a portal environment (IBM)” on page 142

Installing IBM i Access for Web on the system running IBM i does not make it available for use. To use IBM i Access for Web, it must be deployed to the portal environment.

Related information:

ENDACCWEB2 CL command

Installing IBM i Access for Web PTFs

After IBM i Access for Web has been installed on the system, the latest available fixes should also be loaded and applied.

IBM i Access for Web Service Pack PTF information can be found on the IBM i Access for Web Service Packs (PTFs) page. On this page you can determine the latest available PTFs for IBM i Access for Web, other potentially related PTFs, and how to obtain the fixes.

Note: Using the commands Load PTF (LODPTF) and Apply PTF (APYPTF) to install the IBM i Access for Web PTF does not enable the fixes delivered in the PTF. Always review the IBM i Access for Web PTF cover letter before loading and applying the PTF for instructions that are required to enable the fixes.

Default portal pages

For the IBM portal application, the portlets are deployed to the WebSphere Portal environment using the CFGACCWEB2 command. The WPDFTPAG(*CREATE) parameter of the CFGACCWEB2 command creates default IBM i Access for Web portal pages and populates the pages with IBM i Access for Web portlets. When the portlets are used, they have to be configured first. The configuration data for the portlets is associated with the pages where the portlets exist. When an IBM i Access for Web PTF for the

WebSphere Portal environment is installed on the system, the CFGACCWEB2 command is run to redeploy the portlets to the WebSphere Portal environment. It is recommended to specify the WPDFTPAG(*NOCREATE) parameter on the CFGACCWEB2 command. This parameter will redeploy the portlets but will not re-create the default portal pages. This preserves configuration and customization settings for the IBM i Access for Web portlets and portal pages. If WPDFTPAG(*CREATE) is specified on the CFGACCWEB2 command, the default IBM i Access for Web portal pages are recreated and all portlet configuration information associated with those pages is lost.

Note: This information does not apply to the standard portal application.

Related concepts:

“IBM i Access for Web in a portal environment” on page 129

IBM i Access for Web provides a set of portlets to access IBM i resources through a browser interface. These portlets run in the portal environment on an IBM i system.

Related reference:

“Configuring IBM i Access for Web in a portal environment (IBM)” on page 142

Installing IBM i Access for Web on the system running IBM i does not make it available for use. To use IBM i Access for Web, it must be deployed to the portal environment.

“Configuring IBM i Access for Web in a portal environment (Standard)” on page 131

Installing IBM i Access for Web on the IBM i system does not make it available for use. To use IBM i Access for Web, it must be deployed using the WebSphere Portal administration functions.

IBM i Access for Web in a Web application server environment

IBM i Access for Web provides a set of Java servlets to access IBM i resources through a browser interface. These servlets run in a Web application server environment on a system running IBM i. IBM WebSphere Application Server and IBM integrated Web application server for i are supported.

The following topics provide information on configuring, customizing, utilizing, and saving the product in this environment.

Related concepts:

“IBM i Access for Web offerings” on page 4

IBM i Access for Web has offerings for both the Web application server and the portal server environments. Use the information in these topics to learn about each offering and decide which is best for you.

“Web application” on page 4

IBM i Access for Web provides a Web application that runs in an instance of a Web application server.

Configuring IBM i Access for Web in a Web application server environment

Installing IBM i Access for Web on the system running IBM i does not make it available for use. To use IBM i Access for Web, it must be configured in the Web application server environment.

Note: If you are upgrading IBM i Access for Web from a previous release, you must still configure it to enable the new functions. See Upgrade considerations for more information.

Configuration commands

IBM i Access for Web provides commands to perform and manage the configuration on the system. These commands must be used to perform actions such as configuring, starting, ending, and removing the IBM i Access for Web configuration within the Web application server.

Both CL and script commands are provided. The CL commands are installed to the library QIWA2. The script commands are installed to /QIBM/ProdData/Access/Web2/install and can be used within the QShell environment.

The IBM i Access for Web CL commands are:

- **CFGACCWEB2**: Configure the IBM i Access for Web application server.
- **STRACCWEB2**: Start the IBM i Access for Web application server.
- **ENDACCWEB2**: End the running IBM i Access for Web application server.
- **RMVACCWEB2**: Remove the IBM i Access for Web application server configuration.

The IBM i Access for Web script commands are:

- **cfgaccweb2**: Configure the IBM i Access for Web application server.
- **straccweb2**: Start the IBM i Access for Web application server.
- **endaccweb2**: End the running IBM i Access for Web application server.
- **rmvaccweb2**: Remove the IBM i Access for Web application server configuration.

Note: When using the configuration commands for a WebSphere Web application server, the Web application server must be running when the configuration commands are invoked. Also, the remove command must be run while the Web application server used to run IBM i Access for Web still exists. If the Web application server needs to be deleted, run the remove command first.

Providing different types of commands gives you the flexibility to manage IBM i Access for Web using the interface you are most comfortable with. The CL and script commands perform identical functions, they are just invoked differently. The parameters are also identical, but are input differently.

Command help

There are multiple ways to access help for CL commands. Enter the command name on the command line and press F1. Alternatively, enter the command name and press F4 to prompt the command, then move the cursor to any field and press F1 for help on that field.

To get help on a script command, specify the `-?` parameter. For example, start a QShell session by running the command **STRQSH**. Then enter the command `/QIBM/ProdData/Access/Web2/install/cfgaccweb2 -?`

Configuration scenarios

If you are not familiar with the Web serving environment and need to create an HTTP and Web application server, or if you want to create a new Web environment for IBM i Access for Web, examples are available to walk you through the process.

If you are familiar with the Web serving environment and already have HTTP and Web application servers created and ready for use, examples are available that show you how to invoke the IBM i Access for Web commands and what to input into the commands.

Related tasks:

“Installing IBM i Access for Web” on page 18

Follow these instructions to install IBM i Access for Web on the system. You can install 7.1 IBM i Access for Web on 6.1 and later releases of IBM i.

Related reference:

“Upgrade considerations” on page 16

When upgrading IBM i Access for Web from a previous release, there are considerations when using the Web application and IBM portal application.

Related information:

CFGACCWEB2 CL command
STRACCWEB2 CL command
ENDACCWEB2 CL command
RMVACCWEB2 CL command

Examples for configuring a new Web application server environment

These examples provide step-by-step instructions for setting up a complete Web serving environment.

The instructions walk you through creating an HTTP server and a Web application server, configuring IBM i Access for Web, and verifying that IBM i Access for Web web pages can be accessed.

Before using these examples, ensure you have completed the Planning, installing, and configuring checklist.

Related concepts:

“Checklist: Planning, installing, and configuring” on page 10

This checklist guides you through the steps necessary to plan, install, verify, and configure a simple IBM i Access for Web environment. These steps do not take into account other Web applications or more complex Web environments.

| **Configuring an integrated Web application server Instance:**

| This example is for users that are not familiar with the Web serving environment. It describes all the
| steps necessary to get IBM i Access for Web running in an integrated Web application server instance. It
| also describes how to verify that the setup is working.

| Configuring your Web serving environment consists of these steps:

- | • Start the IBM Web Administration for i interface. See step 1.
- | • Create an integrated Web application server instance. See step 2.
- | • Configure IBM i Access for Web. See step 3 on page 23.
- | • Start the Web environment. See step 4 on page 24.
- | • Use a browser to access IBM i Access for Web. See step 5 on page 24.

| **Steps to configure the Web serving environment:**

- | 1. Start the IBM Web Administration for i interface.
 - | a. Start a 5250 session to the system.
 - | b. Sign on with a user profile that has at least these special authorities: *ALLOBJ, *IOSYSCFG,
| *JOBCTL, and *SECADM.
 - | c. Run the following command to start the web administration interface job: STRTCPSVR
| SERVER(*HTTP) HTTPSVR(*ADMIN)
 - | d. Minimize the 5250 session.
- | 2. Create an integrated Web application server instance.
 - | a. Open a browser to `http://<system_name>:2001/HTTPAdmin`.
 - | b. Log in with a user profile that has, at least these special authorities: *ALLOBJ, *IOSYSCFG,
| *JOBCTL, and *SECADM.
 - | c. Select the **Setup** tabbed page.
 - | d. Under Common Tasks and Wizards, select **Create Application Server**.
 - | e. The Create Application Server page opens. Select **Next**.
 - | f. Select an option under IBM integrated Web application server for i, then select **Next**.
 - | g. The Specify Application Server Name page opens. For **Application server name**, specify IWAIAS.
| This will be the name of the integrated Web application server. Select **Next**.

- h. The Specify Internal Ports Used by the Application Server page opens. For **First port in range**, change the default value to 21060. This port number is an example. You should verify this port is available for use, or use a port you know is available. Select **Next**.
- i. The Create a new HTTP server (powered by Apache) page opens.
 - For **HTTP server name**, enter IWAIAS
 - For Port, specify 2060. This port number is an example. You should verify this port is available for use, or use a port you know is available.
 Select **Next**.
- j. The Specify User ID for this Server page opens. Select **Next**.
- k. The Sample Applications page opens. Select **Next** until the Summary page opens.
- l. Select **Finish**.
- m. The Web page is re-displayed with the **Manage > Application Servers** tabbed page active. Under **Server**, IWAIAS is listed with a status of **Creating**. From this Web page, you can manage the integrated Web application server.

Use the refresh icon next to the **Creating** status to refresh the page, if the page does not periodically refresh.

Important: Wait for the status to be updated to **Running** before moving to the next step.

- n. Minimize the browser window.
- 3. Configure IBM i Access for Web.
 - a. Restore the 5250 session window.
 - b. IBM i Access for Web provides commands to configure the product. Two different commands are provided, a CL command and a QShell script command. Both commands provide and perform the same function. Use the version which works best for your circumstances.

To use the CL command, follow these steps:

- 1) Configure IBM i Access for Web for your Web application server by using the following command:

```
QIWA2/CFGACCWEB2 APPSVRTYPE(*INTAPPSVR) INSTANCE(IWAIAS)
```

These are the parameters used:

APPSVRTYPE

Tells the command which Web application server to configure.

INSTANCE

Tells the command which IBM integrated Web application server for i instance to configure.

For help on this command and the parameters, press F1.

Migration Note: If you are already using IBM i Access for Web within another Web application server, refer to the New Web application server considerations topic. This topic discusses additional CFGACCWEB2 command parameters that can be input to migrate user data from an existing configuration to this new configuration.

- 2) Several messages similar to these will be displayed:
 - Configuring IBM i Access for Web.
 - Preparing to perform the configuration changes.
 - IBM i Access for Web command has completed.
- 3) Press F3 or Enter when the command completes to exit the display session.

To use the QShell script command, follow these steps:

- 1) Start the QShell environment by using the following CL command: QSH
- 2) Make the IBM i Access for Web directory the current directory. Run this command:
cd /QIBM/ProdData/Access/Web2/install
- 3) Configure IBM i Access for Web for the Web application server previously created:
cfgaccweb2 -appsvrtype *INTAPPSVR -instance IWAIAS

These are the parameters used:

-appsvrtype

Tells the command which Web application server to configure.

-instance

Tells the command which IBM integrated Web application server for i instance to configure.

For help on this command and the parameters, specify the -? parameter.

Migration Note: If you are already using IBM i Access for Web within another Web application server, refer to New Web application server considerations. This topic discusses additional cfgaccweb2 command parameters that can be input to migrate user data from an existing configuration to this new configuration.

- 4) Several messages similar to these will be displayed:

Configuring IBM i Access for Web.

Preparing to perform the configuration changes.

IBM i Access for Web command has completed.

- 5) Press F3 when the command completes to exit the QShell session.

- c. If the command were to fail or indicate an error, refer to the log files:

- /QIBM/UserData/Access/Web2/logs/cmds.log

High level, cause and recovery information; translated.

- /QIBM/UserData/Access/Web2/logs/cmdstrace.log

Detailed command flow for IBM Software Service; English only.

- d. After successfully configuring IBM i Access for Web, the IBM integrated Web application server instance must be restarted to load the changes to its configuration. This will be done later.
- e. Signoff the 5250 session window and close the window.

4. Start the Web environment.

- a. Return to the browser window that is open to the IBM Web Administration for i server management page.
- b. The **Manage > Application Servers** tabbed page should be active. Under Server **IWAIAS** is listed with a status of **Running**. Stop and restart the integrated Web application server:
 - 1) Select the red icon next to the **Running** status to stop the integrated Web application server. The IWAIAS HTTP server will also be stopped. Select the refresh icon next to the **Stopping** status to refresh the page if the page does not periodically refresh.
 - 2) When the status is updated to **Stopped**, select the green icon next to **Stopped** to start the integrated Web application server. The IWAIAS HTTP server will also be started.
 - 3) The status will be updated to **Starting**. Select the refresh icon next to the Starting status to refresh the page if it does not periodically refresh.

Important: Wait for the status to be updated to Running before moving to the next step. IBM i Access for Web will load and start as the integrated Web application server starts.

- c. Close the browser window.

5. Use a browser to access IBM i Access for Web.

- a. Open a browser to either of the following addresses to access IBM i Access for Web:
 - http://<system_name>:2060/webaccess/iWAHome
 - http://<system_name>:2060/webaccess/iWAMain
- b. Log in using an IBM i user ID and password. The initial load of IBM i Access for Web might take a few seconds. The integrated Web application server is loading Java classes for the first time. Subsequent loads of IBM i Access for Web will be faster.
- c. The IBM i Access for Web Home or Main page displays.
- d. Close the browser window.

By following the preceding steps, you completed these tasks:

- Created an integrated Web application server named IWAIAS.
- Configured IBM i Access for Web for the integrated Web application server instance.
- Stopped and restarted the integrated Web application server and HTTP Web server instance. IBM i Access for Web started when the integrated Web application server instance started.
- Verified that IBM i Access for Web can be accessed from a Web browser.

In this example, only the CFGACCWEB2/cfgaccweb2 command is used to configure IBM i Access for Web. For more information about using all the IBM i Access for Web commands, use the CL command finder, which will find IBM i Access for Web CL commands. As shown above, there are also equivalent QShell script commands.

You can refer to the CL command online help to learn how to use the other QShell script commands.

Related information:

CL command finder

Configuring WebSphere Application Server V7.0 for IBM i:

This example is for users that are not familiar with the Web serving environment. It describes all the steps necessary to get IBM i Access for Web running in a WebSphere Application Server V7.0 for IBM i environment. It also describes how to verify that the setup is working.

Configuring your Web serving environment consists of these steps:

- Start the IBM Web Administration for i interface. See step 1.
- Create an HTTP Web server and a WebSphere Application Server V7.0 Web application server. See step 2.
- Configure IBM i Access for Web. See step 3 on page 26.
- Start the Web environment. See step 4 on page 28.
- Use a browser to access IBM i Access for Web. See step 5 on page 29.

Steps to configure the Web serving environment:

1. Start the IBM Web Administration for i interface.
 - a. Start a 5250 session to the system.
 - b. Sign on with a user profile that has at least these special authorities: *ALLOBJ, *IOSYSCFG, *JOBCTL, and *SECADM.
 - c. Run the following command to start the web administration interface job: STRTCPSVR SERVER(*HTTP) HTTPSVR(*ADMIN)
 - d. Minimize the 5250 session.
2. Create an HTTP Web server and a WebSphere Application Server V7.0 Web application server environment:
 - a. Open a browser to http://<system_name>:2001/HTTPAdmin.

- b. Log in with a user profile that has, at least these special authorities: *ALLOBJ, *IOSYSCFG, *JOBCTL, and *SECADM.
- c. Select the **Setup** tabbed page.
- d. Under Common Tasks and Wizards, select **Create Application Server**.
- e. The Create Application Server page opens. Select **Next**.
- f. Under **WebSphere Application Server**, select **V7.0 Base**. Select **Next**.
- g. The Specify Application Server Name page opens. For **Application server name**, specify iwa70base. This will be the name of the WebSphere Web application server. Select **Next**.
- h. The Select HTTP Server Type page opens. Select **Create a new HTTP server (powered by Apache)** then select **Next**.
- i. The Create a new HTTP server (powered by Apache) page opens.
 - For **HTTP server name**, enter IWA70BASE
 - For Port, specify 2070. This port number is an example. You should verify this port is available for use, or use a port you know is available.
 Select **Next**.
- j. The Specify Internal Ports Used by the Application Server page opens. For **First port in range**, change the default value to 21070. This port number is an example. You should verify this port is available for use, or use a port you know is available. Select **Next**.
- k. The Select Sample Applications page opens. Select **Next** until the Summary page opens.
- l. Select **Finish**.
- m. The Web page is re-displayed with the **Manage > Application Servers** tabbed page active. Under **Server**, iwa70base/iwa70base – V7.0 Base is listed with a status of **Creating**. From this Web page, you can manage the WebSphere application server.

Use the refresh icon next to the **Creating** status to refresh the page, if the page does not periodically refresh.
- n. When the status is updated to **Stopped**, select the green icon next to **Stopped** to start the WebSphere application server. The status will be updated to **Starting**. If you are prompted to also start the IWA70BASE HTTP server, clear the IWA70BASE HTTP server option so that it does not start at this time. The status will be updated to Starting.

Use the refresh icon next to the **Starting** status to refresh the page if the page does not periodically refresh. IBM i Access for Web requires that the WebSphere application server is running before it can be configured.

Important: Wait for the status to be updated to **Running** before moving to the next step.

- o. Minimize the browser window.
3. Configure IBM i Access for Web.
 - a. Restore the 5250 session window.
 - b. To see the WebSphere application server running, run the command: WRKACTJOB SBS(QWAS7)
 - c. Verify that IWA70BASE is listed as a job running under the QWAS7 subsystem. IBM i Access for Web requires the WebSphere application server is running before it can be configured.
 - d. Verify the Web application server is ready:
 - 1) Enter option 5 on your IWA70BASE job.
 - 2) Enter option 10 to display the job log.
 - 3) Press F10 to display detailed messages.
 - 4) Verify the message **WebSphere application server iwa70base ready** is listed. This message indicates that the application server is fully started and is ready for Web serving.
 - 5) Press F3 until you return to a command line.

- e. IBM i Access for Web provides commands to configure the product. Two different commands are provided, a CL command and a QShell script command. Both commands provide and perform the same function. Use the version which works best for your circumstances.

To use the CL command, follow these steps:

- 1) Configure IBM i Access for Web for your Web application server by using the following command:

```
QIWA2/CFGACCWEB2 APPSVRTYPE(*WAS70BASE) WASPRF(iwa70base)
APPSVR(iwa70base)
WASINSDIR(/QIBM/ProdData/WebSphere/AppServer/V7/Base)
```

These are the parameters used:

APPSVRTYPE

Tells the command which Web application server to configure.

WASPRF

Tells the command which profile of the Web application server to configure.

APPSVR

Tells the command the name of the Web application server within the profile to configure.

WASINSDIR

Tells the command the location in the IBM i integrated file system where WebSphere Application Server V7.0 was installed. The default value is /QIBM/ProdData/WebSphere/AppServer/V7/Base.

WASUSRID

Tells the command the user ID to use for WebSphere Application Server configuration changes when WebSphere security has been enabled for the profile. In this example, security was not enabled. This parameter is not required for this example.

WASPWD

Tells the command the password for the user ID specified using the WASUSRID parameter. In this example, security was not enabled. This parameter is not required for this example.

For help on this command and the parameters, press F1.

Migration Note: If you are already using IBM i Access for Web within another Web application server, refer to the New Web application server considerations topic. This topic discusses additional CFGACCWEB2 command parameters that can be input to migrate user data from an existing configuration to this new configuration.

- 2) Several messages similar to these will be displayed:

```
Configuring IBM i Access for Web.
```

```
Preparing to perform the configuration changes.
```

```
Calling WebSphere to perform the configuration changes.
```

```
IBM i Access for Web command has completed.
```

```
The WebSphere application server must be stopped and then started to enable the configuration changes.
```

- 3) Press F3 or Enter when the command completes to exit the display session.

To use the QShell script command, follow these steps:

- 1) Start the QShell environment by using the following CL command: QSH

- 2) Make the IBM i Access for Web directory the current directory. Run this command:

```
cd /QIBM/ProdData/Access/Web2/install
```

- 3) Configure IBM i Access for Web for the Web application server previously created:

```
cfgaccweb2 -appsvrtype *WAS70BASE -wasprf iwa70base -appsvr iwa70base  
-wasinsdir /QIBM/ProdData/WebSphere/AppServer/V7/Base
```

These are the parameters used:

-appsvrtype

Tells the command which Web application server to configure.

-wasprf

Tells the command which profile of the Web application server to configure.

-appsvr

Tells the command the name of the Web application server within the profile to configure.

-wasinsdir

Tells the command the location in the IBM i integrated file system where WebSphere Application Server V7.0 was installed. The default value is /QIBM/ProdData/WebSphere/AppServer/V7/Base.

-wasusrid

Tells the command the user ID to use for WebSphere Application Server configuration changes when WebSphere security has been enabled for the profile. In this example, security was not enabled. This parameter is not required for this example.

-waspwd

Tells the command the password for the user ID specified using the -wasusrid parameter. In this example, security was not enabled. This parameter is not required for this example.

For help on this command and the parameters, specify the -? parameter.

Migration Note: If you are already using IBM i Access for Web within another Web application server, refer to New Web application server considerations. This topic discusses additional cfgaccweb2 command parameters that can be input to migrate user data from an existing configuration to this new configuration.

4) Several messages similar to these will be displayed:

Configuring IBM i Access for Web.

Preparing to perform the configuration changes.

Calling WebSphere to perform the configuration changes.

IBM i Access for Web command has completed.

The WebSphere application server must be stopped and then started to enable the configuration changes.

5) Press F3 when the command completes to exit the QShell session.

f. If the command were to fail or indicate an error, refer to the log files:

- /QIBM/UserData/Access/Web2/logs/cmds.log

High level, cause and recovery information; translated.

- /QIBM/UserData/Access/Web2/logs/cmdstrace.log

Detailed command flow for IBM Software Service; English only.

g. After successfully configuring IBM i Access for Web, the WebSphere application server must be restarted to load the changes to its configuration. This will be done later.

h. Signoff the 5250 session window and close the window.

4. Start the Web environment.

a. Return to the browser window that is open to the IBM Web Administration for i server management page.

- b. The **Manage > Application Servers** tabbed page should be active. Under Server is listed **iwa70base/iwa70base – V7.0 Base** with a status of **Running**. Stop and restart the WebSphere application server:
 - 1) Select the red icon next to the **Running** status to stop the WebSphere server. If you are prompted to also stop the IWA70BASE HTTP server, do not deselect it. It should also be stopped. Select the refresh icon next to the **Stopping** status to refresh the page if the page does not periodically refresh.
 - 2) When the status is updated to **Stopped**, select the green icon next to **Stopped** to start the WebSphere application server. If you are prompted to also start the IWA70BASE HTTP server, do not deselect it. It should also be started.
 - 3) The status will be updated to **Starting**. Select the refresh icon next to the Starting status to refresh the page if it does not periodically refresh.

Important: Wait for the status to be updated to Running before moving to the next step. IBM i Access for Web will load and start as the WebSphere application server starts.

- c. Select the HTTP Servers tabbed page.
 - d. Under Server, select **IWA70BASE - Apache**. The current status of this Apache HTTP server should be **Running**. If the current status is **Stopped**, select the green icon next to the status to start the HTTP server. The status is updated to **Running**.
 - e. Close the browser window.
5. Use a browser to access IBM i Access for Web.
- a. Open a browser to either of the following addresses to access IBM i Access for Web:


```
http://<system_name>:2070/webaccess/iWAHome
```

```
http://<system_name>:2070/webaccess/iWAMain
```
 - b. Log in using an IBM i user ID and password. The initial load of IBM i Access for Web might take a few seconds. WebSphere Application Server is loading Java classes for the first time. Subsequent loads of IBM i Access for Web will be faster.
 - c. The IBM i Access for Web Home or Main page displays.
 - d. Close the browser window.

By following the preceding steps, you completed these tasks:

- Created a WebSphere Web application server named iwa70base.
- Created an HTTP server named IWA70BASE.
- Configured IBM i Access for Web for the WebSphere application server.
- Stopped and restarted the WebSphere application server and HTTP Web server. IBM i Access for Web started when the WebSphere application server started.
- Verified that IBM i Access for Web can be accessed from a Web browser.

In this example, only the CFGACCWEB2/cfgaccweb2 command is used to configure IBM i Access for Web. For more information about using all the IBM i Access for Web commands, use the CL command finder, which will find IBM i Access for Web CL commands. As shown above, there are also equivalent QShell script commands.

You can refer to the CL command online help to learn how to use the other QShell script commands.

Related reference:

“New Web application server considerations” on page 84

Use this information when IBM i Access for Web is already configured for a Web application server and a new Web application server is added to the environment. In this situation, IBM i Access for Web can be configured for the new Web application server based on the existing configuration. All user-generated data and configuration settings can be copied from the existing environment to the new environment.

| **Related information:**

| CL command finder


| **Configuring WebSphere Application Server V7.0 for IBM i with Single sign-on:**

| This example is for users that are not familiar with the Web serving environment. It describes all the steps necessary to get IBM i Access for Web running in a WebSphere Application Server V7.0 for IBM i environment with single sign-on (SSO) enabled. It also describes how to verify that the setup is working.

| When the configuration is completed, IBM i Access for Web uses the authenticated WebSphere user identity to access IBM i resources. IBM i Access for Web does not perform additional prompting for an IBM i user profile and password in this environment.

| This environment requires WebSphere global security to be enabled. When enabled, users must provide WebSphere credentials when accessing secured WebSphere resources. Configuration options enable IBM i Access for Web to be deployed as a secured WebSphere application. WebSphere credentials are required when accessing IBM i Access for Web functions in this environment. In turn, IBM i Access for Web uses Enterprise Identity Mapping (EIM) to map the authenticated WebSphere user to an IBM i user profile. The mapped IBM i user profile is used to authorize the user to IBM i resources using standard IBM i object level security.

| Configuring your Web serving environment consists of these steps:

- | • Configure the EIM environment. See the "Configuring Enterprise Identity Mapping" article on the IBM i Access for Web site  for information about how to do this.
- | • Start the IBM Web Administration for i interface. See step 1.
- | • Create an HTTP web server and a WebSphere Application Server V7.0 Web application server. See step 2.
- | • Verify WebSphere Application Server V7.0 administrative security has been enabled. If administrative security has not been enabled, enable it. For detailed steps to configure administrative security, refer to **Securing applications and their environment > Setting up and enabling security > Enabling security** in the WebSphere Application Server V7.0 for IBM i Information Center..
- | • Configure IBM i Access for Web. See step 3 on page 31.
- | • Start the web environment. See step 4 on page 35.
- | • Use a browser to access IBM i Access for Web. See step 5 on page 35.

| **Steps to configure the Web serving environment:**

- | 1. Start the IBM Web Administration for i interface.
 - | a. Start a 5250 session to the system.
 - | b. Sign on with a user profile that has at least these special authorities: *ALLOBJ, *IOSYSCFG, *JOBCTL, and *SECADM.
 - | c. Run the following command to start the web administration interface job: STRTCPSVR SERVER(*HTTP) HTTPSVR(*ADMIN)
 - | d. Minimize the 5250 session.
- | 2. Create an HTTP web server and a WebSphere Application Server V7.0 Web application server:
 - | a. Open a browser to `http://<system_name>:2001/HTTPAdmin`.
 - | b. Log in with a user profile that has, at least these special authorities: *ALLOBJ, *IOSYSCFG, *JOBCTL, and *SECADM.
 - | c. Select the **Setup** tabbed page.
 - | d. Under Common Tasks and Wizards, select **Create Application Server**.
 - | e. The Create Application Server page opens. Select **Next**.

- f. Under **WebSphere Application Server**, select a **V7.0** server type. Select **Next**.
- g. The **Specify Application Server Name** page opens. For **Application server name**, specify **iwa70sso**. This will be the name of the WebSphere Web application server. Select **Next**.
- h. The **Select HTTP Server Type** page opens. Select **Create a new HTTP server (powered by Apache)** then select **Next**.
- i. The **Create a new HTTP server (powered by Apache)** page opens.
 - For **HTTP server name**, enter **IWA70SSO**.
 - For **Port**, specify **4070**. This port number is an example. You should verify this port is available for use, or use a port you know is available.
 Select **Next**.
- j. The **Specify Internal Ports Used by the Application Server** page opens. For **First port in range**, change the default value to **41070**. This port number is an example. You should verify this port is available for use, or use a port you know is available. Select **Next**.
- k. The **Select Sample Applications** page opens. Select **Next** until the **Configure Identity Token SSO for Web to Access IBM i** page opens.
- l. On the **Configure Identity Token SSO for Web to Access IBM i** page, select the **Configure Identity Tokens** option, then specify these values:
 - For **LDAP server host name**, specify the fully qualified host name of the LDAP server hosting the EIM domain created during EIM setup. For example, **MYI.MYCOMPANY.COM**
 - For **LDAP Port**, specify the port number of the LDAP server hosting the EIM domain created during EIM setup. For example, **389**.
 - For **LDAP administrator DN**, specify the distinguished name of the LDAP administrator. For example, **cn=administrator**.
 - For **LDAP administrator password**, specify the password of the LDAP administrator. For example, **myadminpwd**.
 Select **Next**.
- m. The **Configure Identity Token EIM Domain Information** page opens. Specify this information:
 - For **EIM Domain Name**, select the name of the EIM domain created during EIM setup. For example, **EimDomain**.
 - For **Source Registry Name**, select the name of the EIM source registry created during EIM setup. For example, **WebSphereUserRegistry**.
 Select **Next** until the **Summary** page opens.
- n. On the **Summary** page, select **Finish**.
- o. The **Web** page is re-displayed with the **Manage > Application Servers** tabbed page active. Under **Server**, **iwa70sso/iwa70sso- WAS, V7.0** is listed with a status of **Creating**. From this **Web** page, you can manage the WebSphere application server.

Use the refresh icon next to the **Creating** status to refresh the page, if the page does not periodically refresh.
- p. When the status is updated to **Stopped**, select the green icon next to **Stopped** to start the WebSphere application server. The status will be updated to **Starting**. Use the refresh icon next to the **Starting** status to refresh the page if the page does not periodically refresh. IBM i Access for Web requires that the WebSphere application server is running before it can be configured.

Important:

Wait for the status to be updated to **Running** before moving to the next step.

- q. Minimize the browser window.
3. Configure IBM i Access for Web.
 - a. Restore the 5250 session window.
 - b. To see the WebSphere application server running, run the command: **WRKACTJOB SBS(QWAS7)**

- c. Verify that IWA70SSO is listed as a job running under the QWAS7 subsystem. IBM i Access for Web requires the WebSphere application server is running before it can be configured.
- d. Verify the Web application server is ready:
 - 1) Enter option #5 on your IWA70SSO job.
 - 2) Enter option #10 to display the job log.
 - 3) Press F10 to display detailed messages.
 - 4) Verify the message **WebSphere application server iwa70sso ready** is listed. This message indicates that the application server is fully started and is ready for Web serving.
 - 5) Press F3 until you return to a command line.
- e. IBM i Access for Web provides commands to configure the product. Two different commands are provided, a CL command and a QShell script command. Both commands provide and perform the same function. Use whichever version you prefer.

- **To use the CL command, follow these steps:**

- 1) Configure IBM i Access for Web for your Web application server by using the following command:

```
QIWA2/CFGACCWEB2 APPSVRTYPE(WebSphere_version) WASPRF(iwa70sso)
  WASINSDIR('was_install_directory')
  APPSVR(iwa70sso) AUTHTYPE(*APPSVR) AUTHMETHOD(*FORM)
  WASUSRID(myadminid) WAPWD(myadminpwd)
```

These are the parameters used:

APPSVRTYPE

Tells the command which Web application server to configure where *WebSphere_version* is set to one of the following:

- *WAS70BASE WebSphere Application Server V7.0 Base edition
- *WAS70EXP WebSphere Application Server V7.0 Express edition
- *WAS70ND WebSphere Application Server V7.0 Network Deployment edition

WASPRF

Tells the command which profile of the Web application server to configure.

WASINSDIR

The location in the IBM i integrated file system where the WebSphere Application Server edition is installed.

The default location for the WebSphere Application Server V7.0 ("Base edition") install directory is /QIBM/ProdData/WebSphere/AppServer/V7/Base. This default location is used when the WASINSDIR parameter is not specified and the APPSVRTYPE parameter is set to *WAS70BASE.

The default location for WebSphere Application Server - Express V7.0 install directory is /QIBM/ProdData/WebSphere/AppServer/V7/Express. This default location is used when the WASINSDIR parameter is not specified and the APPSVRTYPE parameter is set to *WAS70EXP.

The default location for WebSphere Application Server Network Deployment V7.0 install directory is /QIBM/ProdData/WebSphere/AppServer/V7/ND. This default location is used when the WASINSDIR parameter is not specified and the APPSVRTYPE parameter is set to *WAS70ND.

If your install directory is not in a default location, you must specify the WASINSDIR parameter.

APPSVR

Tells the command the name of the Web application server within the profile to configure.

| **AUTHTYPE**

| Tells the command which authentication type to use. *APPSVR indicates the Web
| application server should authenticate the user using the WebSphere active user registry.

| **AUTHMETHOD**

| Tells the command which authentication method to use. *FORM indicates the Web
| application server should authenticate using form-based HTTP authentication.

| **WASUSRID**

| Tells the command which WebSphere administrative user ID to use when accessing this
| Web application server. Replace the example value with an administrator user id defined
| in the WebSphere active user registry.

| **WASPWD**

| Tells the command which WebSphere administrative password to use when accessing
| this Web application server. Replace the example value with the password for the
| administrative user ID provided with the WASUSRID parameter.

| For help on this command and the parameters, press F1.

| **Migration Note:** If you are already using IBM i Access for Web within another Web
| application server, refer to New Web application server considerations.
| This topic discusses additional CFGACCWEB2 command parameters that can
| be input to migrate user data from an existing configuration to this new
| configuration.

- | 2) Several messages similar to these will be displayed:

| Configuring IBM i Access for Web.

| Preparing to perform the configuration changes.

| Calling WebSphere to perform the configuration changes.

| IBM i Access for Web command has completed.

| The WebSphere application server must be stopped and then started to enable the
| configuration changes.

- | 3) Press Enter when the command completes to exit the display session.

| • **To use the QShell script command, follow these steps:**

- | 1) Start the QShell environment using the following command: QSH

- | 2) Make the IBM i Access for Web directory the current directory. Run this command:

| cd /QIBM/ProdData/Access/Web2/install

- | 3) Configure IBM i Access for Web for the Web application server previously created:

| cfgaccweb2 -appsvrtype *WebSphere_version* -wasprf iwa70sso
| -wasinsdir *was_install_directory* -appsvr iwa70sso
| -authtype *APPSVR -authmethod *FORM
| -wasusrid *myadminid* -wapwd *myadminpwd*

| These are the parameters used:

| **-appsvrtype**

| Tells the command which Web application server to configure where *WebSphere_version*
| is set to one of the following:

| - *WAS70BASE WebSphere Application Server V7.0 Base edition

| - *WAS70EXP WebSphere Application Server V7.0 Express edition

| - *WAS70ND WebSphere Application Server V7.0 Network Deployment edition

| **-wasprf**

| Tells the command which profile of the Web application server to configure.

| **-wasinsdir**

| The location in the IBM i integrated file system where the WebSphere Application Server
| edition is installed.

| The default location for the WebSphere Application Server V7.0 ("Base edition") install
| directory is /QIBM/ProdData/WebSphere/AppServer/V7/Base. This default location is used
| when the wasinsdir parameter is not specified and the appsrvtype parameter is set to
| *WAS70BASE.

| The default location for WebSphere Application Server - Express V7.0 install directory is
| /QIBM/ProdData/WebSphere/AppServer/V7/Express. This default location is used when
| the wasinsdir parameter is not specified and the appsrvtype parameter is set to
| *WAS70EXP.

| The default location for WebSphere Application Server Network Deployment V7.0 install
| directory is /QIBM/ProdData/WebSphere/AppServer/V7/ND. This default location is used
| when the wasinsdir parameter is not specified and the appsrvtype parameter is set to
| *WAS70ND.

| If your install directory is not in a default location, you must specify the wasinsdir
| parameter.

| **-appsvr**

| Tells the command the name of the Web application server within the profile to
| configure.

| **-authtype**

| Tells the command which authentication type to use. *APPSVR indicates the Web
| application server should authenticate the user using the WebSphere active user registry.

| **-authmethod**

| Tells the command which authentication method to use. *FORM indicates the Web
| application server should authenticate using form-based HTTP authentication.

| **-wasusrid**

| Tells the command which WebSphere administrative user ID to use when accessing this
| Web application server. Replace the example value with an administrator user id defined
| in the WebSphere active user registry.

| **-waspwd**

| Tells the command which WebSphere administrative password to use when accessing
| this Web application server. Replace the example value with the password for the
| administrative user ID provided with the -wasusrid parameter.

| For help on this command and the parameters, specify the -? parameter.

| **Migration Note:** If you are already using IBM i Access for Web within another Web
| application server, refer to New Web application server considerations.
| This topic discusses additional cfgaccweb2 command parameters that can
| be input to migrate user data from an existing configuration to this new
| configuration.

- | 4) Several messages similar to these will be displayed:

| Configuring IBM i Access for Web.

| Preparing to perform the configuration changes.

| Calling WebSphere to perform the configuration changes.

| IBM i Access for Web command has completed.

| The WebSphere application server must be stopped and then started to enable the
| configuration changes.

- | 5) Press F3 when the command completes to exit the QShell session.

- f. If the command were to fail or indicate an error, refer to the log files:
 - **/QIBM/UserData/Access/Web2/logs/cmds.log**
High level, cause and recovery information; translated.
 - **/QIBM/UserData/Access/Web2/logs/cmdstrace.log**
Detailed command flow for IBM Software Service; English only.
 - g. After successfully configuring IBM i Access for Web, the WebSphere application server must be restarted to load the changes to its configuration. This will be done later.
 - h. Signoff the 5250 session window and close the window.
4. Start the Web environment.
- a. Return to the browser window that is open to the **IBM Web Administration for IBM i server management** page.
 - b. The **Manage > Application Servers** tabbed page should be active. Under Instance/Server is listed **iwa70sso/iwa70sso? WAS, V7.0** with a status of **Running**. Stop and restart the WebSphere application server:
 - 1) Select the red icon next to the **Running** status to stop the WebSphere server. Select the refresh icon next to the **Stopping** status to refresh the page if the page does not periodically refresh.
 - 2) When the status is updated to **Stopped**, select the green icon next to **Stopped** to start the WebSphere application server.
 - 3) The status will be updated to **Starting**. Select the refresh icon next to the Starting status to refresh the page if it does not periodically refresh.

Important: Wait for the status to be updated to Running before moving to the next step. IBM i Access for Web will load and start as the WebSphere application server starts.
 - c. Select the HTTP Servers tabbed page.
 - d. Under **Server**, select IWA70SSO - Apache. The current status of this Apache HTTP server should be **Stopped**. Select the green icon next to the status to start the HTTP server. The status is updated to **Running**.
 - e. Close the browser window.
5. Use a browser to access IBM i Access for Web.
- a. Open a browser to either of the following addresses to access IBM i Access for Web:
 - http://<system_name>:4070/webaccess/iWAHome
 - http://<system_name>:4070/webaccess/iWAMain
 - b. Log in using WebSphere credentials (user ID and password). IBM i Access for Web will then use Enterprise Identity Mapping (EIM) to map the authenticated WebSphere user to an IBM i user profile. The initial load of Start of IBM i Access for Web might take a few seconds. WebSphere Application Server is loading Java classes for the first time. Subsequent loads of Start of IBM i Access for Web will be faster.
 - c. The IBM i Access for Web Home or Main page displays.
 - d. Close the browser window.

By following the preceding steps, you completed these tasks:

- Configured an EIM environment to enable mapping of WebSphere user identities to IBM i user profiles.
- Created a WebSphere Web application server named iwa70sso.
- Created an HTTP server named IWA70SSO.
- Enabled global security for WebSphere web application server iwa70sso.
- Configured IBM i Access for Web for the WebSphere application server.

- | • Stopped and restarted the WebSphere application server and HTTP web server. IBM i Access for Web started when the WebSphere application server started.
- | • Verified that IBM i Access for Web can be accessed from a Web browser.

| In this example, only the CFGACCWEB2/cfgaccweb2 command is used to configure IBM i Access for Web. For more information about using all the IBM i Access for Web CL commands, use the CL command finder.

| **Related concepts:**

| “Single sign-on considerations” on page 8
 | IBM i Access for Web can be used in single sign-on environments. This topic will discuss the single sign-on environment options available to IBM i Access for Web.

| **Related reference:**

| “New Web application server considerations” on page 84
 | Use this information when IBM i Access for Web is already configured for a Web application server and a new Web application server is added to the environment. In this situation, IBM i Access for Web can be configured for the new Web application server based on the existing configuration. All user-generated data and configuration settings can be copied from the existing environment to the new environment.

| **Related information:**

| CL command finder

| **Configuring WebSphere Application Server - Express V7.0 for IBM i:**

| This example is for users that are not familiar with the Web serving environment. It describes all the steps necessary to get IBM i Access for Web running in a WebSphere Application Server - Express V7.0 for IBM i environment. It also describes how to verify that the setup is working.

| Configuring your Web serving environment consists of these steps:

- | • Start the IBM Web Administration for i interface. See step 1.
- | • Create an HTTP Web server and a WebSphere Application Server V7.0 Web application server. See step 2.
- | • Configure IBM i Access for Web. See step 3 on page 37.
- | • Start the Web environment. See step 4 on page 39.
- | • Use a browser to access IBM i Access for Web. See step 5 on page 40.

| **Steps to configure the Web serving environment:**

- | 1. Start the IBM Web Administration for i interface.
 - | a. Start a 5250 session to the system.
 - | b. Sign on with a user profile that has at least these special authorities: *ALLOBJ, *IOSYSCFG, *JOBCTL, and *SECADM.
 - | c. Run the following command to start the web administration interface job: STRTCPSVR SERVER(*HTTP) HTTPSVR(*ADMIN)
 - | d. Minimize the 5250 session.
- | 2. Create an HTTP Web server and a WebSphere Application Server - Express V7.0 Web application server environment:
 - | a. Open a browser to `http://<system_name>:2001/HTTPAdmin`.
 - | b. Log in with a user profile that has, at least these special authorities: *ALLOBJ, *IOSYSCFG, *JOBCTL, and *SECADM.
 - | c. Select the **Setup** tabbed page.
 - | d. Under Common Tasks and Wizards, select **Create Application Server**.
 - | e. The Create Application Server page opens. Select **Next**.

- f. Under **WebSphere Application Server**, select **V7.0 Express**. Select **Next**.
- g. The Specify Application Server Name page opens. For **Application server name**, specify **iwa70exp**. This will be the name of the WebSphere Web application server. Select **Next**.
- h. The Select HTTP Server Type page opens. Select **Create a new HTTP server (powered by Apache)** then select **Next**.
- i. The Create a new HTTP server (powered by Apache) page opens.
 - For **HTTP server name**, enter **IWA70EXP**
 - For **Port**, specify **2270**. This port number is an example. You should verify this port is available for use, or use a port you know is available.
 Select **Next**.
- j. The Specify Internal Ports Used by the Application Server page opens. For **First port in range**, change the default value to **21270**. This port number is an example. You should verify this port is available for use or use a port you know is available. Select **Next**.
- k. The Select Sample Applications page opens. Select **Next** until the **Summary** page opens.
- l. Select **Finish**.
- m. The Web page is re-displayed with the **Manage > Application Servers** tabbed page active. Under **Server**, **iwa70exp/iwa70exp -V7.0 Express** is listed with a status of **Creating**. From this Web page, you can manage the WebSphere application server.

Use the refresh icon next to the **Creating** status to refresh the page, if the page does not periodically refresh.
- n. When the status is updated to **Stopped**, select the green icon next to **Stopped** to start the WebSphere application server. The status will be updated to **Starting**. If you are prompted to also start the **IWA70EXP HTTP server**, clear the **IWA70EXP HTTP server** option so that it does not start at this time. The status will be updated to **Starting**.

Use the refresh icon next to the **Starting** status to refresh the page if the page does not periodically refresh. IBM i Access for Web requires that the WebSphere application server is running before it can be configured.

Important: Wait for the status to be updated to **Running** before moving to the next step.

- o. Minimize the browser window.
3. Configure IBM i Access for Web.
 - a. Restore the 5250 session window.
 - b. To see the WebSphere application server running, run the command: **WRKACTJOB SBS(QWAS7)**
 - c. Verify that **IWA70EXP** is listed as a job running under the **QWAS7** subsystem. IBM i Access for Web requires the WebSphere application server is running before it can be configured.
 - d. Verify the Web application server is ready:
 - 1) Enter option 5 on your **IWA70EXP** job.
 - 2) Enter option 10 to display the job log.
 - 3) Press **F10** to display detailed messages.
 - 4) Verify the message **WebSphere application server iwa70exp ready** is listed. This message indicates that the application server is fully started and is ready for Web serving.
 - 5) Press **F3** until you return to a command line.
 - e. IBM i Access for Web provides commands to configure the product. Two different commands are provided, a **CL** command and a **QShell** script command. Both commands provide and perform the same function. Use the version which works best for your circumstances.

To use the CL command, follow these steps:

 - 1) Configure IBM i Access for Web for your Web application server by using the following command:

```
| QIWA2/CFGACCWEB2 APPSVRTYPE(*WAS70EXP) WASPRF(iwa70exp)
| APPSVR(iwa70exp)
| WASINSDIR(/QIBM/ProdData/WebSphere/AppServer/V7/Express)
```

| These are the parameters used:

| **APPSVRTYPE**

| Tells the command which Web application server to configure.

| **WASPRF**

| Tells the command which profile of the Web application server to configure.

| **APPSVR**

| Tells the command the name of the Web application server within the profile to configure.

| **WASINSDIR**

| Tells the command the location in the IBM i integrated file system where WebSphere
| Application Server - Express V7.0 was installed. The default value is /QIBM/ProdData/
| WebSphere/AppServer/V7/Express.

| **WASUSRID**

| Tells the command the user ID to use for WebSphere Application Server configuration
| changes when WebSphere security has been enabled for the profile. In this example,
| security was not enabled. This parameter is not required for this example.

| **WASPWD**

| Tells the command the password for the user ID specified using the WASUSRID parameter.
| In this example, security was not enabled. This parameter is not required for this example.

| For help on this command and the parameters, press F1.

| **Note:** If you are already using IBM i Access for Web within another Web application server,
| refer to the New Web application server considerations topic. This topic discusses
| additional CFGACCWEB2 command parameters that can be input to migrate user data from
| an existing configuration to this new configuration.

| 2) Several messages similar to these will be displayed:

| Configuring IBM i Access for Web.

| Preparing to perform the configuration changes.

| Calling WebSphere to perform the configuration changes.

| IBM i Access for Web command has completed.

| The WebSphere application server must be stopped and then started to enable the
| configuration changes.

| 3) Press Enter when the command completes to exit the display session.

| **To use the QShell script command, follow these steps:**

| 1) Start the QShell environment using the following command: QSH

| 2) Make the IBM i Access for Web directory the current directory. Run this command:

```
| cd /QIBM/ProdData/Access/Web2/install
```

| 3) Configure IBM i Access for Web for the Web application server previously created:

```
| cfgaccweb2 -appsvrtype *WAS70EXP -wasprf iwa70exp -appsvr
| iwa70exp
| -wasinsdir /QIBM/ProdData/WebSphere/AppServer/V7/Express
```

| These are the parameters used:

| **-appsvrtype**

| Tells the command which Web application server to configure.

| **-wasprf**

| Tells the command which profile of the Web application server to configure.

| **-appsvr**

| Tells the command the name of the Web application server within the profile to configure.

| **-wasinsdir**

| Tells the command the location in the IBM i integrated file system where WebSphere
| Application Server - Express V7.0 was installed. The default value is /QIBM/ProdData/
| WebSphere/AppServer/V7/Express.

| **-wasusrid**

| Tells the command the user ID to use for WebSphere Application Server configuration
| changes when WebSphere security has been enabled for the profile. In this example,
| security was not enabled. This parameter is not required for this example.

| **-waspwd**

| Tells the command the password for the user ID specified using the -wasusrid parameter.
| In this example, security was not enabled. This parameter is not required for this example.

| For help on this command and the parameters, specify the -? parameter.

| **Migration Note:** If you are already using IBM i Access for Web within another Web
| application server, refer to New Web application server considerations. This
| topic discusses additional cfgaccweb2 command parameters that can be input
| to migrate user data from an existing configuration to this new configuration.

- | 4) Several messages similar to these will be displayed:

| Configuring IBM i Access for Web.

| Preparing to perform the configuration changes.

| Calling WebSphere to perform the configuration changes.

| IBM i Access for Web command has completed.

| The WebSphere application server must be stopped and then started to enable the
| configuration changes.

- | 5) Press F3 when the command completes to exit the QShell session.

- | f. If the command were to fail or indicate an error, refer to the log files:

- | • /QIBM/UserData/Access/Web2/logs/cmds.log

| High level, cause and recovery information; translated.

- | • /QIBM/UserData/Access/Web2/logs/cmdstrace.log

| Detailed command flow for IBM Software Service; English only.

- | g. After successfully configuring IBM i Access for Web, the WebSphere application server must be
| restarted to load the changes to its configuration. This will be done later.

- | h. Signoff the 5250 session window and close the window.

- | 4. Start the Web environment.

- | a. Return to the browser window that is open to the IBM Web Administration for i server
| management page.

- | b. The **Manage > Application Servers** tabbed page should be active. Under Server is listed
| **iwa70exp/iwa70exp -V7.0 Express** with a status of **Running**. Stop and restart the WebSphere
| application server:

- | 1) Select the red icon next to the **Running** status to stop the WebSphere server. If you are
| prompted to also stop the IWA70EXP HTTP server, do not deselect it. It should also be
| stopped. Select the refresh icon next to the **Stopping** status to refresh the page if the page does
| not periodically refresh.

- 2) When the status is updated to **Stopped**, select the green icon next to **Stopped** to start the WebSphere application server. If you are prompted to also start the IWA70EXP HTTP server, do not deselect it. It should also be started.
- 3) The status will be updated to **Starting**. Select the refresh icon next to the Starting status to refresh the page if it does not periodically refresh.

Important: Wait for the status to be updated to Running before moving to the next step. IBM i Access for Web will load and start as the WebSphere application server starts.

- c. Select the HTTP Servers tabbed page.
 - d. Under Server, select **IWA70EXP - Apache**. The current status of this Apache HTTP server should be **Running**. If the current status is **Stopped**, select the green icon next to the status to start the HTTP server. The status is updated to **Running**.
 - e. Close the browser window.
5. Use a browser to access IBM i Access for Web.
- a. Open a browser to either of the following addresses to access IBM i Access for Web:


```
http://<system_name>:2270/webaccess/iWAHome  
http://<system_name>:2270/webaccess/iWAMain
```
 - b. Log in using an IBM i user ID and password. The initial load of IBM i Access for Web might take a few seconds. WebSphere Application Server is loading Java classes for the first time. Subsequent loads of IBM i Access for Web will be faster.
 - c. The IBM i Access for Web Home or Main page displays.
 - d. Close the browser window.

By following the preceding steps, you completed these tasks:

- Created a WebSphere Web application server named iwa70exp.
- Created an HTTP server named IWA70EXP.
- Configured IBM i Access for Web for the WebSphere application server.
- Stopped and restarted the WebSphere application server and HTTP Web server. IBM i Access for Web started when the WebSphere application server started.
- Verified that IBM i Access for Web can be accessed from a Web browser.

In this example, only the CFGACCWEB2/cfgaccweb2 command is used to configure IBM i Access for Web. For more information about using all the IBM i Access for Web commands, use the CL command finder, which will find IBM i Access for Web CL commands. As shown above, there are also equivalent QShell script commands.

You can refer to the CL command online help to learn how to use the other QShell script commands.

Related reference:

“New Web application server considerations” on page 84

Use this information when IBM i Access for Web is already configured for a Web application server and a new Web application server is added to the environment. In this situation, IBM i Access for Web can be configured for the new Web application server based on the existing configuration. All user-generated data and configuration settings can be copied from the existing environment to the new environment.

Related information:

CL command finder

Configuring WebSphere Application Server Network Deployment V7.0 for IBM i:

This example is for users that are not familiar with the Web serving environment. It describes all the steps necessary to get IBM i Access for Web running in a WebSphere Application Server Network Deployment V7.0 for IBM i environment. It also describes how to verify that the setup is working.

| **Note:** WebSphere profiles that are federated to the Network Deployment environment are not supported
| by IBM i Access for Web.

| Configuring your Web serving environment consists of these steps:

- | • Start the IBM Web Administration for i interface. See step 1.
- | • Create an HTTP Web server and a WebSphere Application Server Network Deployment V7.0 Web application server. See step 2.
- | • Configure IBM i Access for Web. See step 3 on page 42.
- | • Start the Web environment. See step 4 on page 44.
- | • Use a browser to access IBM i Access for Web. See step 5 on page 44.

| **Steps to configure the Web serving environment:**

- | 1. Start the IBM Web Administration for i interface.
 - | a. Start a 5250 session to the system.
 - | b. Sign on with a user profile that has at least these special authorities: *ALLOBJ, *IOSYSCFG, *JOBCTL, and *SECADM.
 - | c. Run the following CL command to start the Web administration interface job: STRTCPSVR SERVER(*HTTP) HTTPSVR(*ADMIN)
 - | d. Minimize the 5250 session.
- | 2. Create an HTTP Web server and a WebSphere Application Server Network Deployment V7.0 Web application server environment:
 - | a. Open a browser to `http://<system_name>:2001/HTTPAdmin`.
 - | b. Log in with a user profile that has, at least these special authorities: *ALLOBJ, *IOSYSCFG, *JOBCTL, and *SECADM.
 - | c. Select the **Setup** tabbed page.
 - | d. Under Common Tasks and Wizards, select **Create Application Server**.
 - | e. The Create Application Server page opens. Select **Next**.
 - | f. Under **WebSphere Application Server**, select **V7.0 ND**. Select **Next**.
 - | g. The Specify Application Server Name page opens. For **Application server name**, specify `iwa70nd`. This will be the name of the WebSphere Web application server. Select **Next**.
 - | h. The Select HTTP Server Type page opens. Select **Create a new HTTP server (powered by Apache)** then select **Next**.
 - | i. The Create a new HTTP server (powered by Apache) page opens.
 - | • For **HTTP server name**, enter `IWA70ND`
 - | • For Port, specify 2370. This port number is an example. You should verify this port is available for use or use a port you know is available.Select **Next**.
 - | j. The Specify Internal Ports Used by the Application Server page opens. For **First port in range**, change the default value to 21370. This port number is an example. You should verify this port is available for use or use a port you know is available. Select **Next**.
 - | k. The Select Sample Applications page opens. Select **Next** until the Summary page opens.
 - | l. Select **Finish**.
 - | m. The Web page is re-displayed with the **Manage > Application Servers** tabbed page active. Under **Server**, `iwa70nd/iwa70nd – V7.0 ND` is listed with a status of **Creating**. From this Web page, you can manage the WebSphere application server.
Use the refresh icon next to the **Creating** status to refresh the page, if the page does not periodically refresh.

- n. When the status is updated to **Stopped**, select the green icon next to **Stopped** to start the WebSphere application server. The status will be updated to **Starting**. If you are prompted to also start the IWA70ND HTTP server, clear the IWA70ND HTTP server option so that it does not start at this time. The status will be updated to Starting.

Use the refresh icon next to the **Starting** status to refresh the page if the page does not periodically refresh. IBM i Access for Web requires that the WebSphere application server is running before it can be configured.

Important: Wait for the status to be updated to **Running** before moving to the next step.

- o. Minimize the browser window.
3. Configure IBM i Access for Web.
- a. Restore the 5250 session window.
 - b. To see the WebSphere application server running, run the CL command: WRKACTJOB SBS(QWAS7)
 - c. Verify that IWA70ND is listed as a job running under the QWAS7 subsystem. IBM i Access for Web requires the WebSphere application server is running before it can be configured.
 - d. Verify the Web application server is ready:
 - 1) Enter option 5 on your IWA70ND job.
 - 2) Enter option 10 to display the job log.
 - 3) Press F10 to display detailed messages.
 - 4) Verify the message **WebSphere application server iwa70nd ready** is listed. This message indicates that the application server is fully started and is ready for Web serving.
 - 5) Press F3 until you return to a command line.
 - e. IBM i Access for Web provides commands to configure the product. Two different commands are provided, a CL command and a QShell script command. Both commands provide and perform the same function. Use the version works better for your circumstances.

To use the CL command, follow these steps:

- 1) Configure IBM i Access for Web for your Web application server by using the following command:

```
QIWA2/CFGACCWEB2 APPSVRTYPE(*WAS70ND) WASPRF(iwa70nd)
APPSVR(iwa70nd)
WASINSDIR(/QIBM/ProdData/WebSphere/AppServer/V7/ND)
```

These are the parameters used:

APPSVRTYPE

Tells the command which Web application server to configure.

WASPRF

Tells the command which profile of the Web application server to configure.

APPSVR

Tells the command the name of the Web application server within the profile to configure.

WASINSDIR

Tells the command the location in the IBM i integrated file system where WebSphere Application Server Network Deployment V7.0 was installed. The default value is /QIBM/ProdData/WebSphere/AppServer/V7/ND.

WASUSRID

Tells the command the user ID to use for WebSphere Application Server configuration changes when WebSphere security has been enabled for the profile. In this example, security was not enabled. This parameter is not required for this example.

WASPWD

Tells the command the password for the user ID specified using the WASUSRID parameter. In this example, security was not enabled. This parameter is not required for this example.

For help on this command and the parameters, press F1.

Note: If you are already using IBM i Access for Web within another Web application server, refer to the New Web application server considerations topic. This topic discusses additional CFGACCWEB2 command parameters that can be input to migrate user data from an existing configuration to this new configuration.

- 2) Several messages similar to these will be displayed:

Configuring IBM i Access for Web.

Preparing to perform the configuration changes.

Calling WebSphere to perform the configuration changes.

IBM i Access for Web command has completed.

The WebSphere application server must be stopped and then started to enable the configuration changes.

- 3) Press Enter when the command completes to exit the display session.

To use the QShell script command, follow these steps:

- 1) Start the QShell environment using the following command: QSH

- 2) Make the IBM i Access for Web directory the current directory. Run this command:

```
cd /QIBM/ProdData/Access/Web2/install
```

- 3) Configure IBM i Access for Web for the Web application server previously created:

```
cfgaccweb2 -appsvrtype *WAS70ND -wasprf iwa70nd -appsvr  
iwa70nd  
-wasinsdir /QIBM/ProdData/WebSphere/AppServer/V7/ND
```

These are the parameters used:

-appsvrtype

Tells the command which Web application server to configure.

-wasprf

Tells the command which profile of the Web application server to configure.

-appsvr

Tells the command the name of the Web application server within the profile to configure.

-wasinsdir

Tells the command the location in the IBM i integrated file system where WebSphere Application Server Network Deployment Network Deployment V7.0 was installed. The default value is /QIBM/ProdData/WebSphere/AppServer/V7/ND.

-wasusrid

Tells the command the user ID to use for WebSphere Application Server configuration changes when WebSphere security has been enabled for the profile. In this example, security was not enabled. This parameter is not required for this example.

-waspwd

Tells the command the password for the user ID specified using the -wasusrid parameter. In this example, security was not enabled. This parameter is not required for this example.

For help on this command and the parameters, specify the -? parameter.

Migration Note: If you are already using IBM i Access for Web within another Web application server, refer to New Web application server considerations. This

- topic discusses additional `cfgaccweb2` command parameters that can be input to migrate user data from an existing configuration to this new configuration.
- 4) Several messages similar to these will be displayed:
 - Configuring IBM i Access for Web.
 - Preparing to perform the configuration changes.
 - Calling WebSphere to perform the configuration changes.
 - IBM i Access for Web command has completed.
 - The WebSphere application server must be stopped and then started to enable the configuration changes.
 - 5) Press F3 when the command completes to exit the QShell session.
 - f. If the command were to fail or indicate an error, refer to the log files:
 - `/QIBM/UserData/Access/Web2/logs/cmds.log`
High level, cause and recovery information; translated.
 - `/QIBM/UserData/Access/Web2/logs/cmdstrace.log`
Detailed command flow for IBM Software Service; English only.
 - g. After successfully configuring IBM i Access for Web, the WebSphere application server must be restarted to load the changes to its configuration. This will be done later.
 - h. Signoff the 5250 session window and close the window.
4. Start the Web environment.
 - a. Return to the browser window that is open to the IBM Web Administration for i server management page.
 - b. The **Manage > Application Servers** tabbed page should be active. Under Server is listed **iwa70nd/iwa70nd – V7.0 ND** with a status of **Running**. Stop and restart the WebSphere application server:
 - 1) Select the red icon next to the **Running** status to stop the WebSphere server. If you are prompted to also stop the IWA70ND HTTP server, do not deselect it. It should also be stopped. Select the refresh icon next to the **Stopping** status to refresh the page if the page does not periodically refresh.
 - 2) When the status is updated to **Stopped**, select the green icon next to **Stopped** to start the WebSphere application server. If you are prompted to also start the IWA70ND HTTP server, do not deselect it. It should also be started.
 - 3) The status will be updated to **Starting**. Select the refresh icon next to the Starting status to refresh the page if it does not periodically refresh.

Important: Wait for the status to be updated to Running before moving to the next step. IBM i Access for Web will load and start as the WebSphere application server starts.
 - c. Select the HTTP Servers tabbed page.
 - d. Under Server, select **IWA70ND - Apache**. The current status of this Apache HTTP server should be **Running**. If the current status is **Stopped**, select the green icon next to the status to start the HTTP server. The status is updated to **Running**.
 - e. Close the browser window.
 5. Use a browser to access IBM i Access for Web.
 - a. Open a browser to either of the following addresses to access IBM i Access for Web:
 - `http://<server_name>:2370/webaccess/iWAHome`
 - `http://<server_name>:2370/webaccess/iWAMain`
 - b. Log in using an IBM i user ID and password. The initial load of IBM i Access for Web might take a few seconds. WebSphere Application Server is loading Java classes for the first time. Subsequent loads of IBM i Access for Web will be faster.

- | c. The IBM i Access for Web Home or Main page displays.
- | d. Close the browser window.

| By following the preceding steps, you completed these tasks:

- | • Created a WebSphere Web application server named iwa70nd.
- | • Created an HTTP server named IWA70ND.
- | • Configured IBM i Access for Web for the WebSphere application server.
- | • Stopped and restarted the WebSphere application server and HTTP Web server. IBM i Access for Web started when the WebSphere application server started.
- | • Verified that IBM i Access for Web can be accessed from a Web browser.

| In this example, only the CFGACCWEB2/cfgaccweb2 command is used to configure IBM i Access for Web. For more information about using all the IBM i Access for Web commands, use the CL command finder, which will find IBM i Access for Web CL commands. As shown above, there are also equivalent QShell script commands.

| You can refer to the CL command online help to learn how to use the other QShell script commands.

| **Related reference:**

| “New Web application server considerations” on page 84

| Use this information when IBM i Access for Web is already configured for a Web application server and a new Web application server is added to the environment. In this situation, IBM i Access for Web can be configured for the new Web application server based on the existing configuration. All user-generated data and configuration settings can be copied from the existing environment to the new environment.

| **Related information:**

| CL command finder

Configuring WebSphere Application Server V6.1 for IBM i:

This example is for users that are not familiar with the Web serving environment. It describes all the steps necessary to get IBM i Access for Web running in a WebSphere Application Server V6.1 for IBM i environment. It also describes how to verify that the setup is working.

Configuring your Web serving environment consists of these steps:

- Start the IBM Web Administration for i interface. See step 1.
- Create an HTTP Web server and a WebSphere Application Server V6.1 Web application server. See step 2.
- Configure IBM i Access for Web. See step 3 on page 46.
- Start the Web environment. See step 4 on page 48.
- Use a browser to access IBM i Access for Web. See step 5 on page 49.

Steps to configure the Web serving environment:

1. Start the IBM Web Administration for i interface.
 - a. Start a 5250 session to the system.
 - b. Sign on with a user profile that has at least these special authorities: *ALLOBJ, *IOSYSCFG, *JOBCTL, and *SECADM.
 - c. Run the following command to start the web administration interface job: STRTCPSVR SERVER(*HTTP) HTTPSVR(*ADMIN)
 - d. Minimize the 5250 session.
2. Create an HTTP Web server and a WebSphere Application Server V6.1 Web application server environment:
 - a. Open a browser to `http://<system_name>:2001/HTTPAdmin`.

- b. Log in with a user profile that has, at least these special authorities: *ALLOBJ, *IOSYSCFG, *JOBCTL, and *SECADM.
- c. Select the **Setup** tabbed page.
- d. Under Common Tasks and Wizards, select **Create Application Server**.
- e. The Create Application Server page opens. Select **Next**.
- f. Under **WebSphere Application Server**, select **V6.1 Base**. Select **Next**.
- g. The Specify Application Server Name page opens. For **Application server name**, specify iwa61base. This will be the name of the WebSphere Web application server. Select **Next**.
- h. The Select HTTP Server Type page opens. Select **Create a new HTTP server (powered by Apache)** then select **Next**.
- i. The Create a new HTTP server (powered by Apache) page opens.
 - For **HTTP server name**, enter IWA61BASE
 - For Port, specify 2050. This port number is an example. You should verify this port is available for use, or use a port you know is available.

Select **Next**.

- j. The Specify Internal Ports Used by the Application Server page opens. For **First port in range**, change the default value to 21050. This port number is an example. You should verify this port is available for use, or use a port you know is available. Select **Next**.
- k. The Select Sample Applications page opens. Select **Next** until the Summary page opens.
- l. Select **Finish**.
- m. The Web page is re-displayed with the **Manage > Application Servers** tabbed page active. Under **Server**, iwa61base/iwa61base – V6.1 Base is listed with a status of **Creating**. From this Web page, you can manage the WebSphere application server.

Use the refresh icon next to the **Creating** status to refresh the page, if the page does not periodically refresh.
- n. When the status is updated to **Stopped**, select the green icon next to **Stopped** to start the WebSphere application server. The status will be updated to **Starting**. If you are prompted to also start the IWA61BASE HTTP server, clear the IWA61BASE HTTP server option so that it does not start at this time. The status will be updated to Starting.

Use the refresh icon next to the **Starting** status to refresh the page if the page does not periodically refresh. IBM i Access for Web requires that the WebSphere application server is running before it can be configured.

Important: Wait for the status to be updated to **Running** before moving to the next step.

- o. Minimize the browser window.
3. Configure IBM i Access for Web.
 - a. Restore the 5250 session window.
 - b. To see the WebSphere application server running, run the command: WRKACTJOB SBS(QWAS61)
 - c. Verify that IWA61BASE is listed as a job running under the QWAS61 subsystem. IBM i Access for Web requires the WebSphere application server is running before it can be configured.
 - d. Verify the Web application server is ready:
 - 1) Enter option 5 on your IWA61BASE job.
 - 2) Enter option 10 to display the job log.
 - 3) Press F10 to display detailed messages.
 - 4) Verify the message **WebSphere application server iwa61base ready** is listed. This message indicates that the application server is fully started and is ready for Web serving.
 - 5) Press F3 until you return to a command line.

- e. IBM i Access for Web provides commands to configure the product. Two different commands are provided, a CL command and a QShell script command. Both commands provide and perform the same function. Use the version which works best for your circumstances.

To use the CL command, follow these steps:

- 1) Configure IBM i Access for Web for your Web application server by using the following command:

```
QIWA2/CFGACCWEB2 APPSVRTYPE(*WAS61BASE) WASPRF(iwa61base)
APPSVR(iwa61base)
WASINSDIR(/QIBM/ProdData/WebSphere/AppServer/V61/Base)
```

These are the parameters used:

APPSVRTYPE

Tells the command which Web application server to configure.

WASPRF

Tells the command which profile of the Web application server to configure.

APPSVR

Tells the command the name of the Web application server within the profile to configure.

WASINSDIR

Tells the command the location in the IBM i integrated file system where WebSphere Application Server V6.1 was installed. The default value is /QIBM/ProdData/WebSphere/AppServer/V61/Base.

WASUSRID

Tells the command the user ID to use for WebSphere Application Server configuration changes when WebSphere security has been enabled for the profile. In this example, security was not enabled. This parameter is not required for this example.

WASPWD

Tells the command the password for the user ID specified using the WASUSRID parameter. In this example, security was not enabled. This parameter is not required for this example.

For help on this command and the parameters, press F1.

Migration Note: If you are already using IBM i Access for Web within another Web application server, refer to the New Web application server considerations topic. This topic discusses additional CFGACCWEB2 command parameters that can be input to migrate user data from an existing configuration to this new configuration.

- 2) Several messages similar to these will be displayed:

```
Configuring IBM i Access for Web.
```

```
Preparing to perform the configuration changes.
```

```
Calling WebSphere to perform the configuration changes.
```

```
IBM i Access for Web command has completed.
```

```
The WebSphere application server must be stopped and then started to enable the configuration changes.
```

- 3) Press F3 or Enter when the command completes to exit the display session.

To use the QShell script command, follow these steps:

- 1) Start the QShell environment by using the following CL command: QSH
- 2) Make the IBM i Access for Web directory the current directory. Run this command:
cd /QIBM/ProdData/Access/Web2/install
- 3) Configure IBM i Access for Web for the Web application server previously created:

```
cfgaccweb2 -appsvrtype *WAS61BASE -wasprf iwa61base -appsvr iwa61base
-wasinsdir /QIBM/ProdData/WebSphere/AppServer/V61/Base
```

These are the parameters used:

-appsvrtype

Tells the command which Web application server to configure.

-wasprf

Tells the command which profile of the Web application server to configure.

-appsvr

Tells the command the name of the Web application server within the profile to configure.

-wasinsdir

Tells the command the location in the IBM i integrated file system where WebSphere Application Server V6.1 was installed. The default value is /QIBM/ProdData/WebSphere/AppServer/V61/Base.

-wasusrid

Tells the command the user ID to use for WebSphere Application Server configuration changes when WebSphere security has been enabled for the profile. In this example, security was not enabled. This parameter is not required for this example.

-waspwd

Tells the command the password for the user ID specified using the -wasusrid parameter. In this example, security was not enabled. This parameter is not required for this example.

For help on this command and the parameters, specify the -? parameter.

Migration Note: If you are already using IBM i Access for Web within another Web application server, refer to New Web application server considerations. This topic discusses additional `cfgaccweb2` command parameters that can be input to migrate user data from an existing configuration to this new configuration.

- 4) Several messages similar to these will be displayed:

Configuring IBM i Access for Web.

Preparing to perform the configuration changes.

Calling WebSphere to perform the configuration changes.

IBM i Access for Web command has completed.

The WebSphere application server must be stopped and then started to enable the configuration changes.

- 5) Press F3 when the command completes to exit the QShell session.

- f. If the command were to fail or indicate an error, refer to the log files:

- /QIBM/UserData/Access/Web2/logs/cmds.log

High level, cause and recovery information; translated.

- /QIBM/UserData/Access/Web2/logs/cmdstrace.log

Detailed command flow for IBM Software Service; English only.

- g. After successfully configuring IBM i Access for Web, the WebSphere application server must be restarted to load the changes to its configuration. This will be done later.

- h. Signoff the 5250 session window and close the window.

4. Start the Web environment.

- a. Return to the browser window that is open to the IBM Web Administration for i server management page.

- b. The **Manage > Application Servers** tabbed page should be active. Under Server is listed **iwa61base/iwa61base – V6.1 Base** with a status of **Running**. Stop and restart the WebSphere application server:
 - 1) Select the red icon next to the **Running** status to stop the WebSphere server. If you are prompted to also stop the IWA61BASE HTTP server, do not deselect it. It should also be stopped. Select the refresh icon next to the **Stopping** status to refresh the page if the page does not periodically refresh.
 - 2) When the status is updated to **Stopped**, select the green icon next to **Stopped** to start the WebSphere application server. If you are prompted to also start the IWA61BASE HTTP server, do not deselect it. It should also be started.
 - 3) The status will be updated to **Starting**. Select the refresh icon next to the Starting status to refresh the page if it does not periodically refresh.

Important: Wait for the status to be updated to Running before moving to the next step. IBM i Access for Web will load and start as the WebSphere application server starts.

- c. Select the HTTP Servers tabbed page.
 - d. Under Server, select **IWA61BASE - Apache**. The current status of this Apache HTTP server should be **Running**. If the current status is **Stopped**, select the green icon next to the status to start the HTTP server. The status is updated to **Running**.
 - e. Close the browser window.
5. Use a browser to access IBM i Access for Web.
- a. Open a browser to either of the following addresses to access IBM i Access for Web:

http://<system_name>:2050/webaccess/iWAHome
http://<system_name>:2050/webaccess/iWAMain
 - b. Log in using an IBM i user ID and password. The initial load of IBM i Access for Web might take a few seconds. WebSphere Application Server is loading Java classes for the first time. Subsequent loads of IBM i Access for Web will be faster.
 - c. The IBM i Access for Web Home or Main page displays.
 - d. Close the browser window.

By following the preceding steps, you completed these tasks:

- Created a WebSphere Web application server named iwa61base.
- Created an HTTP server named IWA61BASE.
- Configured IBM i Access for Web for the WebSphere application server.
- Stopped and restarted the WebSphere application server and HTTP Web server. IBM i Access for Web started when the WebSphere application server started.
- Verified that IBM i Access for Web can be accessed from a Web browser.

In this example, only the CFGACCWEB2/cfgaccweb2 command is used to configure IBM i Access for Web. For more information about using all the IBM i Access for Web commands, use the CL command finder, which will find IBM i Access for Web CL commands. As shown above, there are also equivalent QShell script commands.

You can refer to the CL command online help to learn how to use the other QShell script commands.

Related reference:

“New Web application server considerations” on page 84

Use this information when IBM i Access for Web is already configured for a Web application server and a new Web application server is added to the environment. In this situation, IBM i Access for Web can be configured for the new Web application server based on the existing configuration. All user-generated data and configuration settings can be copied from the existing environment to the new environment.

Related information:

CL command finder


Configuring WebSphere Application Server V6.1 for IBM i with Single sign-on:

This example is for users that are not familiar with the Web serving environment. It describes all the steps necessary to get IBM i Access for Web running in a WebSphere Application Server V6.1 for IBM i environment with single sign-on (SSO) enabled. It also describes how to verify that the setup is working.

When the configuration is completed, IBM i Access for Web uses the authenticated WebSphere user identity to access IBM i resources. IBM i Access for Web does not perform additional prompting for an IBM i user profile and password in this environment.

This environment requires WebSphere global security to be enabled. When enabled, users must provide WebSphere credentials when accessing secured WebSphere resources. Configuration options enable IBM i Access for Web to be deployed as a secured WebSphere application. WebSphere credentials are required when accessing IBM i Access for Web functions in this environment. In turn, IBM i Access for Web uses Enterprise Identity Mapping (EIM) to map the authenticated WebSphere user to an IBM i user profile. The mapped IBM i user profile is used to authorize the user to IBM i resources using standard IBM i object level security.

Configuring your Web serving environment consists of these steps:

- Configure the EIM environment. See the "Configuring Enterprise Identity Mapping" article on the IBM i Access for Web site  for information about how to do this.
- Start the IBM Web Administration for i interface. See step 1.
- Create an HTTP web server and a WebSphere Application Server V6.1 Web application server. See step 2.
- Verify WebSphere Application Server V6.1 administrative security has been enabled. If administrative security has not been enabled, enable it. For detailed steps to configure administrative security, refer to **Securing applications and their environment > Setting up and enabling security > Enabling security** in the WebSphere Application Server V6.1 for IBM i Information Center..
- Configure IBM i Access for Web. See step 3 on page 51.
- Start the web environment. See step 4 on page 55.
- Use a browser to access IBM i Access for Web. See step 5 on page 55.

Steps to configure the Web serving environment:

1. Start the IBM Web Administration for i interface.
 - a. Start a 5250 session to the system.
 - b. Sign on with a user profile that has at least these special authorities: *ALLOBJ, *IOSYSCFG, *JOBCTL, and *SECADM.
 - c. Run the following command to start the web administration interface job: STRTCPSVR SERVER(*HTTP) HTTPSVR(*ADMIN)
 - d. Minimize the 5250 session.
2. Create an HTTP web server and a WebSphere Application Server V6.1 Web application server:
 - a. Open a browser to `http://<system_name>:2001/HTTPAdmin`.
 - b. Log in with a user profile that has, at least these special authorities: *ALLOBJ, *IOSYSCFG, *JOBCTL, and *SECADM.
 - c. Select the **Setup** tabbed page.
 - d. Under Common Tasks and Wizards, select **Create Application Server**.
 - e. The Create Application Server page opens. Select **Next**.

- f. Under **WebSphere Application Server**, select a **V6.1** server type. Select **Next**.
- g. The **Specify Application Server Name** page opens. For **Application server name**, specify **iwa61sso**. This will be the name of the WebSphere Web application server. Select **Next**.
- h. The **Select HTTP Server Type** page opens. Select **Create a new HTTP server (powered by Apache)** then select **Next**.
- i. The **Create a new HTTP server (powered by Apache)** page opens.
 - For **HTTP server name**, enter **IWA61SSO**.
 - For **Port**, specify **4046**. This port number is an example. You should verify this port is available for use, or use a port you know is available.

Select **Next**.

- j. The **Specify Internal Ports Used by the Application Server** page opens. For **First port in range**, change the default value to **41046**. This port number is an example. You should verify this port is available for use, or use a port you know is available. Select **Next**.
- k. The **Select Sample Applications** page opens. Select **Next** until the **Configure Identity Token SSO for Web to Access IBM i** page opens.
- l. On the **Configure Identity Token SSO for Web to Access IBM i** page, select the **Configure Identity Tokens** option, then specify these values:
 - For **LDAP server host name**, specify the fully qualified host name of the LDAP server hosting the EIM domain created during EIM setup. For example, **MYI.MYCOMPANY.COM**
 - For **LDAP Port**, specify the port number of the LDAP server hosting the EIM domain created during EIM setup. For example, **389**.
 - For **LDAP administrator DN**, specify the distinguished name of the LDAP administrator. For example, **cn=administrator**.
 - For **LDAP administrator password**, specify the password of the LDAP administrator. For example, **myadminpwd**.

Select **Next**.

- m. The **Configure Identity Token EIM Domain Information** page opens. Specify this information:
 - For **EIM Domain Name**, select the name of the EIM domain created during EIM setup. For example, **EimDomain**.
 - For **Source Registry Name**, select the name of the EIM source registry created during EIM setup. For example, **WebSphereUserRegistry**.

Select **Next** until the **Summary** page opens.

- n. On the **Summary** page, select **Finish**.
- o. The **Web** page is re-displayed with the **Manage > Application Servers** tabbed page active. Under **Server**, **iwa61sso/iwa61sso- WAS, V6.1** is listed with a status of **Creating**. From this **Web** page, you can manage the WebSphere application server.
Use the refresh icon next to the **Creating** status to refresh the page, if the page does not periodically refresh.
- p. When the status is updated to **Stopped**, select the green icon next to **Stopped** to start the WebSphere application server. The status will be updated to **Starting**. Use the refresh icon next to the **Starting** status to refresh the page if the page does not periodically refresh. IBM i Access for Web requires that the WebSphere application server is running before it can be configured.

Important:

Wait for the status to be updated to **Running** before moving to the next step.

- q. Minimize the browser window.
3. Configure IBM i Access for Web.
 - a. Restore the 5250 session window.
 - b. To see the WebSphere application server running, run the command: **WRKACTJOB SBS(QWAS61)**

- c. Verify that IWA61SSO is listed as a job running under the QWAS61 subsystem. IBM i Access for Web requires the WebSphere application server is running before it can be configured.
- d. Verify the Web application server is ready:
 - 1) Enter option #5 on your IWA61SSO job.
 - 2) Enter option #10 to display the job log.
 - 3) Press F10 to display detailed messages.
 - 4) Verify the message **WebSphere application server iwa61sso ready** is listed. This message indicates that the application server is fully started and is ready for Web serving.
 - 5) Press F3 until you return to a command line.
- e. IBM i Access for Web provides commands to configure the product. Two different commands are provided, a CL command and a QShell script command. Both commands provide and perform the same function. Use whichever version you prefer.

- **To use the CL command, follow these steps:**

- 1) Configure IBM i Access for Web for your Web application server by using the following command:

```
QIWA2/CFGACCWEB2 APPSVRTYPE(WebSphere_version) WASPRF(iwa61sso)
  WASINSDIR('was_install_directory')
  APPSVR(iwa61sso) AUTHTYPE(*APPSVR) AUTHMETHOD(*FORM)
  WASUSRID(myadminid) WAPWD(myadminpwd)
```

These are the parameters used:

APPSVRTYPE

Tells the command which Web application server to configure where *WebSphere_version* is set to one of the following:

- *WAS61BASE WebSphere Application Server V6.1 Base edition
- *WAS61EXP WebSphere Application Server V6.1 Express edition
- *WAS61ND WebSphere Application Server V6.1 Network Deployment edition

WASPRF

Tells the command which profile of the Web application server to configure.

WASINSDIR

The location in the IBM i integrated file system where the WebSphere Application Server edition is installed.

The default location for the WebSphere Application Server V6.1 ("Base edition") install directory is /QIBM/ProdData/WebSphere/AppServer/V61/Base. This default location is used when the WASINSDIR parameter is not specified and the APPSRVTYPE parameter is set to *WAS61BASE.

The default location for WebSphere Application Server - Express V6.1 install directory is /QIBM/ProdData/WebSphere/AppServer/V61/Express. This default location is used when the WASINSDIR parameter is not specified and the APPSRVTYPE parameter is set to *WAS61EXP.

The default location for WebSphere Application Server Network Deployment V6.1 install directory is /QIBM/ProdData/WebSphere/AppServer/V61/ND. This default location is used when the WASINSDIR parameter is not specified and the APPSRVTYPE parameter is set to *WAS61ND.

If your install directory is not in a default location, you must specify the WASINSDIR parameter.

APPSVR

Tells the command the name of the Web application server within the profile to configure.

AUHTYPE

Tells the command which authentication type to use. *APPSVR indicates the Web application server should authenticate the user using the WebSphere active user registry.

AUTHMETHOD

Tells the command which authentication method to use. *FORM indicates the Web application server should authenticate using form-based HTTP authentication.

WASUSRID

Tells the command which WebSphere administrative user ID to use when accessing this Web application server. Replace the example value with an administrator user id defined in the WebSphere active user registry.

WASPWD

Tells the command which WebSphere administrative password to use when accessing this Web application server. Replace the example value with the password for the administrative user ID provided with the WASUSRID parameter.

For help on this command and the parameters, press F1.

Migration Note: If you are already using IBM i Access for Web within another Web application server, refer to New Web application server considerations. This topic discusses additional CFGACCWEB2 command parameters that can be input to migrate user data from an existing configuration to this new configuration.

- 2) Several messages similar to these will be displayed:
 - Configuring IBM i Access for Web.
 - Preparing to perform the configuration changes.
 - Calling WebSphere to perform the configuration changes.
 - IBM i Access for Web command has completed.
 - The WebSphere application server must be stopped and then started to enable the configuration changes.
- 3) Press Enter when the command completes to exit the display session.
- **To use the QShell script command, follow these steps:**
 - 1) Start the QShell environment using the following command: QSH
 - 2) Make the IBM i Access for Web directory the current directory. Run this command:


```
cd /QIBM/ProdData/Access/Web2/install
```
 - 3) Configure IBM i Access for Web for the Web application server previously created:


```
cfgaccweb2 -appsvrtype WebSphere_version -wasprf iwa61sso
            -wasinsdir was_install_directory -appsvr iwa61sso
            -authtype *APPSVR -authmethod *FORM
            -wasusrid myadminid -wapwd myadminpwd
```

These are the parameters used:

-appsvrtype

Tells the command which Web application server to configure where *WebSphere_version* is set to one of the following:

- *WAS61BASE WebSphere Application Server V6.1 Base edition
- *WAS61EXP WebSphere Application Server V6.1 Express edition
- *WAS61ND WebSphere Application Server V6.1 Network Deployment edition

-wasprf

Tells the command which profile of the Web application server to configure.

| **-wasinsdir**

| The location in the IBM i integrated file system where the WebSphere Application Server
| edition is installed.

| The default location for the WebSphere Application Server V6.1 ("Base edition") install
| directory is /QIBM/ProdData/WebSphere/AppServer/V61/Base. This default location is used
| when the wasinsdir parameter is not specified and the appsrvtype parameter is set to
| *WAS61BASE.

| The default location for WebSphere Application Server - Express V6.1 install directory is
| /QIBM/ProdData/WebSphere/AppServer/V61/Express. This default location is used when
| the wasinsdir parameter is not specified and the appsrvtype parameter is set to
| *WAS61EXP.

| The default location for WebSphere Application Server Network Deployment V6.1 install
| directory is /QIBM/ProdData/WebSphere/AppServer/V61/ND. This default location is used
| when the wasinsdir parameter is not specified and the appsrvtype parameter is set to
| *WAS61ND.

| If your install directory is not in a default location, you must specify the wasinsdir
| parameter.

| **-appsvr**

| Tells the command the name of the Web application server within the profile to
| configure.

| **-authtype**

| Tells the command which authentication type to use. *APPSVR indicates the Web
| application server should authenticate the user using the WebSphere active user registry.

| **-authmethod**

| Tells the command which authentication method to use. *FORM indicates the Web
| application server should authenticate using form-based HTTP authentication.

| **-wasusrid**

| Tells the command which WebSphere administrative user ID to use when accessing this
| Web application server. Replace the example value with an administrator user id defined
| in the WebSphere active user registry.

| **-waspwd**

| Tells the command which WebSphere administrative password to use when accessing
| this Web application server. Replace the example value with the password for the
| administrative user ID provided with the -wasusrid parameter.

For help on this command and the parameters, specify the -? parameter.

Migration Note: If you are already using IBM i Access for Web within another Web
application server, refer to New Web application server considerations.
This topic discusses additional cfgaccweb2 command parameters that can
be input to migrate user data from an existing configuration to this new
configuration.

- 4) Several messages similar to these will be displayed:

Configuring IBM i Access for Web.

Preparing to perform the configuration changes.

Calling WebSphere to perform the configuration changes.

IBM i Access for Web command has completed.

The WebSphere application server must be stopped and then started to enable the
configuration changes.

- 5) Press F3 when the command completes to exit the QShell session.

- f. If the command were to fail or indicate an error, refer to the log files:
 - `/QIBM/UserData/Access/Web2/logs/cmds.log`
High level, cause and recovery information; translated.
 - `/QIBM/UserData/Access/Web2/logs/cmdstrace.log`
Detailed command flow for IBM Software Service; English only.
 - g. After successfully configuring IBM i Access for Web, the WebSphere application server must be restarted to load the changes to its configuration. This will be done later.
 - h. Signoff the 5250 session window and close the window.
4. Start the Web environment.
 - a. Return to the browser window that is open to the **IBM Web Administration for IBM i server management** page.
 - b. The **Manage > Application Servers** tabbed page should be active. Under Instance/Server is listed **iwa61sso/iwa61sso? WAS, V6.1** with a status of **Running**. Stop and restart the WebSphere application server:
 - 1) Select the red icon next to the **Running** status to stop the WebSphere server. Select the refresh icon next to the **Stopping** status to refresh the page if the page does not periodically refresh.
 - 2) When the status is updated to **Stopped**, select the green icon next to **Stopped** to start the WebSphere application server.
 - 3) The status will be updated to **Starting**. Select the refresh icon next to the Starting status to refresh the page if it does not periodically refresh.

Important: Wait for the status to be updated to Running before moving to the next step. IBM i Access for Web will load and start as the WebSphere application server starts.
 - c. Select the HTTP Servers tabbed page.
 - d. Under **Server**, select IWA61SSO - Apache. The current status of this Apache HTTP server should be **Stopped**. Select the green icon next to the status to start the HTTP server. The status is updated to **Running**.
 - e. Close the browser window.
 5. Use a browser to access IBM i Access for Web.
 - a. Open a browser to either of the following addresses to access IBM i Access for Web:

`http://<system_name>:4046/webaccess/iWAHome`
`http://<system_name>:4046/webaccess/iWAMain`
 - b. Log in using WebSphere credentials (user ID and password). IBM i Access for Web will then use Enterprise Identity Mapping (EIM) to map the authenticated WebSphere user to an IBM i user profile. The initial load of Start of IBM i Access for Web might take a few seconds. WebSphere Application Server is loading Java classes for the first time. Subsequent loads of Start of IBM i Access for Web will be faster.
 - c. The IBM i Access for Web Home or Main page displays.
 - d. Close the browser window.

By following the preceding steps, you completed these tasks:

- Configured an EIM environment to enable mapping of WebSphere user identities to IBM i user profiles.
- Created a WebSphere Web application server named iwa61sso.
- Created an HTTP server named IWA61SSO.
- Enabled global security for WebSphere web application server iwa61sso.
- Configured IBM i Access for Web for the WebSphere application server.

- Stopped and restarted the WebSphere application server and HTTP web server. IBM i Access for Web started when the WebSphere application server started.
- Verified that IBM i Access for Web can be accessed from a Web browser.

In this example, only the CFGACCWEB2/cfgaccweb2 command is used to configure IBM i Access for Web. For more information about using all the IBM i Access for Web CL commands, use the CL command finder.

Related concepts:

“Single sign-on considerations” on page 8

IBM i Access for Web can be used in single sign-on environments. This topic will discuss the single sign-on environment options available to IBM i Access for Web.

Related reference:

“New Web application server considerations” on page 84

Use this information when IBM i Access for Web is already configured for a Web application server and a new Web application server is added to the environment. In this situation, IBM i Access for Web can be configured for the new Web application server based on the existing configuration. All user-generated data and configuration settings can be copied from the existing environment to the new environment.

Related information:

CL command finder

Configuring WebSphere Application Server - Express V6.1 for i5/OS:

This example is for users that are not familiar with the Web serving environment. It describes all the steps necessary to get IBM i Access for Web running in a WebSphere Application Server - Express V6.1 for i5/OS environment. It also describes how to verify that the setup is working.

Configuring your Web serving environment consists of these steps:

- Start the IBM Web Administration for i interface. See step 1.
- Create an HTTP Web server and a WebSphere Application Server V6.1 Web application server. See step 2.
- Configure IBM i Access for Web. See step 3 on page 57.
- Start the Web environment. See step 4 on page 59.
- Use a browser to access IBM i Access for Web. See step 5 on page 60.

Steps to configure the Web serving environment:

1. Start the IBM Web Administration for i interface.
 - a. Start a 5250 session to the system.
 - b. Sign on with a user profile that has at least these special authorities: *ALLOBJ, *IOSYSCFG, *JOBCTL, and *SECADM.
 - c. Run the following command to start the web administration interface job: STRTCPSVR SERVER(*HTTP) HTTPSVR(*ADMIN)
 - d. Minimize the 5250 session.
2. Create an HTTP Web server and a WebSphere Application Server - Express V6.1 Web application server environment:
 - a. Open a browser to `http://<system_name>:2001/HTTPAdmin`.
 - b. Log in with a user profile that has, at least these special authorities: *ALLOBJ, *IOSYSCFG, *JOBCTL, and *SECADM.
 - c. Select the **Setup** tabbed page.
 - d. Under Common Tasks and Wizards, select **Create Application Server**.
 - e. The Create Application Server page opens. Select **Next**.

- f. Under **WebSphere Application Server**, select **V6.1 Express**. Select **Next**.
- g. The Specify Application Server Name page opens. For **Application server name**, specify **iwa61exp**. This will be the name of the WebSphere Web application server. Select **Next**.
- h. The Select HTTP Server Type page opens. Select **Create a new HTTP server (powered by Apache)** then select **Next**.
- i. The Create a new HTTP server (powered by Apache) page opens.
 - For **HTTP server name**, enter **IWA61EXP**
 - For **Port**, specify **2052**. This port number is an example. You should verify this port is available for use, or use a port you know is available.

Select **Next**.

- j. The Specify Internal Ports Used by the Application Server page opens. For **First port in range**, change the default value to **21052**. This port number is an example. You should verify this port is available for use or use a port you know is available. Select **Next**.
- k. The Select Sample Applications page opens. Select **Next** until the **Summary** page opens.
- l. Select **Finish**.
- m. The Web page is re-displayed with the **Manage > Application Servers** tabbed page active. Under **Server**, **iwa61exp/iwa61exp -V6.1 Express** is listed with a status of **Creating**. From this Web page, you can manage the WebSphere application server.

Use the refresh icon next to the **Creating** status to refresh the page, if the page does not periodically refresh.
- n. When the status is updated to **Stopped**, select the green icon next to **Stopped** to start the WebSphere application server. The status will be updated to **Starting**. If you are prompted to also start the **IWA61EXP HTTP server**, clear the **IWA61EXP HTTP server** option so that it does not start at this time. The status will be updated to **Starting**.

Use the refresh icon next to the **Starting** status to refresh the page if the page does not periodically refresh. IBM i Access for Web requires that the WebSphere application server is running before it can be configured.

Important: Wait for the status to be updated to **Running** before moving to the next step.

- o. Minimize the browser window.
3. Configure IBM i Access for Web.
 - a. Restore the 5250 session window.
 - b. To see the WebSphere application server running, run the command: **WRKACTJOB SBS(QWAS61)**
 - c. Verify that **IWA61EXP** is listed as a job running under the **QWAS61** subsystem. IBM i Access for Web requires the WebSphere application server is running before it can be configured.
 - d. Verify the Web application server is ready:
 - 1) Enter option 5 on your **IWA61EXP** job.
 - 2) Enter option 10 to display the job log.
 - 3) Press **F10** to display detailed messages.
 - 4) Verify the message **WebSphere application server iwa61exp ready** is listed. This message indicates that the application server is fully started and is ready for Web serving.
 - 5) Press **F3** until you return to a command line.
 - e. IBM i Access for Web provides commands to configure the product. Two different commands are provided, a **CL** command and a **QShell** script command. Both commands provide and perform the same function. Use the version which works best for your circumstances.

To use the CL command, follow these steps:

- 1) Configure IBM i Access for Web for your Web application server by using the following command:

```
QIWA2/CFGACCWEB2 APPSVRTYPE(*WAS61EXP) WASPRF(iwa61exp)
APPSVR(iwa61exp)
WASINSDIR(/QIBM/ProdData/WebSphere/AppServer/V61/Express)
```

These are the parameters used:

APPSVRTYPE

Tells the command which Web application server to configure.

WASPRF

Tells the command which profile of the Web application server to configure.

APPSVR

Tells the command the name of the Web application server within the profile to configure.

WASINSDIR

Tells the command the location in the IBM i integrated file system where WebSphere Application Server V6.1 was installed. The default value is /QIBM/ProdData/WebSphere/AppServer/V61/Express.

WASUSRID

Tells the command the user ID to use for WebSphere Application Server configuration changes when WebSphere security has been enabled for the profile. In this example, security was not enabled. This parameter is not required for this example.

WASPWD

Tells the command the password for the user ID specified using the WASUSRID parameter. In this example, security was not enabled. This parameter is not required for this example.

For help on this command and the parameters, press F1.

Note: If you are already using IBM i Access for Web within another Web application server, refer to the New Web application server considerations topic. This topic discusses additional CFGACCWEB2 command parameters that can be input to migrate user data from an existing configuration to this new configuration.

- 2) Several messages similar to these will be displayed:

Configuring IBM i Access for Web.

Preparing to perform the configuration changes.

Calling WebSphere to perform the configuration changes.

IBM i Access for Web command has completed.

The WebSphere application server must be stopped and then started to enable the configuration changes.

- 3) Press Enter when the command completes to exit the display session.

To use the QShell script command, follow these steps:

- 1) Start the QShell environment using the following command: QSH

- 2) Make the IBM i Access for Web directory the current directory. Run this command:

```
cd /QIBM/ProdData/Access/Web2/install
```

- 3) Configure IBM i Access for Web for the Web application server previously created:

```
cfgaccweb2 -appsvrtype *WAS61EXP -wasprf iwa61exp -appsvr
iwa61exp
-wasinsdir /QIBM/ProdData/WebSphere/AppServer/V61/Express
```

These are the parameters used:

-appsvrtype

Tells the command which Web application server to configure.

-wasprf

Tells the command which profile of the Web application server to configure.

-appsvr

Tells the command the name of the Web application server within the profile to configure.

-wasinsdir

Tells the command the location in the IBM i integrated file system where WebSphere Application Server - Express V6.1 was installed. The default value is /QIBM/ProdData/WebSphere/AppServer/V61/Express.

-wasusrid

Tells the command the user ID to use for WebSphere Application Server configuration changes when WebSphere security has been enabled for the profile. In this example, security was not enabled. This parameter is not required for this example.

-waspwd

Tells the command the password for the user ID specified using the -wasusrid parameter. In this example, security was not enabled. This parameter is not required for this example.

For help on this command and the parameters, specify the -? parameter.

Migration Note: If you are already using IBM i Access for Web within another Web application server, refer to New Web application server considerations. This topic discusses additional cfgaccweb2 command parameters that can be input to migrate user data from an existing configuration to this new configuration.

- 4) Several messages similar to these will be displayed:
 - Configuring IBM i Access for Web.
 - Preparing to perform the configuration changes.
 - Calling WebSphere to perform the configuration changes.
 - IBM i Access for Web command has completed.
 - The WebSphere application server must be stopped and then started to enable the configuration changes.
 - 5) Press F3 when the command completes to exit the QShell session.
 - f. If the command were to fail or indicate an error, refer to the log files:
 - /QIBM/UserData/Access/Web2/logs/cmds.log
High level, cause and recovery information; translated.
 - /QIBM/UserData/Access/Web2/logs/cmdstrace.log
Detailed command flow for IBM Software Service; English only.
 - g. After successfully configuring IBM i Access for Web, the WebSphere application server must be restarted to load the changes to its configuration. This will be done later.
 - h. Signoff the 5250 session window and close the window.
4. Start the Web environment.
 - a. Return to the browser window that is open to the IBM Web Administration for i server management page.
 - b. The **Manage > Application Servers** tabbed page should be active. Under Server is listed **iwa61exp/iwa61exp -V6.1 Express** with a status of **Running**. Stop and restart the WebSphere application server:
 - 1) Select the red icon next to the **Running** status to stop the WebSphere server. If you are prompted to also stop the IWA61EXP HTTP server, do not deselect it. It should also be stopped. Select the refresh icon next to the **Stopping** status to refresh the page if the page does not periodically refresh.

- 2) When the status is updated to **Stopped**, select the green icon next to **Stopped** to start the WebSphere application server. If you are prompted to also start the IWA61EXP HTTP server, do not deselect it. It should also be started.
- 3) The status will be updated to **Starting**. Select the refresh icon next to the Starting status to refresh the page if it does not periodically refresh.

Important: Wait for the status to be updated to Running before moving to the next step. IBM i Access for Web will load and start as the WebSphere application server starts.

- c. Select the HTTP Servers tabbed page.
 - d. Under Server, select **IWA61EXP - Apache**. The current status of this Apache HTTP server should be **Running**. If the current status is **Stopped**, select the green icon next to the status to start the HTTP server. The status is updated to **Running**.
 - e. Close the browser window.
5. Use a browser to access IBM i Access for Web.
- a. Open a browser to either of the following addresses to access IBM i Access for Web:


```
http://<system_name>:2052/webaccess/iWAHome  
http://<system_name>:2052/webaccess/iWAMain
```
 - b. Log in using an IBM i user ID and password. The initial load of IBM i Access for Web might take a few seconds. WebSphere Application Server is loading Java classes for the first time. Subsequent loads of IBM i Access for Web will be faster.
 - c. The IBM i Access for Web Home or Main page displays.
 - d. Close the browser window.

By following the preceding steps, you completed these tasks:

- Created a WebSphere Web application server named iwa61exp.
- Created an HTTP server named IWA61EXP.
- Configured IBM i Access for Web for the WebSphere application server.
- Stopped and restarted the WebSphere application server and HTTP Web server. IBM i Access for Web started when the WebSphere application server started.
- Verified that IBM i Access for Web can be accessed from a Web browser.

In this example, only the CFGACCWEB2/cfgaccweb2 command is used to configure IBM i Access for Web. For more information about using all the IBM i Access for Web commands, use the CL command finder, which will find IBM i Access for Web CL commands. As shown above, there are also equivalent QShell script commands.

You can refer to the CL command online help to learn how to use the other QShell script commands.

Related reference:

“New Web application server considerations” on page 84

Use this information when IBM i Access for Web is already configured for a Web application server and a new Web application server is added to the environment. In this situation, IBM i Access for Web can be configured for the new Web application server based on the existing configuration. All user-generated data and configuration settings can be copied from the existing environment to the new environment.

Related information:

CL command finder

Configuring WebSphere Application Server Network Deployment V6.1 for i5/OS:

This example is for users that are not familiar with the Web serving environment. It describes all the steps necessary to get IBM i Access for Web running in a WebSphere Application Server Network Deployment V6.1 for i5/OS environment. It also describes how to verify that the setup is working.

Note: WebSphere profiles that are federated to the Network Deployment environment are not supported by IBM i Access for Web.

Configuring your Web serving environment consists of these steps:

- Start the IBM Web Administration for i interface. See step 1.
- Create an HTTP Web server and a WebSphere Application Server Network Deployment V6.1 Web application server. See step 2.
- Configure IBM i Access for Web. See step 3 on page 62.
- Start the Web environment. See step 4 on page 64.
- Use a browser to access IBM i Access for Web. See step 5 on page 64.

Steps to configure the Web serving environment:

1. Start the IBM Web Administration for i interface.

- a. Start a 5250 session to the system.
- b. Sign on with a user profile that has at least these special authorities: *ALLOBJ, *IOSYSCFG, *JOBCTL, and *SECADM.
- c. Run the following CL command to start the Web administration interface job: STRTCPSVR SERVER(*HTTP) HTTPSVR(*ADMIN)
- d. Minimize the 5250 session.

2. Create an HTTP Web server and a WebSphere Application Server Network Deployment V6.1 Web application server environment:

- a. Open a browser to `http://<system_name>:2001/HTTPAdmin`.
- b. Log in with a user profile that has, at least these special authorities: *ALLOBJ, *IOSYSCFG, *JOBCTL, and *SECADM.
- c. Select the **Setup** tabbed page.
- d. Under Common Tasks and Wizards, select **Create Application Server**.
- e. The Create Application Server page opens. Select **Next**.
- f. Under **WebSphere Application Server**, select **V6.1 ND**. Select **Next**.
- g. The Specify Application Server Name page opens. For **Application server name**, specify `iwa61nd`. This will be the name of the WebSphere Web application server. Select **Next**.
- h. The Select HTTP Server Type page opens. Select **Create a new HTTP server (powered by Apache)** then select **Next**.
- i. The Create a new HTTP server (powered by Apache) page opens.
 - For **HTTP server name**, enter `IWA61ND`
 - For Port, specify 2054. This port number is an example. You should verify this port is available for use or use a port you know is available.

Select **Next**.

- j. The Specify Internal Ports Used by the Application Server page opens. For **First port in range**, change the default value to 21054. This port number is an example. You should verify this port is available for use or use a port you know is available. Select **Next**.
- k. The Select Sample Applications page opens. Select **Next** until the Summary page opens.
- l. Select **Finish**.
- m. The Web page is re-displayed with the **Manage > Application Servers** tabbed page active. Under **Server**, `iwa61nd/iwa61nd – V6.1 ND` is listed with a status of **Creating**. From this Web page, you can manage the WebSphere application server.

Use the refresh icon next to the **Creating** status to refresh the page, if the page does not periodically refresh.

- n. When the status is updated to **Stopped**, select the green icon next to **Stopped** to start the WebSphere application server. The status will be updated to **Starting**. If you are prompted to also start the IWA61ND HTTP server, clear the IWA61ND HTTP server option so that it does not start at this time. The status will be updated to Starting.

Use the refresh icon next to the **Starting** status to refresh the page if the page does not periodically refresh. IBM i Access for Web requires that the WebSphere application server is running before it can be configured.

Important: Wait for the status to be updated to **Running** before moving to the next step.

- o. Minimize the browser window.
3. Configure IBM i Access for Web.
- a. Restore the 5250 session window.
 - b. To see the WebSphere application server running, run the CL command: WRKACTJOB SBS(QWAS61)
 - c. Verify that IWA61ND is listed as a job running under the QWAS61 subsystem. IBM i Access for Web requires the WebSphere application server is running before it can be configured.
 - d. Verify the Web application server is ready:
 - 1) Enter option 5 on your IWA61ND job.
 - 2) Enter option 10 to display the job log.
 - 3) Press F10 to display detailed messages.
 - 4) Verify the message **WebSphere application server iwa61nd ready** is listed. This message indicates that the application server is fully started and is ready for Web serving.
 - 5) Press F3 until you return to a command line.
 - e. IBM i Access for Web provides commands to configure the product. Two different commands are provided, a CL command and a QShell script command. Both commands provide and perform the same function. Use the version works better for your circumstances.

To use the CL command, follow these steps:

- 1) Configure IBM i Access for Web for your Web application server by using the following command:

```
QIWA2/CFGACCWEB2 APPSVRTYPE(*WAS61ND) WASPRF(iwa61nd)
APPSVR(iwa61nd)
WASINSDIR(/QIBM/ProdData/WebSphere/AppServer/V61/ND)
```

These are the parameters used:

APPSVRTYPE

Tells the command which Web application server to configure.

WASPRF

Tells the command which profile of the Web application server to configure.

APPSVR

Tells the command the name of the Web application server within the profile to configure.

WASINSDIR

Tells the command the location in the IBM i integrated file system where WebSphere Application Server V6.1 was installed. The default value is /QIBM/ProdData/WebSphere/AppServer/V61/ND.

WASUSRID

Tells the command the user ID to use for WebSphere Application Server configuration changes when WebSphere security has been enabled for the profile. In this example, security was not enabled. This parameter is not required for this example.

WASPWD

Tells the command the password for the user ID specified using the WASUSRID parameter. In this example, security was not enabled. This parameter is not required for this example.

For help on this command and the parameters, press F1.

Note: If you are already using IBM i Access for Web within another Web application server, refer to the New Web application server considerations topic. This topic discusses additional CFGACCWEB2 command parameters that can be input to migrate user data from an existing configuration to this new configuration.

- 2) Several messages similar to these will be displayed:

Configuring IBM i Access for Web.

Preparing to perform the configuration changes.

Calling WebSphere to perform the configuration changes.

IBM i Access for Web command has completed.

The WebSphere application server must be stopped and then started to enable the configuration changes.

- 3) Press Enter when the command completes to exit the display session.

To use the QShell script command, follow these steps:

- 1) Start the QShell environment using the following command: QSH

- 2) Make the IBM i Access for Web directory the current directory. Run this command:

```
cd /QIBM/ProdData/Access/Web2/install
```

- 3) Configure IBM i Access for Web for the Web application server previously created:

```
cfgaccweb2 -appsvrtype *WAS61ND -wasprf iwa61nd -appsvr  
iwa61nd  
-wasinsdir /QIBM/ProdData/WebSphere/AppServer/V61/ND
```

These are the parameters used:

-appsvrtype

Tells the command which Web application server to configure.

-wasprf

Tells the command which profile of the Web application server to configure.

-appsvr

Tells the command the name of the Web application server within the profile to configure.

-wasinsdir

Tells the command the location in the IBM i integrated file system where WebSphere Application Server Network Deployment V6.1 was installed. The default value is /QIBM/ProdData/WebSphere/AppServer/V61/ND.

-wasusrid

Tells the command the user ID to use for WebSphere Application Server configuration changes when WebSphere security has been enabled for the profile. In this example, security was not enabled. This parameter is not required for this example.

-waspwd

Tells the command the password for the user ID specified using the -wasusrid parameter. In this example, security was not enabled. This parameter is not required for this example.

For help on this command and the parameters, specify the -? parameter.

Migration Note: If you are already using IBM i Access for Web within another Web application server, refer to New Web application server considerations. This

topic discusses additional `cfgaccweb2` command parameters that can be input to migrate user data from an existing configuration to this new configuration.

- 4) Several messages similar to these will be displayed:
 - Configuring IBM i Access for Web.
 - Preparing to perform the configuration changes.
 - Calling WebSphere to perform the configuration changes.
 - IBM i Access for Web.
 - The WebSphere application server must be stopped and then started to enable the configuration changes.
 - 5) Press F3 when the command completes to exit the QShell session.
 - f. If the command were to fail or indicate an error, refer to the log files:
 - **/QIBM/UserData/Access/Web2/logs/cmds.log**
High level, cause and recovery information; translated.
 - **/QIBM/UserData/Access/Web2/logs/cmdstrace.log**
Detailed command flow for IBM Software Service; English only.
 - g. After successfully configuring IBM i Access for Web, the WebSphere application server must be restarted to load the changes to its configuration. This will be done later.
 - h. Signoff the 5250 session window and close the window.
4. Start the Web environment.
 - a. Return to the browser window that is open to the IBM Web Administration for i server management page.
 - b. The **Manage > Application Servers** tabbed page should be active. Under Server is listed **iwa61nd/iwa61nd – V6.1 ND** with a status of **Running**. Stop and restart the WebSphere application server:
 - 1) Select the red icon next to the **Running** status to stop the WebSphere server. If you are prompted to also stop the IWA61ND HTTP server, do not deselect it. It should also be stopped. Select the refresh icon next to the **Stopping** status to refresh the page if the page does not periodically refresh.
 - 2) When the status is updated to **Stopped**, select the green icon next to **Stopped** to start the WebSphere application server. If you are prompted to also start the IWA61ND HTTP server, do not deselect it. It should also be started.
 - 3) The status will be updated to **Starting**. Select the refresh icon next to the Starting status to refresh the page if it does not periodically refresh.

Important: Wait for the status to be updated to Running before moving to the next step. IBM i Access for Web will load and start as the WebSphere application server starts.
 - c. Select the HTTP Servers tabbed page.
 - d. Under Server, select **IWA61ND - Apache**. The current status of this Apache HTTP server should be **Running**. If the current status is **Stopped**, select the green icon next to the status to start the HTTP server. The status is updated to **Running**.
 - e. Close the browser window.
 5. Use a browser to access IBM i Access for Web.
 - a. Open a browser to either of the following addresses to access IBM i Access for Web:
 - `http://<server_name>:2054/webaccess/iWAHome`
 - `http://<server_name>:2054/webaccess/iWAMain`
 - b. Log in using an IBM i user ID and password. The initial load of IBM i Access for Web might take a few seconds. WebSphere Application Server is loading Java classes for the first time. Subsequent loads of IBM i Access for Web will be faster.

- c. The IBM i Access for Web Home or Main page displays.
- d. Close the browser window.

By following the preceding steps, you completed these tasks:

- Created a WebSphere Web application server named iwa61nd.
- Created an HTTP server named IWA61ND.
- Configured IBM i Access for Web for the WebSphere application server.
- Stopped and restarted the WebSphere application server and HTTP Web server. IBM i Access for Web started when the WebSphere application server started.
- Verified that IBM i Access for Web can be accessed from a Web browser.

In this example, only the CFGACCWEB2/cfgaccweb2 command is used to configure IBM i Access for Web. For more information about using all the IBM i Access for Web commands, use the CL command finder, which will find IBM i Access for Web CL commands. As shown above, there are also equivalent QShell script commands.

You can refer to the CL command online help to learn how to use the other QShell script commands.

Related reference:

“New Web application server considerations” on page 84

Use this information when IBM i Access for Web is already configured for a Web application server and a new Web application server is added to the environment. In this situation, IBM i Access for Web can be configured for the new Web application server based on the existing configuration. All user-generated data and configuration settings can be copied from the existing environment to the new environment.

Related information:

CL command finder

Examples for configuring an existing Web application server environment

These examples provide instructions for configuring IBM i Access for Web within an existing Web serving environment.

These examples assume that an HTTP server and Web application server exist and can be used for IBM i Access for Web.

Before using these examples, ensure you have completed the planning, installing, and configuring checklist.

Related concepts:

“Checklist: Planning, installing, and configuring” on page 10

This checklist guides you through the steps necessary to plan, install, verify, and configure a simple IBM i Access for Web environment. These steps do not take into account other Web applications or more complex Web environments.

Configuring integrated Web application server:

Use this information to configure IBM i Access for Web for running in an integrated Web application server environment.

To configure IBM i Access for Web for the integrated Web application server, do the following:

1. Sign on to your system.
2. IBM i Access for Web Web provides commands to configure the product. Two different commands are provided, a CL command and a QShell script command. Both commands provide and perform the same function. Use the version which best suits your circumstances.

To use the CL command, follow these steps:

- a. Configure IBM i Access for Web using the following command:

```
QIWA2/CFGACCWEB2 APPSVRTYPE(*INTAPPSVR)
```

These are the parameters used:

APPSVRTYPE

Tells the command which Web application server to configure.

For help on this command and the parameters, press F1.

Migration Note: If you are already using IBM i Access for Web within another Web application server, refer to New Web application server considerations. This topic discusses additional CFGACCWEB2 command parameters that can be input to migrate user data from an existing configuration to this new configuration.

- b. ii. Several messages similar to these will be displayed:

Configuring IBM i Access for Web.

Preparing to perform the configuration changes.

IBM i Access for Web command has completed.

- c. Press Enter when the command completes to exit the display session.

To use the QShell script command, follow these steps:

- a. Start the QShell environment by using the following CL command: QSH

- b. Make the IBM i Access for Web directory the current directory. Run this command:

```
cd /QIBM/ProdData/Access/Web2/install
```

- c. Configure IBM i Access for Web for the Web application server:

```
cfgaccweb2 -appsvrtype *INTAPPSVR
```

These are the parameters used:

-appsvrtype

Tells the command which Web application server to configure.

For help on this command and the parameters, specify the -? parameter.

Migration Note: If you are already using IBM i Access for Web within another Web application server, refer to New Web application server considerations. This topic discusses additional cfgaccweb2 command parameters that can be input to migrate user data from an existing configuration to this new configuration.

- d. Several messages similar to these will be displayed:

Configuring IBM i Access for Web.

Preparing to perform the configuration changes.

IBM i Access for Web command has completed.

- e. Press F3 when the command completes to exit the QShell session.

3. If the command were to fail or indicate an error, refer to the log files:

- **/QIBM/UserData/Access/Web2/logs/cmds.log**

High level, cause and recovery information; translated.

- **/QIBM/UserData/Access/Web2/logs/cmdstrace.log**

Detailed command flow for IBM Software Service; English only.

4. Stop and start the integrated Web application server to enable the changes made to the configuration. Start the IBM i Access for Web HTTP Web server. Use the following commands to enable the configuration changes and start the Web serving environment on your system:


```
ENDTCPSVR SERVER(*HTTP) HTTPSVR(*ADMIN)
STRTCPSVR SERVER(*HTTP) HTTPSVR(*ADMIN)
STRTCPSVR SERVER(*HTTP) HTTPSVR(IWADFT)
```

5. Use a browser to access IBM i Access for Web.
 - a. Open a browser to the following address to access IBM i Access for Web. Be sure enter it exactly as shown here:

`http://<system_name>:2020/webaccess/iWAMain`

- b. Log in using an IBM i user ID and password. The initial load of IBM i Access for Web might take a few seconds. The integrated Web application server is loading Java classes for the first time. Subsequent loads of IBM i Access for Web will be faster.
 - c. The IBM i Access for Web Main page displays.

By following the preceding steps, you completed these tasks:

- Configured IBM i Access for Web for the integrated Web application server.
- Stopped and restarted the integrated Web application server and HTTP Web server. IBM i Access for Web started when the integrated Web application server started.
- Verified that IBM i Access for Web can be accessed from a Web browser.

In this example, only the CFGACCWEB2/cfgaccweb2 command is used to configure IBM i Access for Web. For more information about using all the IBM i Access for Web commands, use the CL command finder. As shown above, there are also equivalent QShell script commands.

You can refer to the CL command online help to learn how to use the other QShell script commands.

Related reference:

“New Web application server considerations” on page 84

Use this information when IBM i Access for Web is already configured for a Web application server and a new Web application server is added to the environment. In this situation, IBM i Access for Web can be configured for the new Web application server based on the existing configuration. All user-generated data and configuration settings can be copied from the existing environment to the new environment.

Related information:

CL command finder

| **Configuring WebSphere Application Server V7.0 for IBM i:**

| Use this information to configure IBM i Access for Web for WebSphere Application Server V7.0 for IBM i.

| **Note:** WebSphere profiles that are federated to the Network Deployment environment are not supported by IBM i Access for Web.

| To configure IBM i Access for Web for WebSphere Application Server V7.0, do the following:

- | 1. Sign on to your system.
- | 2. Start the WebSphere application server in which you want IBM i Access for Web to run by following these steps:
 - | a. Run the command STRTCPSVR SERVER(*HTTP) HTTPSVR(*ADMIN).
 - | b. Open a browser to `http://<system_name>:2001/HTTPAdmin`.
 - | c. Navigate to your HTTP server and start it if it is not already running.
 - | d. Navigate to your WebSphere application server and start it if it is not already running.
 - | e. Wait for the application server to show a status of running.
 - | f. Minimize the browser window. You will return to this window in a later step.

3. IBM i Access for Web provides commands to configure the product. Two different commands are provided, a CL command and a QShell script command. Both commands provide and perform the same function. Use the version which works best for your circumstances. To use the CL command, follow these steps. To use the QShell script command, go to step 4

a. Configure IBM i Access for Web for the Web application server:

```
QIWA2/CFGACCWEB2 APPSVRTYPE(*WAS70BASE)
WASPRF(was_profile_name) APPSVR(app_svr)
WASINSDIR(/QIBM/ProdData/WebSphere/AppServer/V7/Base)
```

These are the parameters used:

APPSVRTYPE

Tells the command which Web application server to configure.

WASPRF

Tells the command which profile of the Web application server to configure.

APPSVR

Tells the command the name of the Web application server within the profile to configure.

WASINSDIR

Tells the command the location in the IBM i integrated file system where WebSphere Application Server V7.0 was installed. The default value is /QIBM/ProdData/WebSphere/AppServer/V7/Base.

WASUSRID

Tells the command the user ID to use for WebSphere Application Server configuration changes when WebSphere security has been enabled for the profile. In this example you would only need to specify this parameter and value if the profile had security enabled.

WASPWD

Tells the command the password for the user ID specified using the WASUSRID parameter. In this example you would only need to specify this parameter and value if the profile had security enabled.

For help on this command and the parameters, press F1.

Migration Note: If you are already using IBM i Access for Web within another Web application server, refer to New Web application server considerations. This topic discusses additional CFGACCWEB2 command parameters that can be input to migrate user data from an existing configuration to this new configuration.

b. Several messages similar to these will be displayed:

```
Configuring IBM i Access for Web.
```

```
Preparing to perform the configuration changes.
```

```
Calling WebSphere to perform the configuration changes.
```

```
IBM i Access for Web command has completed.
```

```
The WebSphere application server must be stopped and then started to enable the
configuration changes.
```

c. Press Enter when the command completes to exit the display session. Go to step 5 on page 69

4. IBM i Access for Web provides commands to configure the product. Two different commands are provided, a CL command and a QShell script command. Both commands provide and perform the same function. Use the version which works best for your circumstances. To use the QShell script command, follow these steps. To use the CL command, go to step 3

a. Start the QShell environment using the following command: QSH

b. Make the IBM i Access for Web directory the current directory. Run this command:

```
cd /QIBM/ProdData/Access/Web2/install
```

c. Configure IBM i Access for Web for the Web application server. Run these commands:

```
cfgaccweb2 -appsvrtype *WAS70BASE -wasprf was_profile_name  
-appsvr app_svr  
-wasinsdir /QIBM/ProdData/WebSphere/AppServer/V7/Base
```

These are the parameters used:

-appsvrtype

Tells the command which Web application server to configure.

-wasprf

Tells the command which profile of the Web application server to configure.

-appsvr

Tells the command the name of the Web application server within the profile to configure.

-wasinsdir

Tells the command the location in the IBM i integrated file system where WebSphere Application Server V7.0 is installed. The default value is /QIBM/ProdData/WebSphere/AppServer/V7/Base.

-wasusrld

Tells the command the user ID to use for WebSphere Application Server configuration changes when WebSphere security has been enabled for the profile. In this example you would only need to specify this parameter and value if the profile had security enabled.

-waspwd

Tells the command the password for the user ID specified using the -wasusrld parameter. In this example you would only need to specify this parameter and value if the profile had security enabled.

For help on this command and the parameters, specify the -? parameter.

Migration Note: If you are already using IBM i Access for Web within another Web application server, refer to New Web application server considerations. This topic discusses additional `cfgaccweb2` command parameters that can be input to migrate user data from an existing configuration to this new configuration.

d. Several messages similar to these will be displayed:

```
Configuring IBM i Access for Web.  
Preparing to perform the configuration changes.  
Calling WebSphere to perform the configuration changes.  
IBM i Access for Web command has completed.  
The WebSphere application server must be stopped and then started to enable the  
configuration changes.
```

e. Press F3 when the command completes to exit the QShell session.

5. If the command were to fail or indicate an error, refer to the log files:

- /QIBM/UserData/Access/Web2/logs/cmds.log
High level, cause and recovery information; translated.
- /QIBM/UserData/Access/Web2/logs/cmdstrace.log
Detailed command flow for IBM Software Service; English only.

6. Return to the Web administration browser interface window that you minimized in step 2 on page 67, then stop and restart the WebSphere application server.

7. Open your browser to `http://<your_system_name>:<your_port>/webaccess/iWAMain`. Be sure to enter it exactly as shown.

- | 8. Log in using an IBM i user ID and password. The initial load of IBM i Access for Web might take a few seconds. WebSphere Application Server is loading Java classes for the first time. Subsequent loads of IBM i Access for Web will be faster.
- | 9. The IBM i Access for Web main page opens.

| In this example, only the CFGACCWEB2/cfgaccweb2 command is used to configure IBM i Access for Web. For more information about using all the IBM i Access for Web commands, use the CL command finder. The CL command finder will find IBM i Access for Web CL commands. As shown above there are equivalent QShell script commands.

| You can refer to the CL command online help to learn how to use the other QShell script commands.

| **Related reference:**

| “New Web application server considerations” on page 84

| Use this information when IBM i Access for Web is already configured for a Web application server and a new Web application server is added to the environment. In this situation, IBM i Access for Web can be configured for the new Web application server based on the existing configuration. All user-generated data and configuration settings can be copied from the existing environment to the new environment.

| **Related information:**

| CL command finder

| **Configuring WebSphere Application Server - Express V7.0 for IBM i:**

| Use this information to configure IBM i Access for Web for WebSphere Application Server - Express V7.0 for IBM i.

| **Note:** WebSphere profiles that are federated to the Network Deployment environment are not supported by IBM i Access for Web.

| To configure IBM i Access for Web for WebSphere Application Server - Express V7.0, do the following:

- | 1. Sign on to your system.
- | 2. Start the WebSphere application server in which you want IBM i Access for Web to run by following these steps:
 - | a. Run the command STRTCPSVR SERVER(*HTTP) HTTPSVR(*ADMIN).
 - | b. Open a browser to `http://<system_name>:2001/HTTPAdmin`.
 - | c. Navigate to your HTTP server and start it if it is not already running.
 - | d. Navigate to your WebSphere application server and start it if it is not already running.
 - | e. Wait for the application server to show a status of running.
 - | f. Minimize the browser window. You will return to this window in a later step.
- | 3. IBM i Access for Web provides commands to configure the product. Two different commands are provided, a CL command and a QShell script command. Both commands provide and perform the same function. Use the version which works best for your circumstances. To use the CL command, follow these steps. To use the QShell script command, go to step 4 on page 71
 - | a. Configure IBM i Access for Web for the Web application server:


```
| QIWA2/CFGACCWEB2 APPSVRTYPE(*WAS70EXP)
| WASPRF(was_profile_name) APPSVR(app_svr)
| WASINSDIR(/QIBM/ProdData/WebSphere/AppServer/V7/Express)
```

| These are the parameters used:

| **APPSVRTYPE**

| Tells the command which Web application server to configure.

| **WASPRF**

| Tells the command which profile of the Web application server to configure.

| **APPSVR**

| Tells the command the name of the Web application server within the profile to configure.

| **WASINSDIR**

| Tells the command the location in the IBM i integrated file system where WebSphere
| Application Server - Express V7.0 was installed. The default value is /QIBM/ProdData/
| WebSphere/AppServer/V7/Express.

| **WASUSRID**

| Tells the command the user ID to use for WebSphere Application Server configuration changes
| when WebSphere security has been enabled for the profile. In this example you would only
| need to specify this parameter and value if the profile had security enabled.

| **WASPWD**

| Tells the command the password for the user ID specified using the WASUSRID parameter. In
| this example you would only need to specify this parameter and value if the profile had
| security enabled.

| For help on this command and the parameters, press F1.

| **Migration Note:** If you are already using IBM i Access for Web within another Web application
| server, refer to New Web application server considerations. This topic discusses
| additional CFGACCWEB2 command parameters that can be input to migrate user
| data from an existing configuration to this new configuration.

| b. Several messages similar to these will be displayed:

| Configuring IBM i Access for Web.

| Preparing to perform the configuration changes.

| Calling WebSphere to perform the configuration changes.

| IBM i Access for Web command has completed.

| The WebSphere application server must be stopped and then started to enable the
| configuration changes.

| c. Press Enter when the command completes to exit the display session. Go to step 5 on page 72

| 4. IBM i Access for Web provides commands to configure the product. Two different commands are
| provided, a CL command and a QShell script command. Both commands provide and perform the
| same function. Use the version which works best for your circumstances. To use the QShell script
| command, follow these steps. To use the CL command, go to step 3 on page 70

| a. Start the QShell environment using the following command: QSH

| b. Make the IBM i Access for Web directory the current directory. Run this command:

| cd /QIBM/ProdData/Access/Web2/install

| c. Configure IBM i Access for Web for the Web application server. Run these commands:

| cfgaccweb2 -appsvrtype *WAS70EXP -wasprf was_profile_name
| -appsvr app_svr
| -wasinsdir /QIBM/ProdData/WebSphere/AppServer/V7/Express

| These are the parameters used:

| **-appsvrtype**

| Tells the command which Web application server to configure.

| **-wasprf**

| Tells the command which profile of the Web application server to configure.

| **-appsvr**

| Tells the command the name of the Web application server within the profile to configure.

| **-wasinsdir**

| Tells the command the location in the IBM i integrated file system where WebSphere
| Application Server - Express V7.0 was installed. The default value is /QIBM/ProdData/
| WebSphere/AppServer/V7/Express.

| **-wasusrid**

| Tells the command the user ID to use for WebSphere Application Server configuration changes
| when WebSphere security has been enabled for the profile. In this example you would only
| need to specify this parameter and value if the profile had security enabled.

| **-waspwd**

| Tells the command the password for the user ID specified using the -wasusrid parameter. In
| this example you would only need to specify this parameter and value if the profile had
| security enabled.

| For help on this command and the parameters, specify the -? parameter.

| **Migration Note:** If you are already using IBM i Access for Web within another Web application
| server, refer to New Web application server considerations. This topic discusses
| additional cfgaccweb2 command parameters that can be input to migrate user
| data from an existing configuration to this new configuration.

| d. Several messages similar to these will be displayed:

| Configuring IBM i Access for Web.

| Preparing to perform the configuration changes.

| Calling WebSphere to perform the configuration changes.

| IBM i Access for Web command has completed.

| The WebSphere application server must be stopped and then started to enable the
| configuration changes.

| e. Press F3 when the command completes to exit the QShell session.

| 5. If the command were to fail or indicate an error, refer to the log files:

| • **/QIBM/UserData/Access/Web2/logs/cmds.log**

| High level, cause and recovery information; translated.

| • **/QIBM/UserData/Access/Web2/logs/cmdstrace.log**

| Detailed command flow for IBM Software Service; English only.

| 6. Return to the Web administration browser interface window that you minimized in step 2 on page 70,
| then stop and restart the WebSphere application server.

| 7. Open your browser to `http://<your_system_name>:<your_port>/webaccess/iWAMain`. Be sure to enter
| it exactly as shown.

| 8. Log in using an IBM i user ID and password. The initial load of IBM i Access for Web might take a
| few seconds. WebSphere Application Server is loading Java classes for the first time. Subsequent loads
| of IBM i Access for Web will be faster.

| 9. The IBM i Access for Web main page opens.

| In this example, only the CFGACCWEB2/cfgaccweb2 command is used to configure IBM i Access for Web.
| For more information about using all the IBM i Access for Web commands, use the CL command finder.
| The CL command finder will find IBM i Access for Web CL commands. As shown above there are
| equivalent QShell script commands.

| You can refer to the CL command online help to learn how to use the other QShell script commands.

| **Related reference:**

| “New Web application server considerations” on page 84
| Use this information when IBM i Access for Web is already configured for a Web application server and a
| new Web application server is added to the environment. In this situation, IBM i Access for Web can be
| configured for the new Web application server based on the existing configuration. All user-generated
| data and configuration settings can be copied from the existing environment to the new environment.

| **Related information:**

| CL command finder

| **Configuring WebSphere Application Server Network Deployment V7.0 for IBM i:**

| Use this information to configure IBM i Access for Web for WebSphere Application Server Network
| Deployment V7.0 for IBM i.

| **Note:** WebSphere profiles that are federated to the Network Deployment environment are not supported
| by IBM i Access for Web.

| To configure IBM i Access for Web for WebSphere Application Server Network Deployment V7.0, do the
| following:

- | 1. Sign on to your system.
- | 2. Start the WebSphere application server in which you want IBM i Access for Web to run by following
| these steps:
 - | a. Run the command `STRTCPSVR SERVER(*HTTP) HTTPSVR(*ADMIN)`.
 - | b. Open a browser to `http://<system_name>:2001/HTTPAdmin`.
 - | c. Navigate to your HTTP server and start it if it is not already running.
 - | d. Navigate to your WebSphere application server and start it if it is not already running.
 - | e. Wait for the application server to show a status of running.
 - | f. Minimize the browser window. You will return to this window in a later step.
- | 3. IBM i Access for Web provides commands to configure the product. Two different commands are
| provided, a CL command and a QShell script command. Both commands provide and perform the
| same function. Use the version which works best for your circumstances. To use the CL command,
| follow these steps. To use the QShell script command, go to step 4 on page 74

- a. Configure IBM i Access for Web for the Web application server:

```
| QIWA2/CFGACCWEB2 APPSVRTYPE(*WAS70ND)  
| WASPRF(was_profile_name) APPSVR(app_svr)  
| WASINSDIR(/QIBM/ProdData/WebSphere/AppServer/V7/ND)
```

| These are the parameters used:

| **APPSVRTYPE**

| Tells the command which Web application server to configure.

| **WASPRF**

| Tells the command which profile of the Web application server to configure.

| **APPSVR**

| Tells the command the name of the Web application server within the profile to configure.

| **WASINSDIR**

| Tells the command the location in the IBM i integrated file system where WebSphere
| Application Server Network Deployment V7.0 was installed. The default value is
| /QIBM/ProdData/WebSphere/AppServer/V7/ND.

| **WASUSRID**

| Tells the command the user ID to use for WebSphere Application Server configuration changes
| when WebSphere security has been enabled for the profile. In this example you would only
| need to specify this parameter and value if the profile had security enabled.

WASPWD

Tells the command the password for the user ID specified using the WASUSRID parameter. In this example you would only need to specify this parameter and value if the profile had security enabled.

For help on this command and the parameters, press F1.

Migration Note: If you are already using IBM i Access for Web within another Web application server, refer to New Web application server considerations. This topic discusses additional CFGACCWEB2 command parameters that can be input to migrate user data from an existing configuration to this new configuration.

- b. Several messages similar to these will be displayed:

Configuring IBM i Access for Web.

Preparing to perform the configuration changes.

Calling WebSphere to perform the configuration changes.

IBM i Access for Web command has completed.

The WebSphere application server must be stopped and then started to enable the configuration changes.

- c. Press F3 or Enter when the command completes to exit the display session. Go to step 5 on page 75

4. IBM i Access for Web provides commands to configure the product. Two different commands are provided, a CL command and a QShell script command. Both commands provide and perform the same function. Use the version which works best for your circumstances. To use the QShell script command, follow these steps. To use the CL command, go to step 3 on page 73

- a. Start the QShell environment using the following command: QSH

- b. Make the IBM i Access for Web directory the current directory. Run this command:

```
cd /QIBM/ProdData/Access/Web2/install
```

- c. Configure IBM i Access for Web for the Web application server. Run these commands:

```
cfgaccweb2 -appsvrtype *WAS70ND -wasprf was_profile_name
```

```
-appsvr app_svr
```

```
-wasinsdir /QIBM/ProdData/WebSphere/AppServer/V7/ND
```

These are the parameters used:

-appsvrtype

Tells the command which Web application server to configure.

-wasprf

Tells the command which profile of the Web application server to configure.

-appsvr

Tells the command the name of the Web application server within the profile to configure.

-wasinsdir

Tells the command the location in the IBM i integrated file system where WebSphere Application Server Network Deployment V7.0 was installed. The default value is

```
/QIBM/ProdData/WebSphere/AppServer/V7/ND.
```

-wasusrid

Tells the command the user ID to use for WebSphere Application Server configuration changes when WebSphere security has been enabled for the profile. In this example you would only need to specify this parameter and value if the profile had security enabled.

| **-waspwd**

| Tells the command the password for the user ID specified using the -wasusr parameter. In
| this example you would only need to specify this parameter and value if the profile had
| security enabled.

| For help on this command and the parameters, specify the -? parameter.

| **Migration Note:** If you are already using IBM i Access for Web within another Web application
| server, refer to New Web application server considerations. This topic discusses
| additional cfgaccweb2 command parameters that can be input to migrate user
| data from an existing configuration to this new configuration.

| d. Several messages similar to these will be displayed:

| Configuring IBM i Access for Web.

| Preparing to perform the configuration changes.

| Calling WebSphere to perform the configuration changes.

| IBM i Access for Web command has completed.

| The WebSphere application server must be stopped and then started to enable the
| configuration changes.

| e. Press F3 when the command completes to exit the QShell session.

| 5. If the command were to fail or indicate an error, refer to the log files:

| • **/QIBM/UserData/Access/Web2/logs/cmds.log**

| High level, cause and recovery information; translated.

| • **/QIBM/UserData/Access/Web2/logs/cmdstrace.log**

| Detailed command flow for IBM Software Service; English only.

| 6. Return to the Web administration browser interface window that you minimized in step 2 on page 73,
| then stop and restart the WebSphere application server.

| 7. Open your browser to `http://<your_system_name>:<your_port>/webaccess/iWAMain`. Be sure to enter
| it exactly as shown.

| 8. Log in using an IBM i user ID and password. The initial load of IBM i Access for Web might take a
| few seconds. WebSphere Application Server is loading Java classes for the first time. Subsequent loads
| of IBM i Access for Web will be faster.

| 9. The IBM i Access for Web main page opens.

| In this example, only the CFGACCWEB2/cfgaccweb2 command is used to configure IBM i Access for Web.
| For more information about using all the IBM i Access for Web commands, use the CL command finder.
| The CL command finder will find IBM i Access for Web CL commands. As shown above there are
| equivalent QShell script commands.

| You can refer to the CL command online help to learn how to use the other QShell script commands.

| **Related reference:**

| "New Web application server considerations" on page 84

| Use this information when IBM i Access for Web is already configured for a Web application server and a
| new Web application server is added to the environment. In this situation, IBM i Access for Web can be
| configured for the new Web application server based on the existing configuration. All user-generated
| data and configuration settings can be copied from the existing environment to the new environment.

| **Related information:**

| CL command finder

| **Configuring WebSphere Application Server V6.1 for i5/OS:**

| Use this information to configure IBM i Access for Web for WebSphere Application Server V6.1 for i5/OS.

Note: WebSphere profiles that are federated to the Network Deployment environment are not supported by IBM i Access for Web.

To configure IBM i Access for Web for WebSphere Application Server V6.1, do the following:

1. Sign on to your system.
2. Start the WebSphere application server in which you want IBM i Access for Web to run by following these steps:
 - a. Run the command `STRTCPSVR SERVER(*HTTP) HTTPSVR(*ADMIN)`.
 - b. Open a browser to `http://<system_name>:2001/HTTPAdmin`.
 - c. Navigate to your HTTP server and start it if it is not already running.
 - d. Navigate to your WebSphere application server and start it if it is not already running.
 - e. Wait for the application server to show a status of running.
 - f. Minimize the browser window. You will return to this window in a later step.
3. IBM i Access for Web provides commands to configure the product. Two different commands are provided, a CL command and a QShell script command. Both commands provide and perform the same function. Use the version which works best for your circumstances. To use the CL command, follow these steps. To use the QShell script command, go to step 4 on page 77

- a. Configure IBM i Access for Web for the Web application server:

```
QIWA2/CFGACCWEB2 APPSVRTYPE(*WAS61BASE)
WASPRF(was_profile_name) APPSVR(app_svr)
WASINSDIR(/QIBM/ProdData/WebSphere/AppServer/V61/Base)
```

These are the parameters used:

APPSVRTYPE

Tells the command which Web application server to configure.

WASPRF

Tells the command which profile of the Web application server to configure.

APPSVR

Tells the command the name of the Web application server within the profile to configure.

WASINSDIR

Tells the command the location in the IBM i integrated file system where WebSphere Application Server V6.1 was installed. The default value is `/QIBM/ProdData/WebSphere/AppServer/V61/Base`.

WASUSRID

Tells the command the user ID to use for WebSphere Application Server configuration changes when WebSphere security has been enabled for the profile. In this example you would only need to specify this parameter and value if the profile had security enabled.

WASPWD

Tells the command the password for the user ID specified using the `WASUSRID` parameter. In this example you would only need to specify this parameter and value if the profile had security enabled.

For help on this command and the parameters, press F1.

Migration Note: If you are already using IBM i Access for Web within another Web application server, refer to New Web application server considerations. This topic discusses additional `CFGACCWEB2` command parameters that can be input to migrate user data from an existing configuration to this new configuration.

- b. Several messages similar to these will be displayed:

Configuring IBM i Access for Web.

Preparing to perform the configuration changes.

Calling WebSphere to perform the configuration changes.

IBM i Access for Web command has completed.

The WebSphere application server must be stopped and then started to enable the configuration changes.

- c. Press Enter when the command completes to exit the display session. Go to step 5 on page 78
4. IBM i Access for Web provides commands to configure the product. Two different commands are provided, a CL command and a QShell script command. Both commands provide and perform the same function. Use the version which works best for your circumstances. To use the QShell script command, follow these steps. To use the CL command, go to step 3 on page 76
 - a. Start the QShell environment using the following command: QSH
 - b. Make the IBM i Access for Web directory the current directory. Run this command:
cd /QIBM/ProdData/Access/Web2/install
 - c. Configure IBM i Access for Web for the Web application server. Run these commands:
cfgaccweb2 -appsvrtype *WAS61BASE -wasprf was_profile_name
-appsvr app_svr
-wasinsdir /QIBM/ProdData/WebSphere/AppServer/V61/Base

These are the parameters used:

-appsvrtype

Tells the command which Web application server to configure.

-wasprf

Tells the command which profile of the Web application server to configure.

-appsvr

Tells the command the name of the Web application server within the profile to configure.

-wasinsdir

Tells the command the location in the IBM i integrated file system where WebSphere Application Server V6.1 is installed. The default value is /QIBM/ProdData/WebSphere/AppServer/V61/Base.

-wasusrid

Tells the command the user ID to use for WebSphere Application Server configuration changes when WebSphere security has been enabled for the profile. In this example you would only need to specify this parameter and value if the profile had security enabled.

-waspwd

Tells the command the password for the user ID specified using the -wasusrid parameter. In this example you would only need to specify this parameter and value if the profile had security enabled.

For help on this command and the parameters, specify the -? parameter.

Migration Note: If you are already using IBM i Access for Web within another Web application server, refer to New Web application server considerations. This topic discusses additional cfgaccweb2 command parameters that can be input to migrate user data from an existing configuration to this new configuration.

- d. Several messages similar to these will be displayed:
Configuring IBM i Access for Web.
Preparing to perform the configuration changes.
Calling WebSphere to perform the configuration changes.
IBM i Access for Web command has completed.

The WebSphere application server must be stopped and then started to enable the configuration changes.

- e. Press F3 when the command completes to exit the QShell session.
5. If the command were to fail or indicate an error, refer to the log files:
 - **/QIBM/UserData/Access/Web2/logs/cmds.log**
High level, cause and recovery information; translated.
 - **/QIBM/UserData/Access/Web2/logs/cmdstrace.log**
Detailed command flow for IBM Software Service; English only.
6. Return to the Web administration browser interface window that you minimized in step 2 on page 76, then stop and restart the WebSphere application server.
7. Open your browser to `http://<your_system_name>:<your_port>/webaccess/iWAMain`. Be sure to enter it exactly as shown.
8. Log in using an IBM i user ID and password. The initial load of IBM i Access for Web might take a few seconds. WebSphere Application Server is loading Java classes for the first time. Subsequent loads of IBM i Access for Web will be faster.
9. The IBM i Access for Web main page opens.

In this example, only the `CFGACCWEB2/cfgaccweb2` command is used to configure IBM i Access for Web. For more information about using all the IBM i Access for Web commands, use the CL command finder. The CL command finder will find IBM i Access for Web CL commands. As shown above there are equivalent QShell script commands.

You can refer to the CL command online help to learn how to use the other QShell script commands.

Related reference:

“New Web application server considerations” on page 84

Use this information when IBM i Access for Web is already configured for a Web application server and a new Web application server is added to the environment. In this situation, IBM i Access for Web can be configured for the new Web application server based on the existing configuration. All user-generated data and configuration settings can be copied from the existing environment to the new environment.

Related information:

CL command finder

Configuring WebSphere Application Server - Express V6.1 for i5/OS:

Use this information to configure IBM i Access for Web for WebSphere Application Server - Express V6.1 for i5/OS.

Note: WebSphere profiles that are federated to the Network Deployment environment are not supported by IBM i Access for Web.

To configure IBM i Access for Web for WebSphere Application Server - Express V6.1, do the following:

1. Sign on to your system.
2. Start the WebSphere application server in which you want IBM i Access for Web to run by following these steps:
 - a. Run the command `STRTCPSVR SERVER(*HTTP) HTTPSVR(*ADMIN)`.
 - b. Open a browser to `http://<system_name>:2001/HTTPAdmin`.
 - c. Navigate to your HTTP server and start it if it is not already running.
 - d. Navigate to your WebSphere application server and start it if it is not already running.
 - e. Wait for the application server to show a status of running.
 - f. Minimize the browser window. You will return to this window in a later step.

3. IBM i Access for Web provides commands to configure the product. Two different commands are provided, a CL command and a QShell script command. Both commands provide and perform the same function. Use the version which works best for your circumstances. To use the CL command, follow these steps. To use the QShell script command, go to step 4

- a. Configure IBM i Access for Web for the Web application server:

```
QIWA2/CFGACCWEB2 APPSVRTYPE(*WAS61EXP)
WASPRF(was_profile_name) APPSVR(app_svr)
WASINSDIR(/QIBM/ProdData/WebSphere/AppServer/V61/Express)
```

These are the parameters used:

APPSVRTYPE

Tells the command which Web application server to configure.

WASPRF

Tells the command which profile of the Web application server to configure.

APPSVR

Tells the command the name of the Web application server within the profile to configure.

WASINSDIR

Tells the command the location in the IBM i integrated file system where WebSphere Application Server - Express V6.1 was installed. The default value is /QIBM/ProdData/WebSphere/AppServer/V61/Express.

WASUSRID

Tells the command the user ID to use for WebSphere Application Server configuration changes when WebSphere security has been enabled for the profile. In this example you would only need to specify this parameter and value if the profile had security enabled.

WASPWD

Tells the command the password for the user ID specified using the WASUSRID parameter. In this example you would only need to specify this parameter and value if the profile had security enabled.

For help on this command and the parameters, press F1.

Migration Note: If you are already using IBM i Access for Web within another Web application server, refer to New Web application server considerations. This topic discusses additional CFGACCWEB2 command parameters that can be input to migrate user data from an existing configuration to this new configuration.

- b. Several messages similar to these will be displayed:

```
Configuring IBM i Access for Web.
```

```
Preparing to perform the configuration changes.
```

```
Calling WebSphere to perform the configuration changes.
```

```
IBM i Access for Web command has completed.
```

```
The WebSphere application server must be stopped and then started to enable the configuration changes.
```

- c. Press Enter when the command completes to exit the display session. Go to step 5 on page 80

4. IBM i Access for Web provides commands to configure the product. Two different commands are provided, a CL command and a QShell script command. Both commands provide and perform the same function. Use the version which works best for your circumstances. To use the QShell script command, follow these steps. To use the CL command, go to step 3

- a. Start the QShell environment using the following command: QSH

- b. Make the IBM i Access for Web directory the current directory. Run this command:

```
cd /QIBM/ProdData/Access/Web2/install
```

- c. Configure IBM i Access for Web for the Web application server. Run these commands:

```
cfgaccweb2 -appsvrtype *WAS61EXP -wasprf was_profile_name  
-appsvr app_svr  
-wasinsdir /QIBM/ProdData/WebSphere/AppServer/V61/Express
```

These are the parameters used:

-appsvrtype

Tells the command which Web application server to configure.

-wasprf

Tells the command which profile of the Web application server to configure.

-appsvr

Tells the command the name of the Web application server within the profile to configure.

-wasinsdir

Tells the command the location in the IBM i integrated file system where WebSphere Application Server - Express V6.1 was installed. The default value is /QIBM/ProdData/WebSphere/AppServer/V61/Express.

-wasusrid

Tells the command the user ID to use for WebSphere Application Server configuration changes when WebSphere security has been enabled for the profile. In this example you would only need to specify this parameter and value if the profile had security enabled.

-waspwd

Tells the command the password for the user ID specified using the -wasusrid parameter. In this example you would only need to specify this parameter and value if the profile had security enabled.

For help on this command and the parameters, specify the -? parameter.

Migration Note: If you are already using IBM i Access for Web within another Web application server, refer to New Web application server considerations. This topic discusses additional `cfgaccweb2` command parameters that can be input to migrate user data from an existing configuration to this new configuration.

- d. Several messages similar to these will be displayed:

```
Configuring IBM i Access for Web.
```

```
Preparing to perform the configuration changes.
```

```
Calling WebSphere to perform the configuration changes.
```

```
IBM i Access for Web command has completed.
```

```
The WebSphere application server must be stopped and then started to enable the  
configuration changes.
```

- e. Press F3 when the command completes to exit the QShell session.

5. If the command were to fail or indicate an error, refer to the log files:

- /QIBM/UserData/Access/Web2/logs/cmds.log

High level, cause and recovery information; translated.

- /QIBM/UserData/Access/Web2/logs/cmdstrace.log

Detailed command flow for IBM Software Service; English only.

6. Return to the Web administration browser interface window that you minimized in step 2 on page 78, then stop and restart the WebSphere application server.

7. Open your browser to `http://<your_system_name>:<your_port>/webaccess/iWAMain`. Be sure to enter it exactly as shown.

8. Log in using an IBM i user ID and password. The initial load of IBM i Access for Web might take a few seconds. WebSphere Application Server is loading Java classes for the first time. Subsequent loads of IBM i Access for Web will be faster.
9. The IBM i Access for Web main page opens.

In this example, only the CFGACCWEB2/cfgaccweb2 command is used to configure IBM i Access for Web. For more information about using all the IBM i Access for Web commands, use the CL command finder. The CL command finder will find IBM i Access for Web CL commands. As shown above there are equivalent QShell script commands.

You can refer to the CL command online help to learn how to use the other QShell script commands.

Related reference:

“New Web application server considerations” on page 84

Use this information when IBM i Access for Web is already configured for a Web application server and a new Web application server is added to the environment. In this situation, IBM i Access for Web can be configured for the new Web application server based on the existing configuration. All user-generated data and configuration settings can be copied from the existing environment to the new environment.

Related information:

CL command finder

Configuring WebSphere Application Server Network Deployment V6.1 for i5/OS:

Use this information to configure IBM i Access for Web for WebSphere Application Server Network Deployment V6.1 for i5/OS.

Note: WebSphere profiles that are federated to the Network Deployment environment are not supported by IBM i Access for Web.

To configure IBM i Access for Web for WebSphere Application Server Network Deployment V6.1, do the following:

1. Sign on to your system.
2. Start the WebSphere application server in which you want IBM i Access for Web to run by following these steps:
 - a. Run the command STRTCPSVR SERVER(*HTTP) HTTPSVR(*ADMIN).
 - b. Open a browser to `http://<system_name>:2001/HTTPAdmin`.
 - c. Navigate to your HTTP server and start it if it is not already running.
 - d. Navigate to your WebSphere application server and start it if it is not already running.
 - e. Wait for the application server to show a status of running.
 - f. Minimize the browser window. You will return to this window in a later step.
3. IBM i Access for Web provides commands to configure the product. Two different commands are provided, a CL command and a QShell script command. Both commands provide and perform the same function. Use the version which works best for your circumstances. To use the CL command, follow these steps. To use the QShell script command, go to step 4 on page 82
 - a. Configure IBM i Access for Web for the Web application server:


```
QIWA2/CFGACCWEB2 APPSVRTYPE(*WAS61ND)
WASPRF(was_profile_name) APPSVR(app_svr)
WASINSDIR(/QIBM/ProdData/WebSphere/AppServer/V61/ND)
```

These are the parameters used:

APPSVRTYPE

Tells the command which Web application server to configure.

WASPRF

Tells the command which profile of the Web application server to configure.

APPSVR

Tells the command the name of the Web application server within the profile to configure.

WASINSDIR

Tells the command the location in the IBM i integrated file system where WebSphere Application Server Network Deployment V6.1 was installed. The default value is /QIBM/ProdData/WebSphere/AppServer/V61/ND.

WASUSRID

Tells the command the user ID to use for WebSphere Application Server configuration changes when WebSphere security has been enabled for the profile. In this example you would only need to specify this parameter and value if the profile had security enabled.

WASPWD

Tells the command the password for the user ID specified using the WASUSRID parameter. In this example you would only need to specify this parameter and value if the profile had security enabled.

For help on this command and the parameters, press F1.

Migration Note: If you are already using IBM i Access for Web within another Web application server, refer to New Web application server considerations. This topic discusses additional CFGACCWEB2 command parameters that can be input to migrate user data from an existing configuration to this new configuration.

- b. Several messages similar to these will be displayed:

Configuring IBM i Access for Web.

Preparing to perform the configuration changes.

Calling WebSphere to perform the configuration changes.

IBM i Access for Web command has completed.

The WebSphere application server must be stopped and then started to enable the configuration changes.

- c. Press F3 or Enter when the command completes to exit the display session. Go to step 5 on page 83

4. IBM i Access for Web provides commands to configure the product. Two different commands are provided, a CL command and a QShell script command. Both commands provide and perform the same function. Use the version which works best for your circumstances. To use the QShell script command, follow these steps. To use the CL command, go to step 3 on page 81

- a. Start the QShell environment using the following command: QSH

- b. Make the IBM i Access for Web directory the current directory. Run this command:

```
cd /QIBM/ProdData/Access/Web2/install
```

- c. Configure IBM i Access for Web for the Web application server. Run these commands:

```
cfgaccweb2 -appsvrtype *WAS61ND -wasprf was_profile_name
```

```
-appsvr app_svr
```

```
-wasinsdir /QIBM/ProdData/WebSphere/AppServer/V61/ND
```

These are the parameters used:

-appsvrtype

Tells the command which Web application server to configure.

-wasprf

Tells the command which profile of the Web application server to configure.

-appsvr

Tells the command the name of the Web application server within the profile to configure.

-wasinsdir

Tells the command the location in the IBM i integrated file system where WebSphere Application Server Network Deployment V6.1 was installed. The default value is /QIBM/ProdData/WebSphere/AppServer/V61/ND.

-wasusrid

Tells the command the user ID to use for WebSphere Application Server configuration changes when WebSphere security has been enabled for the profile. In this example you would only need to specify this parameter and value if the profile had security enabled.

-waspwd

Tells the command the password for the user ID specified using the -wasusrid parameter. In this example you would only need to specify this parameter and value if the profile had security enabled.

For help on this command and the parameters, specify the -? parameter.

Migration Note: If you are already using IBM i Access for Web within another Web application server, refer to New Web application server considerations. This topic discusses additional cfgaccweb2 command parameters that can be input to migrate user data from an existing configuration to this new configuration.

- d. Several messages similar to these will be displayed:

Configuring IBM i Access for Web.

Preparing to perform the configuration changes.

Calling WebSphere to perform the configuration changes.

IBM i Access for Web command has completed.

The WebSphere application server must be stopped and then started to enable the configuration changes.

- e. Press F3 when the command completes to exit the QShell session.

5. If the command were to fail or indicate an error, refer to the log files:

- /QIBM/UserData/Access/Web2/logs/cmds.log

High level, cause and recovery information; translated.

- /QIBM/UserData/Access/Web2/logs/cmdstrace.log

Detailed command flow for IBM Software Service; English only.

6. Return to the Web administration browser interface window that you minimized in step 2 on page 81, then stop and restart the WebSphere application server.
7. Open your browser to `http://<your_system_name>:<your_port>/webaccess/iWAMain`. Be sure to enter it exactly as shown.
8. Log in using an IBM i user ID and password. The initial load of IBM i Access for Web might take a few seconds. WebSphere Application Server is loading Java classes for the first time. Subsequent loads of IBM i Access for Web will be faster.
9. The IBM i Access for Web main page opens.

In this example, only the CFGACCWEB2/cfgaccweb2 command is used to configure IBM i Access for Web. For more information about using all the IBM i Access for Web commands, use the CL command finder. The CL command finder will find IBM i Access for Web CL commands. As shown above there are equivalent QShell script commands.

You can refer to the CL command online help to learn how to use the other QShell script commands.

Related reference:

“New Web application server considerations”

Use this information when IBM i Access for Web is already configured for a Web application server and a new Web application server is added to the environment. In this situation, IBM i Access for Web can be configured for the new Web application server based on the existing configuration. All user-generated data and configuration settings can be copied from the existing environment to the new environment.

Related information:

CL command finder

New Web application server considerations

Use this information when IBM i Access for Web is already configured for a Web application server and a new Web application server is added to the environment. In this situation, IBM i Access for Web can be configured for the new Web application server based on the existing configuration. All user-generated data and configuration settings can be copied from the existing environment to the new environment.

The configuration commands (CFGACCWEB2 CL command and the cfgaccweb2 QShell script command) provide the following input parameters that identify an existing Web application server configuration that has IBM i Access for Web configured. When you run the command, user data is copied or linked into the new Web application server configuration.

Use the upper case parameters with the CL command. Refer to the help text for the CFGACCWEB2 command and its parameters for more details. Use the lower case parameters with the script command. The help text for the CFGACCWEB2 CL command can give you more details about the parameters that have equivalent CL parameters.

SRCSVRTYPE/-srcsvrtype

Source web server type. This parameter accepts values such as *WAS61BASE, *WAS60, *WAS51EXP, and *ASFTOMCAT as input when configuring a new web serving environment. Refer to the command help text or prompt values for all available values.

SRCVRINST/-srcvrinst

Source Web server instance or profile

SRCAPPSVR/-srcappsvr

Source application server. This value is only applicable when -srcsvrtype is set to a version of WebSphere Application Server.

SRCINSDIR/-srcinsdir

Source installation directory. The parameter tells the command where the existing WebSphere Application Server is installed. This information helps the program find configuration information for the existing configuration. The configuration information from the existing configuration is then used with the new configuration.

| This parameter is only available when *WAS70BASE, *WAS70EXP, *WAS70ND, *WAS61BASE,
| *WAS61EXP, or *WAS61ND is specified for -srcsvrtype. A default value is used if one of the
| preceding values is specified for -srcsvrtype but -srcinsdir is not specified.

SHRUSRDTA/-shrusrdta

Share user data. When *YES is specified, the new Web serving environment and the existing Web serving environment share user-generated data. When *NO is specified, user-generated data is copied from the existing Web serving environment to the new Web serving environment.

Related information:

CFGACCWEB2 CL command

Customizing IBM i Access for Web in a Web application server environment

You can customize IBM i Access for Web by controlling access to its functions and customizing how page content is presented.

Policies

The Customize Policies function controls access to IBM i Access for Web functions. Individual policy settings can be administered at the IBM i user and group profile level.

By default, most policies are set to allow all users access to the IBM i Access for Web functions. When a function is set to Deny, its navigation menu content is not displayed and access to the corresponding function is restricted. The function is also restricted if a user tries to access the function directly by providing the function's URL. When an administrator sets policies for a user or group, they take effect immediately.

The online help for Policies contains information on using the Policies function and detailed descriptions for each of the available policy settings.

Related concepts:

“Security considerations” on page 6

Security considerations for IBM i Access for Web include user authentication, specifying user access, object-level security, using a security protocol, the use of exit programs, and Single sign-on considerations.

Default page content

IBM i Access for Web generates most of its page content dynamically in response to user actions. The remainder of the content is retrieved from static HTML files, which you can customize. A style sheet is also used to control certain aspects of the content's appearance.

Default content HTML files are provided to supply the static content. User supplied files can be used in place of these default implementations to provide customized content. The Customize function is used to specify which files to use. User-supplied files can be configured for an individual user, a group of users, or all users (*PUBLIC)

A default style sheet is also provided to control aspects of the content's appearance. This style sheet is referenced from the default home page, default page template, and default login template. To replace the use of this style sheet with a customized style sheet, user-defined HTML files must be created and the style sheet references must be changed to link to the new style sheet.

The following topics contain information on the content that can be customized:

Related concepts:

“Browser considerations” on page 15

There are several considerations regarding browser use that you need to be aware of when using IBM i Access for Web.

“Customized content” on page 86

Portions of the IBM i Access for Web content are retrieved from static HTML files. A style sheet is also used to control aspects of the product's appearance. User-supplied files can be used in place of the default implementations. There are several considerations for creating these user-supplied files.

“Special tags” on page 87

Portions of the IBM i Access for Web content are retrieved from static HTML files. There are default implementations for this content. Alternatively, user-supplied files can be used. A number of special tags can be used within these files. When these tags are encountered, they are replaced with the appropriate content.

“Style sheets” on page 89

IBM i Access for Web uses Cascading Style Sheets (CSS) to control certain aspects of the appearance of page content.

“Single sign-on considerations” on page 8

IBM i Access for Web can be used in single sign-on environments. This topic will discuss the single sign-on environment options available to IBM i Access for Web.

Related reference:

“My home page” on page 117

IBM i Access for Web delivers a default home page that is shown when the home page URL (http://<system_name>/webaccess/iWAHome) is accessed. You can use the default page or modify it so that the page displayed is different for different users.

Home page:

The IBM i Access for Web home page is displayed when the home page URL (http://<system_name>/webaccess/iWAHome) is accessed.

The default home page content is supplied in `/QIBM/ProdData/Access/Web2/html/homepage.html`. It provides a product overview and serves as an example for developing a customized home page. To use customized content in place of the default home page, create a new home page file and use Customize to specify the new file as the Home page HTML file.

IBM i Access for Web supports the use of special tags within the home page file. When these tags are encountered, they are replaced with the appropriate content.

The default home page also contains a link to a localized version of the IBM i Access for Web default style sheet (`/QIBM/ProdData/Access/Web2/html/iwa_styles.css`). The style sheet controls aspects of the home page appearance. To override the use of this style sheet, create a new style sheet and use a customized home page which references it.

Related reference:

“Customize” on page 101

IBM i Access for Web provides support to tailor the product, including setting policies and preferences and configuring product settings.

Customized content:

Portions of the IBM i Access for Web content are retrieved from static HTML files. A style sheet is also used to control aspects of the product's appearance. User-supplied files can be used in place of the default implementations. There are several considerations for creating these user-supplied files.

Considerations:

- The default files in `/QIBM/ProdData/Access/Web2/html` can be used as a starting point, but they should not be modified directly. These files reside in the product directory which is only meant for product files.

If the default files are used as a starting point, they should be copied to the `/QIBM/UserData/Access/Web2` tree or to another location in the IBM i integrated file system. Modifications can then be made to the copy of the files.

Localized versions of the default files can be found in subdirectories under `/QIBM/ProdData/Access/Web2/html`. The subdirectories are named using ISO Language Codes and ISO Country Codes. These codes are lower-case, two-letter codes as defined by ISO-639 and ISO-3166.

- *PUBLIC, QEJBSVR (for WebSphere) or QLWISVR (for integrated Web application server) must have at least *RX authority to the user-supplied HTML files and to any files they reference. This authority is also required for the directories containing the files.
- If the user-supplied HTML file contains image, style sheet, or other external references with absolute paths, the HTTP server must be configured to serve the files. If the external references contain paths relative to the path containing the user-supplied HTML file, no HTTP server configuration is needed.
- Image files should not be placed in the `/QIBM/ProdData/Access/Web2/html/images` directory. This directory is meant for product image files only.

Related concepts:

“Default page content” on page 85

IBM i Access for Web generates most of its page content dynamically in response to user actions. The remainder of the content is retrieved from static HTML files, which you can customize. A style sheet is also used to control certain aspects of the content's appearance.

“Special tags”

Portions of the IBM i Access for Web content are retrieved from static HTML files. There are default implementations for this content. Alternatively, user-supplied files can be used. A number of special tags can be used within these files. When these tags are encountered, they are replaced with the appropriate content.

“Style sheets” on page 89

IBM i Access for Web uses Cascading Style Sheets (CSS) to control certain aspects of the appearance of page content.

“Main page” on page 89

The IBM i Access for Web main page is displayed when the main page URL (`http://< system_name >/webaccess/iWAMain`) is accessed with no parameters.

“Page template” on page 91

The IBM i Access for Web page template contains static content to display before and after dynamically generated content on functional pages.

“Login template” on page 95

The login template supplies content to display before and after the login form when IBM i Access for Web is configured for form-based, application server authentication. For information on form-based, application server authentication, see Security considerations.

Special tags:

Portions of the IBM i Access for Web content are retrieved from static HTML files. There are default implementations for this content. Alternatively, user-supplied files can be used. A number of special tags can be used within these files. When these tags are encountered, they are replaced with the appropriate content.

The supported tags, the content that replaces them, and the files that support them follow:

%%CONTENT%%

Replaced with: The functional content for the page. This tag separates the template header from the template footer.

Supported by: Page template (this is a required tag), login template (this is a required tag).

%%include section=file%%

Replaced with: An HTML fragment, where *file* identifies a file containing information about which file contains the HTML fragment to use. The HTML section to include can be tailored to an individual user, a group of users, or all users (*PUBLIC). When the home page is displayed, this tag is replaced with the appropriate HTML fragment for the current user profile. An example file can be found in `/QIBM/ProdData/Access/Web2/config/phone.polices`. The default home page references this file using a `%%include section=file%%` tag.

Supported by: Home page

%%MENU%%

Replaced with: The IBM i Access for Web navigation bar.

Note: The values of the Navigation and Navigation bar policies are ignored when this tag is specified.

Supported by: Home page

%%STYLESHEET%%

Replaced with: A link to the IBM i Access for Web default style sheet.

Supported by: Home page, page template (header only), login template (header only)

%%STYLESHEET_CLASSIC_COLORS%%

Replaced with: A link to an IBM i Access for Web style sheet which uses the color scheme used by IBM i Access for Web prior to V5R4M0.

Note: If specified, this tag must be after the %%STYLESHEET%% tag.

Supported by: Home page, page template (header only), login template (header only)

%%TITLE%%

Replaced with: The title of the page.

Supported by: Home page, page template (header only), login template (header only)

%%SYSTEM%%

Replaced with: The name of the system being accessed.

Supported by: Home page, page template

%%USER%%

Replaced with: The IBM i user profile used to access IBM i resources.

Supported by: Home page, page template

%%VERSION%%

Replaced with: The version of IBM i Access for Web that is installed.

Supported by: Home page, page template, login template

Related concepts:

“Default page content” on page 85

IBM i Access for Web generates most of its page content dynamically in response to user actions. The remainder of the content is retrieved from static HTML files, which you can customize. A style sheet is also used to control certain aspects of the content's appearance.

“Customized content” on page 86

Portions of the IBM i Access for Web content are retrieved from static HTML files. A style sheet is also used to control aspects of the product's appearance. User-supplied files can be used in place of the default implementations. There are several considerations for creating these user-supplied files.

“Style sheets” on page 89

IBM i Access for Web uses Cascading Style Sheets (CSS) to control certain aspects of the appearance of page content.

“Page template” on page 91

The IBM i Access for Web page template contains static content to display before and after dynamically generated content on functional pages.

“Login template” on page 95

The login template supplies content to display before and after the login form when IBM i Access for Web is configured for form-based, application server authentication. For information on form-based, application server authentication, see Security considerations.

Style sheets:

IBM i Access for Web uses Cascading Style Sheets (CSS) to control certain aspects of the appearance of page content.

The default style sheet controls the look of the page header, page footer, navigation bar and page content. This style sheet is referenced from the default home page, default page template, and default login template using the `%%STYLESHEET%%` special tag. The default style sheet is supplied in `/QIBM/ProdData/Access/Web2/html/iwa_styles.css`.

A second style sheet overrides the colors used in the default style sheet with the colors used by IBM i Access for Web prior to V5R4M0. This style sheet is referenced from the classic page template (`/QIBM/ProdData/Access/Web2/html/webaccess_classic.html`) using the `%%STYLESHEET_CLASSIC_COLORS%%` special tag. This style sheet is supplied in `/QIBM/ProdData/Access/Web2/html/iwa_classic_colors.css`.

The IBM i Access for Web style sheets can be used with a customized home page, page template, or login template. Use the `%%STYLESHEET%%` and `%%STYLESHEET_CLASSIC_COLORS%%` special tags to include the style sheets in your customized files.

Customized style sheets can be created using the IBM i Access for Web style sheets as a starting point. The customized style sheets must be referenced from a customized home page, page template, or login template. This requires knowledge of using CSS with HTML.

Related concepts:

“Customized content” on page 86

Portions of the IBM i Access for Web content are retrieved from static HTML files. A style sheet is also used to control aspects of the product's appearance. User-supplied files can be used in place of the default implementations. There are several considerations for creating these user-supplied files.

“Special tags” on page 87

Portions of the IBM i Access for Web content are retrieved from static HTML files. There are default implementations for this content. Alternatively, user-supplied files can be used. A number of special tags can be used within these files. When these tags are encountered, they are replaced with the appropriate content.

“Page template” on page 91

The IBM i Access for Web page template contains static content to display before and after dynamically generated content on functional pages.

“Login template” on page 95

The login template supplies content to display before and after the login form when IBM i Access for Web is configured for form-based, application server authentication. For information on form-based, application server authentication, see Security considerations.

Main page:

The IBM i Access for Web main page is displayed when the main page URL (`http://< system_name >/webaccess/iWAMain`) is accessed with no parameters.

The default main page content is supplied in `/QIBM/ProdData/Access/Web2/html/overview.html`. It provides function overview information. To use customized content in place of the default main page, create a new main page file and use the Customize function to specify the new file as the Main page HTML file.

Related reference:

“Customize” on page 101

IBM i Access for Web provides support to tailor the product, including setting policies and preferences and configuring product settings.

Customized content:

Portions of the IBM i Access for Web content are retrieved from static HTML files. A style sheet is also used to control aspects of the product's appearance. User-supplied files can be used in place of the default implementations. There are several considerations for creating these user-supplied files.

Considerations:

- The default files in /QIBM/ProdData/Access/Web2/html can be used as a starting point, but they should not be modified directly. These files reside in the product directory which is only meant for product files.

If the default files are used as a starting point, they should be copied to the /QIBM/UserData/Access/Web2 tree or to another location in the IBM i integrated file system. Modifications can then be made to the copy of the files.

Localized versions of the default files can be found in subdirectories under /QIBM/ProdData/Access/Web2/html. The subdirectories are named using ISO Language Codes and ISO Country Codes. These codes are lower-case, two-letter codes as defined by ISO-639 and ISO-3166.

- *PUBLIC, QEJBSVR (for WebSphere) or QLWISVR (for integrated Web application server) must have at least *RX authority to the user-supplied HTML files and to any files they reference. This authority is also required for the directories containing the files.
- If the user-supplied HTML file contains image, style sheet, or other external references with absolute paths, the HTTP server must be configured to serve the files. If the external references contain paths relative to the path containing the user-supplied HTML file, no HTTP server configuration is needed.
- Image files should not be placed in the /QIBM/ProdData/Access/Web2/html/images directory. This directory is meant for product image files only.

Related concepts:

“Default page content” on page 85

IBM i Access for Web generates most of its page content dynamically in response to user actions. The remainder of the content is retrieved from static HTML files, which you can customize. A style sheet is also used to control certain aspects of the content's appearance.

“Special tags” on page 87

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“Home page” on page 86

The IBM i Access for Web home page is displayed when the home page URL (http://<system_name>/webaccess/iWAHome) is accessed.

“Style sheets” on page 89

IBM i Access for Web uses Cascading Style Sheets (CSS) to control certain aspects of the appearance of page content.

“Main page” on page 89

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“Page template” on page 91

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“Login template” on page 95

The login template supplies content to display before and after the login form when IBM i Access for Web is configured for form-based, application server authentication. For information on form-based, application server authentication, see Security considerations.

Related reference:

“My home page” on page 117

IBM i Access for Web delivers a default home page that is shown when the home page URL (http://<system_name>/webaccess/iWAHome) is accessed. You can use the default page or modify it so that the page displayed is different for different users.

“Customize” on page 101

IBM i Access for Web provides support to tailor the product, including setting policies and preferences and configuring product settings.

Page template:

The IBM i Access for Web page template contains static content to display before and after dynamically generated content on functional pages.

The default page template is supplied in `/QIBM/ProdData/Access/Web2/html/webaccess.html`. It contains a page header with the product name, the current IBM i user, and the IBM i system name. It also contains a page footer with the product version number and links to IBM internet sites. To use customized content in place of the default page template, create a new page template file and use the Customize function to specify the new file as the Template HTML file.

IBM i Access for Web supports the use of special tags within the page template file. When these tags are encountered, they are replaced with the appropriate content.

The default page template also contains a link to a localized version of the IBM i Access for Web default style sheet (`/QIBM/ProdData/Access/Web2/html/iwa_styles.css`). The style sheet controls aspects of the content area appearance as well as the navigation bar appearance. To override the use of this style sheet, create a new style sheet and use a customized page template which references it.

Related reference:

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Customized content:

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Considerations:

- The default files in `/QIBM/ProdData/Access/Web2/html` can be used as a starting point, but they should not be modified directly. These files reside in the product directory which is only meant for product files.

If the default files are used as a starting point, they should be copied to the `/QIBM/UserData/Access/Web2` tree or to another location in the IBM i integrated file system. Modifications can then be made to the copy of the files.

Localized versions of the default files can be found in subdirectories under `/QIBM/ProdData/Access/Web2/html`. The subdirectories are named using ISO Language Codes and ISO Country Codes. These codes are lower-case, two-letter codes as defined by ISO-639 and ISO-3166.

- *PUBLIC, QEJBSVR (for WebSphere) or QLWISVR (for integrated Web application server) must have at least *RX authority to the user-supplied HTML files and to any files they reference. This authority is also required for the directories containing the files.
- If the user-supplied HTML file contains image, style sheet, or other external references with absolute paths, the HTTP server must be configured to serve the files. If the external references contain paths relative to the path containing the user-supplied HTML file, no HTTP server configuration is needed.
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The supported tags, the content that replaces them, and the files that support them follow:

%%CONTENT%%

Replaced with: The functional content for the page. This tag separates the template header from the template footer.

Supported by: Page template (this is a required tag), login template (this is a required tag).

%%include section=file%%

Replaced with: An HTML fragment, where *file* identifies a file containing information about which file contains the HTML fragment to use. The HTML section to include can be tailored to an individual user, a group of users, or all users (*PUBLIC). When the home page is displayed, this tag is replaced with the appropriate HTML fragment for the current user profile. An example file can be found in /QIBM/ProdData/Access/Web2/config/phone.polices. The default home page references this file using a %%include section=file%% tag.

Supported by: Home page

%%MENU%%

Replaced with: The IBM i Access for Web navigation bar.

Note: The values of the Navigation and Navigation bar policies are ignored when this tag is specified.

Supported by: Home page

%%STYLESHEET%%

Replaced with: A link to the IBM i Access for Web default style sheet.

Supported by: Home page, page template (header only), login template (header only)

%%STYLESHEET_CLASSIC_COLORS%%

Replaced with: A link to an IBM i Access for Web style sheet which uses the color scheme used by IBM i Access for Web prior to V5R4M0.

Note: If specified, this tag must be after the %%STYLESHEET%% tag.

Supported by: Home page, page template (header only), login template (header only)

%%TITLE%%

Replaced with: The title of the page.

Supported by: Home page, page template (header only), login template (header only)

%%SYSTEM%%

Replaced with: The name of the system being accessed.

Supported by: Home page, page template

%%USER%%

Replaced with: The IBM i user profile used to access IBM i resources.

Supported by: Home page, page template

%%VERSION%%

Replaced with: The version of IBM i Access for Web that is installed.

Supported by: Home page, page template, login template

Related concepts:

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The default style sheet controls the look of the page header, page footer, navigation bar and page content. This style sheet is referenced from the default home page, default page template, and default login template using the %%STYLESHEET%% special tag. The default style sheet is supplied in /QIBM/ProdData/Access/Web2/html/iwa_styles.css.

A second style sheet overrides the colors used in the default style sheet with the colors used by IBM i Access for Web prior to V5R4M0. This style sheet is referenced from the classic page template (/QIBM/ProdData/Access/Web2/html/webaccess_classic.html) using the %%STYLESHEET_CLASSIC_COLORS%% special tag. This style sheet is supplied in /QIBM/ProdData/Access/Web2/html/iwa_classic_colors.css.

The IBM i Access for Web style sheets can be used with a customized home page, page template, or login template. Use the %%STYLESHEET%% and %%STYLESHEET_CLASSIC_COLORS%% special tags to include the style sheets in your customized files.

Customized style sheets can be created using the IBM i Access for Web style sheets as a starting point. The customized style sheets must be referenced from a customized home page, page template, or login template. This requires knowledge of using CSS with HTML.

Related concepts:

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The default login template is supplied in `/QIBM/ProdData/Access/Web2/html/login.html`. It contains a page header with the product name. It also contains a page footer with the product version number and links to IBM internet sites. To use customized content in place of the default login template, create a new login template file and use the Customize function to specify the new file as the **Login template HTML file** in the **Security** settings.

IBM i Access for Web supports the use of special tags within the login template file. When these tags are encountered, they are replaced with the appropriate content.

The default login template also contains a link to a localized version of the IBM i Access for Web default style sheet (`/QIBM/ProdData/Access/Web2/html/iwa_styles.css`). The style sheet controls aspects of the content area appearance. To override the use of this style sheet, create a new style sheet and use a customized login template which references it.

Related concepts:

“Single sign-on considerations” on page 8

IBM i Access for Web can be used in single sign-on environments. This topic will discuss the single sign-on environment options available to IBM i Access for Web.

“Security considerations” on page 6

Security considerations for IBM i Access for Web include user authentication, specifying user access, object-level security, using a security protocol, the use of exit programs, and Single sign-on considerations.

Related reference:

“Customize” on page 101

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IBM i Access for Web functions

There are several functions that can be used in a Web application server environment. Select a function from the list to see the supported tasks, usage considerations, and restrictions.

5250

The IBM i Access for Web 5250 user interface provides a Web interface for configuring, starting, and using 5250 sessions. Additional support includes macros for automating repetitive tasks, customized keypads for fast access to frequently used keys and macros, and Web and Traditional views.

A list of tasks that can be performed follows. Any of these tasks can be restricted using the customize function.

- **Start session**

5250 sessions can be started to any system running IBM i. The system to access is not required to have IBM i Access for Web installed, but the telnet server must be running and accessible.

Macros can be recorded and played while a session is active. They can be shared with other users by creating shortcuts to them. You can modify, copy, delete, or rename a macro.

- **Active sessions**

A list of active 5250 user interface sessions for the current user can be displayed. Once a session is started, it remains active until it is either stopped or it times out after a period of inactivity. From the session list, you can reconnect to a session which was suspended by viewing another page or by closing the browser window. Session settings can be edited for active sessions. Sessions can also be shared with other users. Sharing a session provides other users with a read-only view of the session. This can be helpful in situations such as demonstrations and debugging.

- **Configured sessions**

Configured sessions can be created to save customized session settings. The list of configured sessions for the current user can be displayed. From the list, 5250 user interface sessions can be started using the settings in a configured session. Configured sessions can be shared with other users by creating shortcuts to them. Configured sessions can also be modified, copied, deleted, and renamed. Customized keypads can be configured for use with all sessions.

Considerations

None.

Restrictions

None.

Related reference:

“Customize” on page 101

IBM i Access for Web provides support to tailor the product, including setting policies and preferences and configuring product settings.

Command

IBM i Access for Web provides support for running, searching for, and working with CL commands on a system running IBM i.

A list of tasks that can be performed follows. Any of these tasks can be restricted using the customize function.

- **Run command**

CL commands can be run on the system running IBM i. Support is provided to prompt for parameter values. Commands can be run immediately or submitted as batch jobs. The results of a command can be sent to the browser, placed in the user's personal folder, or mailed to the user as an e-mail attachment. Commands can also be saved for repeated use.

- **My commands**

A list of saved commands for the current user can be displayed and managed. From the list, saved commands can be run. A command can be retrieved and modified manually. It is also possible to prompt a saved command for different parameter values. Saved commands can also be deleted.

- **Search**

Support is provided to search for CL commands either by name or by text description. When searching for a command by name, an asterisk can be used as a wildcard character. For example, searching for *DTAQ* returns all commands containing the string DTAQ. When searching for commands by text description, all commands containing at least one of the search words in their command text description are returned.

Considerations

None.

Restrictions

- Prompt controls and prompt control programs for parameters are not supported.
- Key parameters and prompt override programs are not supported.
- Parameter value validity checking is not performed.
- *Command mapping* exit programs are not supported.
- Selective prompting characters are not supported.

Related reference:

“Customize”

IBM i Access for Web provides support to tailor the product, including setting policies and preferences and configuring product settings.

“Mail” on page 115

The mail function is available from several places in IBM i Access for Web, including Database, Print, Files, and Commands. You can also send e-mail notifications to users when items are saved in their personal folders or when their folder has reached a size threshold.

“My folder” on page 116

Each user of IBM i Access for Web has a personal folder. The folder contains items placed in it by the folder owner or by other IBM i Access for Web users. Multiple functions within IBM i Access for Web provide the option to store operation results in a personal folder. For example, the results of an SQL statement or a CL command can be stored in a personal folder.

Customize

IBM i Access for Web provides support to tailor the product, including setting policies and preferences and configuring product settings.

A list of tasks that can be performed follows:

- **Preferences**

Preferences are used by IBM i Access for Web to control how functions operate. For example, users can select which columns to display when viewing a printer output list. By default, all users can configure their own preferences, but by using a policy, an administrator can take away this ability. Preferences are saved and associated with the user's IBM i user profile. See the Preferences online help text for more information about this function.

- **Policies**

Policies are used to control user and group access to IBM i Access for Web functionality. For example, the *Files access* policy can be set to *Deny* to restrict a user or group from accessing the file function. Policies are saved and associated with the appropriate IBM i user or group profile. See the Policies online help text for more information about this function.

- **Settings**

Settings are used for product configuration. For example, the Sametime[®] community server used for sending Sametime announcements can be set. Settings are saved and associated with the current instance of IBM i Access for Web. They are not associated with an IBM i user or group profile.

- **Transfer configuration**

Transfer configuration is used to copy or move configuration data from one user or group profile to another profile. Configuration data include 5250 session and macro definitions, saved commands, database requests, folder items, and policy settings.

Considerations

The Policies, Settings, and Transfer configuration functions can only be accessed by IBM i Access for Web administrators. An IBM i Access for Web administrator is an IBM i user profile with *SECADM special authority or with IBM i Access for Web administrator privileges. A user profile can be granted administrator privileges using the customize function and setting the *Grant administrator privileges* policy to *Allow*.

Restrictions

None.

Database

IBM i Access for Web provides support for accessing database tables on a system.

A list of tasks that can be performed follows. Any of these tasks can be restricted using the customize function.

- **Tables**

A list of database tables on the system can be displayed. The set of tables shown in the list can be customized for individual users. From the tables list, the contents of a table or an individual record can be displayed. Table records can also be inserted or updated.

- **Run SQL**

SQL statements can be run and the results can be viewed in a paged list or returned in one the supported file formats. The layout of the result data can be customized using the file format options. The results of the SQL statement can be sent to the browser, sent to the IBM i integrated file system, placed in a user's personal folder, or mailed as an e-mail attachment. An SQL wizard is provided to help build SQL single-table or joined-table SELECT statements. SQL requests can be saved for repeated use. Support is also provided for running prompted statements with the use of parameter markers. See Database considerations for more information.

- **Copy data to table**

A data file, in one of the supported file formats, can be copied into a relational database table on the system. Options are available to create a new table, append to an existing table, or replace the contents of an existing table. Copy data to table requests can be saved for repeated use.

- **My requests**

A list of saved SQL and copy data to table requests can be displayed and managed. Requests can be run and modified. Requests can be shared with other users by creating shortcuts to them or by transferring request ownership to a group. Requests can also be copied, deleted and renamed. Requests can be exported to a file and then imported to another Web serving environment, user, or system. A java archive (.jar) can also be created to automate running a database request.

- **Import request**

IBM i Access for Windows Data Transfer request files can be imported and converted to IBM i Access for Web format. Data Transfer from IBM i system requests are converted to SQL requests. Data Transfer to IBM i system requests are converted to copy data to table requests.

- **Import query**

SQL statements contained in IBM Query for i and DB2® for IBM i Query Manager query objects can be imported and converted to IBM i Access for Web SQL request format. You can only import files with an object type of query. Files with an object type of form or procedure cannot be imported.

- **Extract IBM i data**

Information about objects on the system can be extracted and the results can be stored in a database table. General object information can be retrieved for any IBM i object type. The object information to extract and store can be customized when the Extract Data is performed. Object specific information can also be retrieved for the following object types:

- Directory entries
- Messages
- Software fixes
- Software products
- System pool
- User profiles

Related reference:

“Customize” on page 101

IBM i Access for Web provides support to tailor the product, including setting policies and preferences and configuring product settings.

“Mail” on page 115

The mail function is available from several places in IBM i Access for Web, including Database, Print, Files, and Commands. You can also send e-mail notifications to users when items are saved in their personal folders or when their folder has reached a size threshold.

“My folder” on page 116

Each user of IBM i Access for Web has a personal folder. The folder contains items placed in it by the folder owner or by other IBM i Access for Web users. Multiple functions within IBM i Access for Web provide the option to store operation results in a personal folder. For example, the results of an SQL statement or a CL command can be stored in a personal folder.

“Automating tasks” on page 120

IBM i Access for Web provides a program to automate the running of tasks. By automating the running of tasks, those tasks can also be scheduled to run when you need them to run. This topic discusses how to automate and schedule IBM i Access for Web tasks.

Database considerations:

The following considerations apply to using the IBM i Access for Web database functions in a Web application server environment.

The database considerations can be grouped into these functional categories:

- Database connections
- Run SQL: Output types
- Run SQL: Prompted statements
- Copy data to table
- Import query

Database connections

IBM i Access for Web makes JDBC calls to access database tables. By default, the IBM Toolbox for Java JDBC driver is used to establish a driver manager connection to the IBM i system running IBM i Access for Web. The customize function provides support for defining additional database connections. Additional connections can be defined to access different IBM i systems, to specify different driver settings, or to use different JDBC drivers. If a different JDBC driver is used in a single sign-on (SSO) environment, any required authentication values must be set on the JDBC URL.

The customize function also provides support for defining data source connections. This support is only available in the WebSphere Application Server environment. Version 4 data sources are not supported. If IBM i Access for Web is configured to use basic authentication to prompt for the IBM i user profile and password, these user and password values are also used to authenticate the data source connection. If IBM i Access for Web is running in an SSO environment, the data source must have a component-managed authentication alias configured.

Note: IBM i Access for Web is tested using the IBM Toolbox for Java JDBC driver. Using a different driver might work, but this is an untested and unsupported environment.

For a list of the different connection properties that are recognized by the JDBC driver, refer to the IBM Toolbox for Java JDBC properties topic.

Run SQL: Output types

The supported output types for returning SQL statement result data are:

- Preview
- Comma separated value (.csv)
- Data interchange format (.dif)

- Extensible markup language (.xml)
- Hypertext markup language (.html)
- Lotus 1-2-3 version 1 (.wk1)
- Microsoft Excel 3 (.xls)
- Microsoft Excel 4 (.xls)
- Microsoft Excel XML (.xml)
- OpenDocument Spreadsheet (.ods)
- Portable Document Format (.pdf)
- Text - Delimited (.txt)
- Scalable Vector Graphics Chart (.svg)
- Text, plain (.txt)
- Text, tab delimited (.txt)

Extensible markup language (.xml)

The XML output generated by Run SQL is a single document containing both an embedded schema and results from the SQL query. The embedded schema is compliant with the W3C Schema Recommendation dated May 2, 2001. The schema contains meta information for the query results portion of the document. Contained in the schema is data type information, limits on data, and document structure.

Current XML parser implementations do not support validation using the embedded approach. Many parsers, including SAX and DOM implementations, require independent documents for the schema and content to do validation. To achieve schema validation with an XML document produced by Run SQL, the document must be restructured into individual data and schema documents. The root elements must also be updated to support this new structure. Visit the World Wide Web Consortium's Web site for additional information about XML Schema.

The query results portion of the XML document contains the data returned from the query in a structured row and column fashion. This data may be easily processed by other applications. If more information about the data contained in this topic is required, reference can be made to the document schema.

Hypertext markup language (.html)

When the HTML output type is being used, the results are displayed in the browser. To save the results to a file, the browser save function can be used. Another option is to save the SQL request and to redirect the results to a file when the request is run. With Internet Explorer, right-click the Run link and choose the Save Target As option. With Netscape Navigator, hold down the shift key while clicking the Run link.

If the HTML rows per table value is set, Run SQL will display the results in a paged list, similar to Preview, instead of returning a single HTML page.

Microsoft Excel/Lotus 1-2-3

The supported file formats for Microsoft Excel and Lotus 1-2-3 are not the newest types supported by these applications. Since the additional capabilities of the newer types are not likely to be needed for retrieving data from a database, this should not result in a loss of functionality. By supporting the older versions of these file types, compatibility can be retained for the older versions of these applications. A newer version of the application can be used to save the results to a file in a newer format.

Note: The file in the new format is not compatible with Copy data to table.

Microsoft Excel XML (.xml)

The Microsoft Excel XML file format is only supported by Microsoft Excel 2002 or newer versions of the application. Microsoft Excel 2002 is part of Microsoft Office XP.

Date and time values are stored in date and time format only if the ISO date and time format options are chosen. Otherwise, they are stored as text values.

Portable document format (.pdf)

The PDF file format represents your SQL data as it would appear on a page. The amount of data that can fit on a page depends on the page size, the page orientation, and the margin sizes. A very large number of columns can result in an unusable PDF document. In some cases, the Adobe Acrobat Reader plug-in cannot load a file like this into the browser. As an alternative, you can break the request into multiple queries, which return subsets of the columns, or you can choose a different output type.

Using the output settings, you can customize the selection of fonts used for the various parts of the PDF document. You can embed the chosen fonts into the document, rather than installing them on the computer used to view the document. Embedding fonts in the document increases the document size.

The character encoding used to represent text is also a PDF output option. If the font is not able to represent a character in the encoding, the character is left blank or another indicator character is used to show the character cannot be displayed. You should choose font and character set values which are capable of representing all characters in the data to display.

By default, Run SQL supports the standard PDF fonts and the Adobe Asian fonts for building PDF output. Since the standard fonts are required to be available with any PDF viewer, there is no need to embed them in the PDF document. Adobe provides a set of Asian font packs for displaying text containing Simplified Chinese, Traditional Chinese, Japanese, or Korean characters. Run SQL supports creating documents with these fonts, but it does not support embedding these fonts in the document. If these fonts are used, the appropriate font pack needs to be installed on the computer used to view the document. These font packs can be downloaded from Adobe's Web site.

Additional fonts can be added to the available fonts list, using the "Additional PDF font directories" Customization setting. The supported font types are:

- Adobe Type 1 fonts (*.afm)

In order for Type 1 fonts to be embedded into a document, the Type 1 font file (*.pfb) needs to be in the same directory as the font metrics file (*.afm). If only the font metrics file is available, the document can be created with the font, but the computer used to view the document needs to have the font installed. Type 1 fonts only support single-byte encoding.

- TrueType fonts (*.ttf) and TrueType font collections (*.ttc)

Embedding TrueType fonts and TrueType font collections is optional. When a TrueType font is embedded, only the portions of the font needed to represent the data are embedded. The list of available character set encodings is retrieved from the font file. In addition to the retrieved encodings, the multilingual "Identity-H" encoding can be used. When this encoding is used, the font is always embedded into the document. You can embed TrueType fonts, which support double-byte character sets, as an alternative to the Adobe Asian fonts. This generates a larger document, but the computer used to view it does not need to have the font installed.

Run SQL supports building PDF documents with bi-directional data, if the locale of the current request is Hebrew or Arabic.

OpenDocument Spreadsheet (.ods)

The OpenDocument spreadsheet documents created by IBM i Access for Web conform to the Oasis Open Document Format for Office Applications (OpenDocument) 1.0 specification.

Date and time values are stored in date and time format only if the ISO date and time format options are chosen. Otherwise, they are stored as text values.

Text - Delimited (.txt)

The default delimiter is an underscore. You can override this default with a single character or a string of characters.

Scalable Vector Graphics Chart (.svg)

The SQL results are converted to an SVG area, bar, line, or pie chart. All numeric columns in the result set are charted. If there are no numeric columns, an error is generated.

The values in character columns are used as category labels or legend labels, depending on whether data is being charted by columns or by rows. If there are no character columns in the result set, the row number is used instead. All other column types, such as blobs and datalinks, are ignored.

You can use settings to control certain aspects of how the chart is generated, such as the type of chart to generate, the color scheme to use, and axis titles; as appropriate to the selected chart type.

Support for SVG content varies among different browsers. If you have problems displaying SVG output within a browser, try installing the latest browser version or using a different browser.

You must have JDK 1.5 or higher installed for .svg support. If the required JDK level is not installed, the SVG chart output type is not shown in the Run SQL output type list.

Run SQL: Prompted statements

Run SQL supports SQL statements containing parameter markers. There are two ways to create this type of statement. The first option is through the SQL Wizard. The SQL Wizard supports parameter markers for condition values. In addition to the option of specifying the condition values as part of the request, the SQL wizard provides the option to prompt for condition values when the request is run. The SQL wizard handles building the page to prompt for the condition values as well as building the SQL statement containing parameter markers.

The second way to create an SQL statement with parameter markers is to manually enter the statement using Run SQL. This option requires the request to be saved. The request cannot be run directly from Run SQL or with the Run link from My Requests. The Run SQL Request (iWADbExec) URL interface must be used to pass values for the parameter markers. One URL parameter must be specified for each parameter marker in the statement. The URL parameters must be named iwaparm_x, where x is the parameter index. iwaparm_1 is used for the first parameter marker, iwaparm_2 is used for the second parameter marker, and so on. For example:

```
http://server:port/webaccess/iWADbExec?request=promptedRequest&iwaparm_1=Johnson&iwaparm_2=500
```

One way to invoke the Run SQL Request (iWADbExec) URL interface to pass values for parameter markers is to use an HTML form. Input fields can be used to prompt the user for the values. The names of these fields must follow the URL parameter naming convention mentioned above. The request name can be stored in the form as a hidden parameter. The form action must specify the Run SQL Request (iWADbExec) URI. When the form is submitted, the URL is built with the values specified, IBM i Access for Web is invoked, and the request is executed. Sample HTML source is shown below:

```
<HTML>
<BODY>
  <FORM action="http://server:port/webaccess/iWADbExec" method="get">
    Enter a customer name and press <B>OK</b> to retrieve account information.<br>
    <input type="text" name="iwaparm_1" value=""/>
    <input type="submit" name="ok" value=" OK "/>
    <input type="hidden" name="request" value="promptedRequest"/>
  </FORM>
</BODY>
</HTML>
```

Copy data to table

If you are copying data to a table, and the chosen file type is Extensible Markup Language

(XML), the file to copy must be in a concise format. This format might or might not contain an embedded schema element and its supporting elements. In its simplest form, the XML document must be structured as shown below.

```
<?xml version="1.0" encoding="utf-8" ?>
<QIWAResultSet version="1.0">
  <RowSet>
    <Row number="1">
      <Column1 name="FNAME">Jane</Column1>
      <Column2 name="BALANCE">100.25</Column2>
    </Row>
    <Row number="2">
      <Column1 name="FNAME">John</Column1>
      <Column2 name="BALANCE">200.00</Column2>
    </Row>
  </RowSet>
</QIWAResultSet>
```

This format consists of the XML directive, followed by the root element `QIWAResultSet`. If the encoding attribute is not specified in the XML directive, copy data to table will assume the document is encoded in utf-8. The root element contains a version attribute. The version corresponding to this format of XML is 1.0. The `RowSet` element is a container for all the rows of data that follow. These rows of data are contained within `Row` elements. Each `Row` element must have a unique numeric number attribute. Within each `Row` element is one or more `Column` elements. Each column element within a row must be unique. This is accomplished by adding a sequential numeric suffix. For example, `Column1`, `Column2`, `Column3`, `Columnx`, where 'x' is the number of columns in the row. Each column must also have a name attribute. The name corresponds to the column name in the relational table on the system. If this simple format is used, the 'Validate document with its schema' setting must be turned off since the document does not contain a schema.

Although not required, an XML Schema may also be included in the document. Examine an XML document generated by Run SQL to get an idea of how a schema is structured. Also, visit the World Wide Web Consortium's Web site for additional information about XML schemas.

Import Query

Run SQL can only access and store the SQL statement from the query object; however, query objects can contain more information than the SQL statement. In cases where the query object contains additional information for the query, you might need to use the `Customize` function to create a new IBM i Access for Web database connection to honor the additional information. Default IBM i Access for Web database connections will run database query requests using SQL naming conventions and using the locale specific defaults for the current user profile. Known special cases requiring the creation of non-default database connections, with additional attributes set, are:

- System naming convention is used for the table designation
- Date and time formats other than locale defaults are specified in the query
- Decimal separator character other than the locale default is used in the query
- A non-default sort sequence is specified

IBM i Access for Web cannot determine the CCSID of the contents of the query file. If the user profile that is importing the query has a CCSID that does not match the CCSID of the data in the query file, incorrect conversions or conversion errors might result. Users can set a CCSID value during the import of the query to overcome this problem.

Related reference:

"Customize" on page 101

IBM i Access for Web provides support to tailor the product, including setting policies and preferences and configuring product settings.

Related information:

Database restrictions:

The following restrictions apply to using the IBM i Access for Web database support in a Web application server environment.

- **General**

IBM i Access for Web only supports using the IBM Toolbox for Java JDBC driver, to access the database server. Although other drivers might work, this is an unsupported and untested environment.

The IBM i Access for Web preferred language setting is not used on database connections. Therefore, all messages received from the database server will be in the language derived from the LANGID and CNTRYID of the user profile used to start the WebSphere Application Server.

- **Tables**

The table list returns relational database tables, aliases, materialized query tables, and views. Non-relational database tables are not returned.

- **Insert table records restrictions**

- Insert does not support binary large object (BLOB), integer with scale, or ROWID column types. Insert does support the character large object (CLOB) column type, however, entering a very large value can potentially consume all of the browser's memory. All other column types, supported by the IBM i system, are supported by Insert.
 - Insert only supports setting the URL portion of a datalink.
 - Insert does not support inserting a null column value, unless the default value for the field is null and the field value is left unchanged.

- **Update table records restrictions**

- Update does not support binary large object (BLOB), integer with scale, or ROWID column types. Update does support the character large object (CLOB) column type, however, entering a very large value can potentially consume all of the browser's memory. All other column types, supported by the IBM i system, are supported by Update.
 - Update only supports setting the URL portion of a datalink.
 - Update does not provide a way to insert null column values. However, if a column has a null value and the field is left blank, the column value will remain null.

- **Run SQL**

You cannot run a saved MS Excel 3 or MS Excel 4 request from a Netscape browser, if you have the NCompass DocActive plug-in installed. You can run these requests dynamically, using the Run SQL button.

On Windows 2000 using Internet Explorer, if you have Microsoft Excel installed and you try to write your results to MS Excel 3, MS Excel 4 or MS Excel XML, you will be prompted to logon to the IBM i system again. This will cause an additional license to be used. This only happens the first time you try to load an Excel file into the browser. As an alternative, you can save the request without running it, run the saved request, and redirect the results to a file. This is done by right-clicking on the Run link and choosing the Save Target As option. After saving the SQL output file, you can load it using Microsoft Excel or some other application.

If you choose PDF as the output type and the SQL statement generates a very large number of columns, the resulting output might be too compressed to read, or might be a blank page. In this case, use a different page size, choose a different output type, or modify the SQL statement to return a subset of the columns.

If you are using the Opera browser and your output contains very long column data, your data may be truncated when displayed.

If you use Microsoft Internet Explorer, choose PDF as the output type, and get a blank page instead of the SQL output, try one of the following circumventions:

- Ensure you have the installed the latest version of Microsoft Internet Explorer.

- Instead of running the request directly from Run SQL, save the request and use the Run action from My Requests.
- Change your Adobe Acrobat Reader configuration to display the reader in a separate window, instead of within the browser.
- **Restrictions with the character large object (CLOB) column type**
 - Output types with a maximum cell size, such as Microsoft Excel and Lotus 1-2-3 version 1, will truncate the data if it exceeds the maximum cell size.
 - Other output types will not truncate the data, however, retrieving very large values can potentially consume all of the browser's memory.
- **Restrictions with the Decimal Floating Point (DECFLOAT) column type**
 - Run SQL does not support DECFLOAT data with the Text - Plain (.txt) output type.
 - NAN (not a number) and infinity values are not supported with the Run SQL Data Interchange Format (.dif) and Scalable Vector Graphics (.svg) output types.
 - NAN and infinity values are not supported with the following Run SQL output types, if DECFLOAT values are stored as numerics:
 - Extensible Markup Language (.xml)
 - Lotus 1-2-3 Version 1 (.wk1)
 - Microsoft Excel 3 (.xls)
 - Microsoft Excel 4 (.xls)
 - When retrieving data from DECFLOAT columns, there is no distinction made between signaling NAN (SNAN) and nonsignaling NAN (NAN). Both are treated as nonsignaling NAN.
 - When DECFLOAT values are retrieved as character data, the format of the values may or may not use scientific notation based on the version of the Java Developer Kit (JDK) being used.
- **SQL wizard**
 - Nested conditions are not supported.
 - Building conditions is supported for the column types supported by the IBM i system, with the following exceptions: Binary large objects (BLOBs), Character large objects (CLOBs), and Datalinks.
- **Copy data to table**

When using the IBM i Access for Web Extensible Markup Language (XML) document format to copy data to a table on the IBM i system, the document must be the same XML format as generated by Run SQL. An embedded schema is required only if the document is set to Validate document with its schema.

In order to copy an OpenDocument spreadsheet file, the file must be in package format and must not be compressed or encrypted.

When a saved request is edited or run, the file name is not automatically specified in the **Copy Data to Table** form to protect the data on your workstation. The original file name is shown beneath the **File to Copy** section. This file name does not include path information when the browser is run from the Linux operating system.
- **My requests**

When a shortcut is created the connection information is stored directly with a shortcut. Therefore, when the connection in the original request is changed, the shortcut does not pick up the new connection.
- **Import request**

Importing a request containing a reference to a file member will result in the member being removed from the file name. IBM i Access for Web will only provide access to the default member of a file (table).

Certain Data Transfer From IBM i statements cannot be converted into statements that can be modified by the SQL Wizard. The SQL Wizard does not support building or editing SQL statements containing GROUP BY, HAVING or JOIN BY clauses. In this case, you must hand-edit the resulting statement on the Run SQL panel.

Data Transfer has an option for specifying whether ANSI or ASCII data is written to or read from a PC file. Requests imported into IBM i Access for Web will use the Data Transfer setting, combined with the language and character set specified by the browser to determine the encoding of the client file. This may or may not be correct. You may have to manually change this setting.

IBM i Access for Web will not differentiate between source physical and data physical files. An imported request that selects all columns (SELECT *) from a source physical file will produce output containing all columns contained within the source physical file, including the sequence and date columns. An identical request run with Client Access Express produces output containing only the data column(s).

When importing Client Access Data Transfer to IBM i requests that copy data to a source physical file, the request must be using an FDF file. This situation cannot be detected by the import function and an error will not be issued. However, if an FDF was not being used, the resulting copy data to table request will not work correctly.

IBM i Access for Web does not support all the file types currently supported by Client Access Data Transfer. In some cases, a Data Transfer file type may be mapped to a corresponding IBM i Access for Web file type. If a corresponding file format cannot be found the import will fail.

Some output options available in Client Access Data Transfer are not available in IBM i Access for Web. These options will be ignored.

- **Import query**

Run SQL does not have support for the Query Manager concept of global variables. Query objects with SQL statements containing global variables can be imported, but they will not run successfully unless the global variables are replaced with text which results in a valid SQL statement.

Importing Query Manager report forms is not supported.

Download

IBM i Access for Web provides support for distribution of files from the system to the end user workstation.

A list of tasks that can be performed follows. Any of these tasks can be restricted using the Customize function.

- **Download**

You can display a list of files that have been made available for download. The list shows only the downloads to which you have authority. From the list, you can download files to your workstation. Download files can also be managed by the user who created the file, by a user with *SECADM authority, or by a user who has been granted authority to manage the file. Management capabilities include the ability to edit the name, edit the description, update the file, update access to the file, and delete the file from the Downloads list.

- **Create downloads**

You can add files to the list of files available for download by users. This can be an individual file or a group of files packaged or compressed into a single file. When you create a download, only the creator and those with *SECADM authority can access it. Other users can be granted access to the download by working with the download in the download list. When a download package is created, it will only be available within the web serving environment in which it was created. Packages are not available to other users running in a different Web serving environment. To make the package available to those users, a new download package would need to be created within that Web serving environment.

Considerations

None.

Restrictions

None.

Related reference:

“Customize” on page 101

IBM i Access for Web provides support to tailor the product, including setting policies and preferences and configuring product settings.

File

IBM i Access for Web provides support for accessing files on an IBM i system.

A list of tasks that can be performed follows. Any of these tasks can be restricted using the customize function.

- **Browse files**

A list of directories in the integrated file system can be displayed and navigated. From the list, files can be viewed, downloaded, or mailed. Management functions are provided for renaming, copying, and deleting files and directories. Support is available to zip and unzip files. New directories can be created. Files can be uploaded from the local file system to the integrated file system. There is also support to edit authorities and change ownership of the objects in the integrated file system.

- **Browse file share**

A list of directories of an IBM i NetServer file share can be displayed and navigated. From the list, files can be viewed, downloaded, or mailed. For read-write shares, other available functions include: renaming, copying, and deleting files and directories; zipping and unzipping files; creating new directories; uploading files from the local file system; and editing authorities and changing ownership of objects in the share.

- **File shares**

A list of IBM i NetServer file shares can be displayed. From the list, the directories on a share can be browsed.

Related reference:

“Customize” on page 101

IBM i Access for Web provides support to tailor the product, including setting policies and preferences and configuring product settings.

File considerations:

The following considerations apply to using the IBM i Access for Web file functions in a Web application server environment.

Content-type (MIME-type) mapping

IBM i Access for Web uses the file extension to determine the file content-type (MIME-type). The file content-type is used by the browser to determine how best to render the information. For example, files with an extension of .htm, .html, or .txt are rendered in the browser window. The browser will also attempt to determine what browser plug-in to use for the given file content-type. A file with a .pdf extension will cause the browser to attempt to load the Adobe Acrobat Reader.

IBM i Access for Web provides a way to extend or override the included file extension to file content-type mapping. These overrides are done on an instance basis. For each Web application server (WebSphere and integrated Web application server) instance for which IBM i Access for Web is configured, you can override the included file extension content-type mapping.

To override the included mappings, create a file called `extension.properties` and place the file in the integrated file system at one of the following locations:

- (integrated Web application server) /QIBM/UserData/Access/Web2/*application_server/instance_name/*config
- (For the WebSphere environments): /QIBM/UserData/Access/Web2/*application_server/library_name/profile_name/server_name/*config

An example is provided at /QIBM/ProdData/Access/Web2/config/extension.properties that you can copy to your UserData tree.

For *application_server*, specify:

- was70base WebSphere Application Server V7.0 for IBM i
- was70exp WebSphere Application Server - Express V7.0 for IBM i
- was70nd WebSphere Application Server Network Deployment V7.0 for IBM i
- was61base WebSphere Application Server V6.1 for i5/OS
- was61exp WebSphere Application Server - Express V6.1 for i5/OS
- was61nd WebSphere Application Server Network Deployment V6.1 for i5/OS
- intappsvr IBM integrated Web application server for i

For *library_name*, specify the name of the Websphere Application Server installation library. The *library_name* can be found in the output of the /QIBM/WAS/bin/queryWASinstalls command. The /QIBM/WAS/bin/queryWASinstalls command can be run from QSH. Use the Installation Library as the value for *library_name*

For *instance_name*, specify the name of the integrated Web application server instance in which IBM i Access for Web was configured. This Web application server instance was specified on the QIWA2/CFGACCWEB2 command when you configured IBM i Access for Web.

For *profile_name*, specify the name of the WebSphere Application Server profile in which IBM i Access for Web was configured. This Web application server profile was specified on the QIWA2/CFGACCWEB2 command when you configured IBM i Access for Web.

For *server_name*, specify the name of the application server within the WebSphere Application Server profile in which IBM i Access for Web was configured. This application server was specified on the QIWA2/CFGACCWEB2 command when you configured IBM i Access for Web.

Some examples of extension.properties entries are:

- out=text/plain
- lwp=application/vnd.lotus-wordpro

For a list of file content-types, see the Internet Assigned Numbers Authority Mime Media Types Web page.

Forcing a Save As window when downloading files

When using Microsoft Internet Explorer and any of the IBM i Access for Web functions to download a file to the browser, many times Internet Explorer will display the file's content in the browser without offering an opportunity to just save the file. Basically, Internet Explorer examines the data in the file and determines that it can display the data in the browser window. Many users do not want this behavior and would prefer to save the file immediately.

To get around this issue, IBM i Access for Web can now optionally write a HTTP header that forces Microsoft Internet Explorer and other browsers to display a File Save As window. The HTTP header being written is a Content-Disposition header. The Content-Disposition header that can be written is

controlled by creating a `disposition.properties` file. Different Content-Disposition headers can be written based on the file content-type (MIME-type) being downloaded.

IBM i Access for Web uses the file extension to determine the file content-type (MIME-type) to be sent to the browser. The file content-type is used by the browser to determine how best to render the information. For more information about controlling the MIME-type based on the file extension, see Content-type (MIME type) mapping in this topic. This topic describes how to map file extensions to different MIME-types.

Once the MIME-type mapping setup has been done, you need to create a `disposition.properties` file in the IBM i Access for Web UserData tree. For most of the supported Web serving environments, the IBM i Access for Web UserData tree is `/QIBM/UserData/Access/Web2/application_server/library_name/instance_name/server_name/config`. Replace `application_server`, `library_name`, `profile_name`, and `server_name` with the unique values on your system. For information about the names in the path, see Content-type (MIME type) mapping in this topic.

The `disposition.properties` file needs to contain entries that specify which Content-Disposition header value should be written, based on the MIME-type of the file being downloaded using IBM i Access for Web.

The following sample properties files give an example of what would be required to force a File Save As window when downloading a file with a `.TXT` extension:

Example:

The `extensions.properties` file needs to contain: `txt=text/plain`

The `disposition.properties` file needs to contain: `text/plain=attachment`

Changes to the properties file will take effect shortly after the files are changed. The changes do not take effect immediately unless the Web application server is stopped and restarted.

Document Library Services (QDLS) file system enrollment

A user must be enrolled in the system directory in order to access the Document Library Services (QDLS) file system with IBM i Access for Web. The steps needed to enroll a user follow. If the user has previously been enrolled or does not need access to the QDLS file system, these steps are not necessary. A user can still use the File function of IBM i Access for Web without having access to the QDLS file system.

1. Enter `GO PCSTSK` at the IBM i command prompt. This display screen is shown:

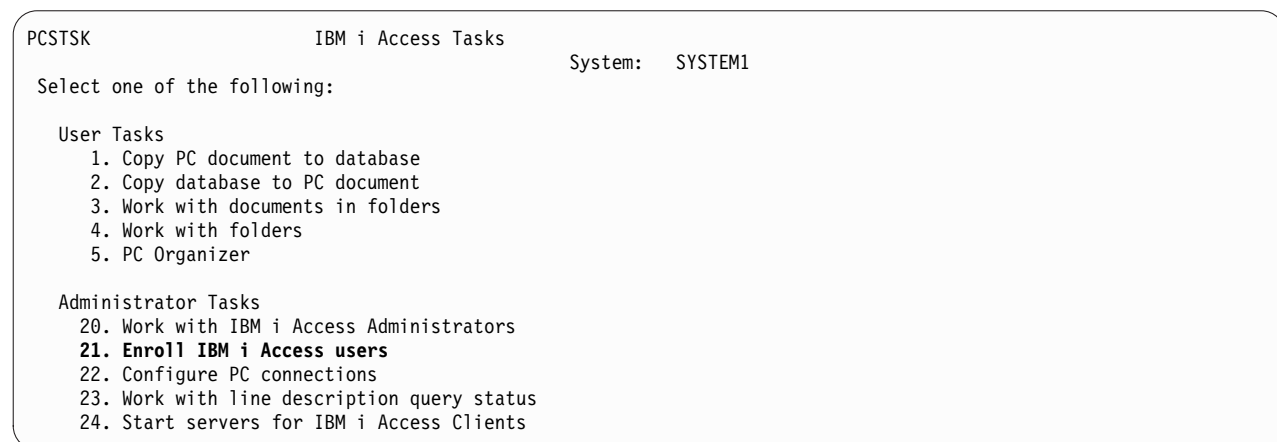


Figure 1. Client Access Tasks (GO PCSTSK)

2. Select the Enroll Client Access Users option. This display screen is shown:

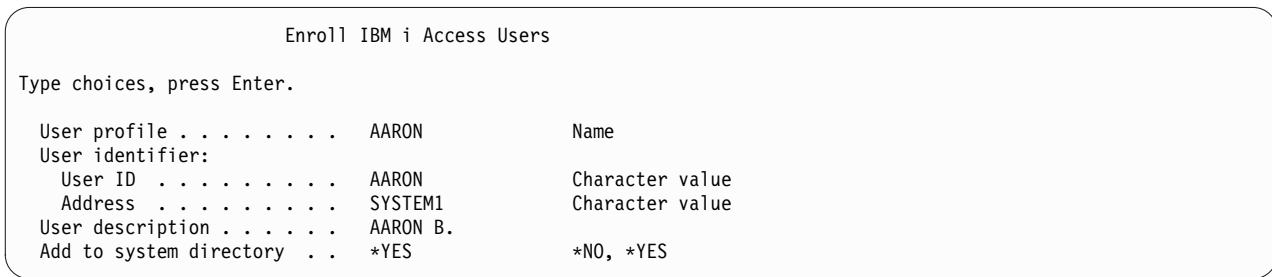


Figure 2. Enroll Client Access Users display

3. Enter the appropriate information for these values:

User profile

Name of user

User ID

Usually the same as the User profile name

User address

Usually the same as the system name

User description

A description of the user

Add to system directory

Use *YES if you want to use the QDLS file system

See the online help for a complete description of the entry fields.

4. Repeat the preceding steps to enroll other users in the Directory Entry Database.

File restrictions:

The following restrictions apply to using the IBM i Access for Web file functions in a Web application server environment.

Restrictions

There is currently a 2 147 483 647 byte (approximately 2 GB) size limit for files created on the system.

Jobs

IBM i Access for Web provides support for accessing jobs on a system.

Jobs and server jobs

A list of user jobs can be displayed. The type of jobs (based on current job status) displayed in the list can be customized with a job list filter preference setting. You can also display a list of system jobs. From either list, job properties can be retrieved for each job. Active jobs can be held, released, and ended. Job logs can be displayed for active jobs. Printer output can be displayed for completed jobs.

Considerations

None.

Restrictions

None.

Related reference:

“Customize” on page 101

IBM i Access for Web provides support to tailor the product, including setting policies and preferences and configuring product settings.

Mail

The mail function is available from several places in IBM i Access for Web, including Database, Print, Files, and Commands. You can also send e-mail notifications to users when items are saved in their personal folders or when their folder has reached a size threshold.

Considerations

To use the Mail function, you must first have an e-mail address and an SMTP server configured for your user profile. These values are retrieved from the IBM i system directory, if they are configured. Otherwise, use Customize to set these values. Administrator access is required to set the SMTP server value. Administrator access might also be required to set the e-mail address.

Restrictions

None.

Related reference:

“Print” on page 118

IBM i Access for Web provides support to access spooled files, printers, printer shares, and output queues on a system running IBM i. It also provides support for automatic transformation of SCS and AFP printer output to PDF documents.

“Command” on page 100

IBM i Access for Web provides support for running, searching for, and working with CL commands on a system running IBM i.

“Database” on page 102

IBM i Access for Web provides support for accessing database tables on a system.

“Customize” on page 101

IBM i Access for Web provides support to tailor the product, including setting policies and preferences and configuring product settings.

Messages

IBM i Access for Web provides support for accessing messages on a system.

A list of tasks that can be performed follows. Any of these tasks can be restricted using the customize function.

- **Display messages**

The list of messages in the message queue for the IBM i Access for Web authenticated user can be displayed. The list of messages in the system operator message queue can also be displayed. From the message lists, message text and message information can be viewed. Messages can also be answered and deleted.

- **Send messages and announcements**

Text messages can be sent to a user profile or a message queue. The message can either be an informational or an inquiry message. Break messages can be sent to IBM i workstations. Sametime announcements can also be sent to IBM i Access for Web Sametime users.

- **Message queues**

A list of message queues on the system can be displayed. From the list, message queues can be selected and the messages in a selected queue can be managed. Message queues can also be deleted from the system.

Considerations

In order to send Sametime announcements, the following conditions must be met:

- The Sametime server to use must be identified. Use the **Customize > Settings** function to configure this information. See the Customize topic for more information.
- Each announcement recipient must have a registered user name on the Sametime server.
- The **Sametime user** preference setting must be set to the registered user name for each announcement recipient.
- The Sametime client and server code must be version 3.0 or later.
- The IP address of the IBM i system must be in the Sametime server's trusted IP list. If the IBM i system has multiple IP addresses, all IP addresses must be added to the list. To add an IP address to the trusted IP list, edit the `sametime.ini` file in the data directory of the Sametime server and add the following line to the Config section of the file:

```
[Config]
VPS_TRUSTED_IPS="trusted IP addresses separated by commas"
```

Restrictions

Messages can only be sent to message queues contained in libraries with nine or fewer characters in the library name.

Related reference:

“Customize” on page 101

IBM i Access for Web provides support to tailor the product, including setting policies and preferences and configuring product settings.

My folder

Each user of IBM i Access for Web has a personal folder. The folder contains items placed in it by the folder owner or by other IBM i Access for Web users. Multiple functions within IBM i Access for Web provide the option to store operation results in a personal folder. For example, the results of an SQL statement or a CL command can be stored in a personal folder.

My folder

The list of items in the current user's personal folder can be displayed. From the list, folder items can be opened, mailed, or copied to another folder or to the integrated file system. Management functions are provided to rename, delete, and mark items as opened or unopened.

Considerations

Customize can be used to limit the size of a user's folder or to limit the number of items in a user's folder. Customize can also be used to setup mail or Sametime notification when an item is placed in a user's folder or when the folder has reached a size or item count threshold.

Restrictions

None.

Related reference:

“Customize” on page 101

IBM i Access for Web provides support to tailor the product, including setting policies and preferences and configuring product settings.

“Print” on page 118

IBM i Access for Web provides support to access spooled files, printers, printer shares, and output queues on a system running IBM i. It also provides support for automatic transformation of SCS and AFP printer output to PDF documents.

“Command” on page 100

IBM i Access for Web provides support for running, searching for, and working with CL commands on a system running IBM i.

“Database” on page 102

IBM i Access for Web provides support for accessing database tables on a system.

My home page

IBM i Access for Web delivers a default home page that is shown when the home page URL (http://<system_name>/webaccess/iWAHome) is accessed. You can use the default page or modify it so that the page displayed is different for different users.

The default home page is designed to be a starting point to highlight the functions of the product. It is also meant to be an example of how to build a customized home page or pages that access IBM i Access for Web functionality. To replace the default home page, use the Customize function to set the Home page HTML file policy to the name of the new home page HTML file. This home page replacement can be done for an individual user, a group of users, or all users (*PUBLIC).

Considerations

None.

Restrictions

None.

Related concepts:

“Default page content” on page 85

IBM i Access for Web generates most of its page content dynamically in response to user actions. The remainder of the content is retrieved from static HTML files, which you can customize. A style sheet is also used to control certain aspects of the content's appearance.

Related reference:

“Customize” on page 101

IBM i Access for Web provides support to tailor the product, including setting policies and preferences and configuring product settings.

Other

IBM i Access for Web provides a set of utilities that can be useful when working with the other functions of IBM i Access for Web.

A list of tasks that can be performed follows. Any of these tasks can be restricted using the customize function.

- **About**

Information about IBM i Access for Web and the environment in which it is running can be displayed.

- **Bookmarks**

A bookmark file can be created with entries for each link in the IBM i Access for Web navigation tabs.

- **Change password**

The password for the logged on user profile can be changed using IBM i Access for Web.

- **Connection pool status**

IBM i Access for Web maintains a pool of system connections. A summary of connection use and availability can be displayed. Details of connection use is also available for each user and system pair

within the pool. From this detailed list, all connections for a user/system pair can be cleared from the pool. Customize can be used to configure settings for the connection pool.

- **Trace**

Tracing capabilities can be used to aid problem determination. IBM Service can provide information about these capabilities if a problem is found.

Considerations

None.

Restrictions

None.

Related reference:

“Customize” on page 101

IBM i Access for Web provides support to tailor the product, including setting policies and preferences and configuring product settings.

Print

IBM i Access for Web provides support to access spooled files, printers, printer shares, and output queues on a system running IBM i. It also provides support for automatic transformation of SCS and AFP printer output to PDF documents.

A list of tasks that can be performed follows. Any of these tasks can be restricted using the customize function.

- **Printer output**

A list of spooled files can be displayed. The list of spooled files can be restricted using user and output queue filters. Certain spooled files, such as job logs, dump files, and debug output can be excluded from the list. From the list, SCS and AFP output can be viewed in PNG, TIFF, PCL and AFP formats. ASCII output can be downloaded to the browser. PDF documents can be created with spooled file contents. These documents can be viewed in the browser, placed in a personal folder, or sent to someone as an e-mail attachment. Options are also provided to perform the following actions on printer output: hold, delete, print next, move to another printer, move to another output queue, send to another system, change attributes, and copy to a database file.

- **Printers and shares**

You can display the list of printers on the system. The set of printers shown in the list can be restricted using a printer name filter. The list of IBM i NetServer printer shares can also be displayed. From these lists, the printer output for a printer can be accessed. Printer status information can be viewed. Messages waiting on printer jobs can be viewed and answered. Writer jobs can also be held, released, started and stopped.

- **PDF printers**

PDF printers can be created to automatically transform SCS and AFP printer output into PDF documents. The list of configured PDF printers can be displayed. From the list, printers can be started and stopped. A printer's configuration can be changed or overridden with the contents of a PSF configuration object. The owner of a PDF printer can allow additional users to access the printer or change the printer's owner. PDF printers can also be deleted by the owner.

- **PDF printer output**

The list of documents transformed by PDF printers, for which the current user has authority, can be displayed. From the list, the job information associated with each transformed spooled file can be displayed. The documents can also be viewed, deleted, copied to a personal folder, copied to the IBM i integrated file system, or sent to someone as an e-mail attachment.

- **Internet printers and shares**

You can display the list of Internet printers on the system. The list of Internet printers shares (Internet printers configured using the IBM IPP Server Administrator interface) can also be displayed. From these lists, printer status, printer configuration information, and the URL used to print to each printer can be viewed. Printer output for each printer can be accessed. Printers can also be started and stopped. For more information about the IBM Internet Printing Protocol, see the Internet Printing Protocol topic.

- **Output queues**

You can display the list of output queues on the system. The set of queues shown in the list can be restricted using library and queue name filters, or only the output queue listed in the authenticated user's IBM i user profile can be displayed. From the list, the number of files on each queue and the writer associated with each queue can be viewed. Queue status information can be viewed. The printer output on a queue can be accessed. Queues can also be held and released.

Related reference:

“IBM i software requirements” on page 12

Before installing and using IBM i Access for Web, ensure that you have the appropriate software installed.

“My folder” on page 116

Each user of IBM i Access for Web has a personal folder. The folder contains items placed in it by the folder owner or by other IBM i Access for Web users. Multiple functions within IBM i Access for Web provide the option to store operation results in a personal folder. For example, the results of an SQL statement or a CL command can be stored in a personal folder.

“Customize” on page 101

IBM i Access for Web provides support to tailor the product, including setting policies and preferences and configuring product settings.

“Mail” on page 115

The mail function is available from several places in IBM i Access for Web, including Database, Print, Files, and Commands. You can also send e-mail notifications to users when items are saved in their personal folders or when their folder has reached a size threshold.

Print considerations:

The following considerations apply to using the IBM i Access for Web print functions in a Web application server environment.

PDF Printers

IBM Infoprint Server for iSeries is required if you want to use the PDF Printers function.

PDF Transformations of Printer Output

| IBM i Access for Web has three PDF transformation possibilities:

- | • IBM Infoprint Server for iSeries (5722-IP1)
- | • AFP to PDF Transform (5770-TS1 option 1)
- | • TIFF transform

| Infoprint Server is a separately purchasable product that gives IBM i Access for Web users the ability to
| create full text PDF files that deliver document fidelity, while preserving the ability to navigate through
| the document. AFP to PDF Transform is an option of the IBM Transform Services (5770-TS1) product that
| gives users the ability to create full text PDF files. If you have Infoprint Server installed, IBM i Access for
| Web automatically detects and uses it. If you do not have Infoprint Server installed, IBM i Access for Web
| automatically detects and uses AFP to PDF Transform. If Infoprint Server is not installed and AFP to PDF
| Transform is not installed, the individual pages of the spooled file are converted into images. These
| images become the pages of the PDF document. You cannot edit content in any of these pages.

Note:

1. Infoprint Server might make changes to the order of the spooled files in the current user's list. It might also make changes to the creation date and time and the start and complete date and time.
2. The spooled file must be in either the HELD, READY, or SAVED state to be printed by Infoprint Server.

Printer Output - View**Viewing in Advanced Function Presentation (AFP) format:**

- When previewing in AFP format, select *Pick App* and then choose the appropriate executable file, for example, choose C:\Program Files\IBM\Client Access\AFPVIEWR\ftdwinvw.exe.
- Download the AFP Viewer plug-in by using the IBM i Access for Web Download function. You can also install the plug-in from the RICOH Downloads & Drivers page and search for Windows AFP Viewer Plug-In. This plug-in supports printing both SCS and AFP files.

Viewing in PCL or TIFF format

A viewer must be installed in order to view printer output as PCL or TIFF.

Print restrictions:

The following are restrictions for the IBM i Access for Web print functions in a Web application server environment.

- **Viewing AFP data**

AFP data might not display correctly when viewed as PNG, TIFF, or PCL. If the data was created using one of the IBM AFP printer drivers and the "Print Text as Graphics" driver setting was set to "Off", then the "Fonts" device setting must be set to an EBCDIC code page. The "Print Text as Graphics" setting is a document defaults setting for the printer driver.

- **Viewing spooled files using the AFP Viewer**

The external resources in AFP spooled files will not be displayed.

IBM i Access for Web URL interfaces

The functionality provided by IBM i Access for Web is available through a number of URL interfaces. These URL interfaces can be included as links on Web pages to provide direct access to IBM i Access for Web functions. These URLs can also be bookmarked for easy access to frequently used tasks.

The complete documentation for these interfaces can be found on the IBM i Access for Web Web site.

Automating tasks

IBM i Access for Web provides a program to automate the running of tasks. By automating the running of tasks, those tasks can also be scheduled to run when you need them to run. This topic discusses how to automate and schedule IBM i Access for Web tasks.

IBM i Access for Web is a web application containing servlets that workstation users interactively use to access IBM i resources. Many of the IBM i Access for Web tasks can be configured to run with a single invocation and saved for repeated use. One example is to define a Database request to run an SQL statement generating the results as a PDF file. Another example is to define and save an IBM i CL command that is run repeatedly.

Even though the invocation of these tasks can be simplified to a single click of an icon on a web page or the invocation of a web browser address, an interactive action by a workstation user is required.

Overview

The /QIBM/ProdData/Access/Web2/lib/iWATask.jar file is a java program that will read an input properties file, parse the contents of the properties file, and invoke the task defined. The properties file will contain:

- The web browser address of the IBM i Access for Web servlet/task to invoke
- An IBM i user ID and password that IBM i Access for Web will use to authenticate to IBM i
- Any additional parameters for the task that will be invoked
- An output file to write results of the task

The properties file input to the java program can only define a single IBM i Access for Web task. If you have multiple tasks to automate, you will need to create multiple properties files. You then have the option of invoking the iWATask.jar program for each individual properties file, or you can input all the properties files to a single invocation of the iWATask.jar program.

This iWATask.jar java program can be run from any platform where Java Runtime Environment Version 1.5 is available. This would include IBM i, Microsoft Windows, Linux, etc.

Requirements

To run the iWATask.jar program, the following is required on the platform where the program will run:

- Java Runtime Environment Version 1.5.
- IBM i Access for Web servlets configured and running on an IBM i system.
- Communications connection from the platform running the iWATask.jar program to the IBM i system where IBM i Access for Web servlets are configured.
- The IBM i Access for Web environment must be configured for Application authentication or Application Server authentication that uses Basic authentication.

IBM i Access for Web is configured to the web application server using the CFGACCWEB2/cfgaccweb2 command. When this command is run, the method used to authenticate to IBM i can be specified. Authentication can be performed by either the web application (IBM i Access for Web) or by the web application server (WebSphere Application Server).

The CFGACCWEB2/cfgaccweb2 command's default action is web application authentication. This can also be specified using the AUTHTYPE(*APP) parameter on the CFGACCWEB2/cfgaccweb2 command.

If the web application server is to handle authentication, IBM i Access for Web task automation requires basic authentication be performed. This can be specified on the CFGACCWEB2/cfgaccweb2 command using the parameter combination AUTHTYPE(*APPSVR) AUTHMETHOD(*BASIC).

Running the program

The syntax for running the iWATask.jar program is shown below. As mentioned, Java Runtime Environment v1.5 is required to run the iWATask.jar program. You can verify the version of java available by running the command `java -version`. If the version of java displayed is not 1.5, or later, you may need to provide the path to the java program.

To run the program with no logging:

```
java -jar iWATask.jar <property_file> <property_file> <property_file>
```

- Where the *<property_file>* parameter is one or more optional property files.

To run the program with logging to the default log file:

```
java -jar -Dcom.ibm.as400.webaccess.iWATask.log.category=information,diagnostic,warning,error,all iWATask.jar <property_file>
```

- Where the *category* parameter can be any combination of the comma separated values listed. Specifying all will log all categories.

- Where the *<property_file>* parameter is one or more optional property files.
- The default log file name is: iWATask.log.

To run the program with logging to a specified log file:

```
java -jar -Dcom.ibm.as400.webaccess.iWATask.log.category=information,diagnostic,warning,error,all
-Dcom.ibm.as400.webaccess.iWATask.log.file=<file_name> iWATask.jar <property_file>
```

- Where the *file_name* parameter is the name of the file where information will be logged.
- Where the *<property_file>* parameter is one or more optional property files.

As the iWATask.jar runs, output from the program will be written to standard output. An example of the output is shown below.

Table 3. Output from the iWATask.jar

Output	Output description
Processing property file ping_text_output.properties.	Name of property file being processed.
Connecting to http://<IBMi_system_name>:<port>/webaccess/iWAPing	Complete web address of the task
Connection completed, waiting for a response...	Connection was successful, waiting for task to complete
Connection response code: 200	Response code returned by the task
Connection response code message: OK	Response code message
The URL connection completed successfully.	Indicates connection to the task was successful
Returned content type: text/plain	Type of data returned
Output being written to: ping_text_output.txt.	File where output was written
Total bytes written to output file: 89	Number of bytes written to the output file
Processing completed for property file ping_text_output.properties.	Done processing the property file

Properties file format

The properties file defines the IBM i Access for Web task to run. Several parameters must be specified including an IBM i user ID and password. Care should be taken to secure the properties file on the platform where the file is stored so that only authorized users can access them.

The content of the properties file includes the following key=value pairs:

url This property defines which IBM i Access for Web task to invoke. Example values for this property are:

- *http://<IBMi_system_name>:<port>/webaccess/iWAPing*
- *https://<IBMi_system_name>:<port>/webaccess/iWAPing*

user/password

These properties will be used to authenticate to the IBM i system specified in the url property and invoke the task.

parm. <parameter_name>

This property defines a parameter name and its value that is to be passed into the task specified in the url property. The IBM i Access for Web servlet will use this parameter/value to perform the task. See "IBM i Access for Web URL interfaces" on page 120 for complete information on parameters. Example values for this property are:

Table 4. Example <parameter_name> values

Parameter name	Parameter description
parm.request=inventory	parameter for iWADbExec task
parm.jobInfo=123456/JOE/QPADEV0001	parameter for iWAJobLog task
parm.queue=QPRINT	parameter for iWASpool task

output

This property defines the name of a file where output from the task will be written.

Below is an example properties file. This properties file invokes the IBM i Access for Web database task to query the database using a saved request. The saved request named inventory is specified using the parm property. Output from the function will be written to a file named task.txt.

```
url=http://myIBMsystem/webaccess/iWADbExec
user=JOE
password=VIKINGS
parm.request=inventory
output=task.txt
```

Considerations

Using parameter information:

Many of the IBM i Access for Web tasks allow for the input of parameter information. This input allows the caller to customize what actions the task will perform or how data will be returned. See “IBM i Access for Web URL interfaces” on page 120 for complete information on parameters

iWATask.jar file:

It is recommended that a copy of /QIBM/ProdData/Access/Web2/lib/iWATask.jar be used to automate IBM i Access for Web tasks. Using a copy of the file will help prevent accidental changes to the shipped file. If IBM i Access for Web PTFs are applied to your IBM i system, you may need to get the latest copy of /QIBM/ProdData/Access/Web2/lib/iWATask.jar after applying PTFs.

Automating multiple tasks:

The properties file can only contain information for automating a single task. If multiple tasks are to be automated, multiple properties files must be used. Multiple properties files can be input to a single invocation of the iWATask.jar program. See the Running the program section for more detail on inputting multiple properties files to iWATask.jar. An alternative would be to invoke the iWATask.jar program multiple times with a single properties file.

User ID/Password:

The properties file contains IBM i user ID and password information. Care should be taken to secure the properties file on the platform where the file is stored so that only authorized users can access them.

Default properties file:

The iWATask.jar program can process a default properties file named task.properties. To use the default task.properties file, you would first create task.properties and set the properties. Next you would add task.properties to the iWATask.jar archive file. You can use any tool that allows you to add the task.properties file to the iWATask.jar archive. The Java Developer Kit jar program can be used with the following syntax:

```
jar -uf iWATask.jar task.properties
```

You would then invoke `iWATask.jar` without inputting a properties file. The program will look for `task.properties` within the archive. There are two benefits of doing this:

- By putting the properties file within the `iWATask.jar` archive, it will be less obvious that the properties file contains user ID/password information.
- You can rename `iWATask.jar` to a name more descriptive of the task being automated. This can help you organize the automation of your tasks.

Handling errors:

Many IBM i Access for Web tasks complete with an HTTP status code of 200, indicating success, even if there is an error during processing. This is because the error information was successfully generated. To determine if a task completed successfully, the information returned by the `iWATask.jar` program and the information written to the output file need to be examined. The IBM i Access for Web Information example below discusses how to examine the information returned.

HTTPS/SSL:

The IBM i Access for Web tasks can be used with the `iWATask.jar` program for either HTTP or HTTPS/SSL environments. To use IBM i Access for Web tasks that are secured using HTTPS/SSL, additional setup is required. Please refer to the documentation found on the IBM i Access for Web site



for additional information.

Restrictions

Intermediate web pages:

- | The IBM i Access for Web task being automated, when combined with specified parameters, cannot display any intermediate web pages or prompt a user for information.

Authentication:

The IBM i Access for Web environment must be configured for Application authentication or Application Server authentication that uses Basic authentication. The authentication type is specified when the `CFGACCWEB2/cfgaccweb2` command is run. Specifying the `AUTHTYPE(*APP)` parameter or the `AUTHTYPE(*APPSVR) AUTHMETHOD(*BASIC)` parameters are supported environments.

IBM i Access for Web Information example

IBM i Access for Web provides a servlet/task that displays information about IBM i Access for Web. The `iWAInfo` servlet can be used to display version information, properties used by the product, HTML information, etc. This is a simple example to show you how you can automate the use of IBM i Access for Web functions.

This example assumes you will be using a workstation for the automation. The steps below will verify the connection to IBM i Access for Web then incorporate the use of the `iWATask.jar` program.

- Open a web-browser on the workstation.
- Type the web-browser address `http://<IBMi_system_name>:<port>/webaccess/iWAInfo`
- You will be prompted to enter your IBM i user ID and password.
- The web page will be refreshed displaying copyright/version information, Product information, Request information, etc. This verifies the workstation can connect to IBM i Access for Web functions. The information returned is of type HTML and rendered in the web-browser.
- Close the web-browser.
- Copy the `/QIBM/ProdData/Access/Web2/lib/iWATask.jar` file to a directory on the workstation

- In the same directory where you copied iWATask.jar, create a file named iwainfo.properties and add the following properties to the file:

```
url=http://<IBMi_system_name>:<port>/webaccess/iWInfo
user=<your_IBMi_user_ID>
password=<your_IBMi_password>
output=iwainfo.txt
```

- Save and close the iwainfo.properties file.
- Run the iWATask.jar program using the syntax shown below. You must use the Java Runtime Environment v1.5 java command.

```
java -jar iWATask.jar iwainfo.properties
```

To run the program and log information to the log file iWATask.log, use the syntax below:

```
java -jar -Dcom.ibm.as400.webaccess.iWATask.log.category=all iWATask.jar iwainfo.properties
```

- When the program runs, output will be written to standard out and will look similar to the following:

```
Processing property file iwainfo.properties
Connecting to http://<IBMi_system_name>:<port>/webaccess/iWInfo
Connection completed, waiting for a response...
Connection response code: 200
Connection response code message: OK
The URL connection completed successfully.
Returned content type: text/html; charset=utf-8
The returned HTML content type does not match the output file extension. This may indicate an error
page was returned.
Output being written to: iwainfo.txt
Total bytes written to output file: 34270
Processing completed for property file iwainfo.properties
```

- Notice the message “Returned content type: text/html; charset=utf-8”. This message indicates the output data that was returned is of type HTML, a web page. In the iwainfo.properties file, the output property was set to write the output data to file iwainfo.txt, a text file. Because the returned type (HTML) did not match the expected type (TXT), the message “The returned HTML content type does not match the output file extension. This may indicate an error page was returned.” was displayed.

In this particular case, it's not an error. Changing the extension of the output file specified in iwainfo.properties will resolve the issue. We will do this in a later step. This would be an error condition if the output type was HTML but PDF was expected. If this were the case, the received HTML output likely contains error information and would need to be reviewed.

- Edit iwainfo.properties and modify the output property:
output=iwainfo.html
- Save and close the iwainfo.properties file.
- Run the iWATask.jar program as you did above.
- Note that the message “The returned HTML content type does not match the output file extension. This may indicate an error page was returned.” was not displayed.
- You can now open iwainfo.html using a browser to display the output from the iWInfo servlet.
- To automate the running of this task, you would use the workstation's scheduling function to invoke the iWATask.jar program as you did above.

IBM i Access for Web database request example

IBM i Access for Web provides a servlet/task that runs an SQL database query. The result of the query can be written to a variety of formats. This is a simple example to show you how you can automate the use of IBM i Access for Web functions.

This example assumes you will be using a workstation for the automation. The steps below will step through setting up a database request that writes the result to a PDF file and then incorporate the use of the iWATask.jar program.

- Open a web-browser on the workstation.
 - Type the web-browser address `http://<IBMi_system_name>:<port>/webaccess/iWAInfo`
 - You will be prompted to enter your IBM i user ID and password.
 - Click the Database tab.
 - Click the Run SQL link.
 - In the SQL statement field, type: `SELECT * FROM QIWS.QCUSTCDT`
 - In the SQL Output->Type pulldown menu, select: Portable Document Format (.pdf)
 - Click the Save Request button.
 - In the Request name field, type: Inventory
 - Click the Save Request button.
 - Click the My requests link.
 - Click the Run action icon for the Inventory request.
 - The result of the database request should be displayed/available as a PDF document within the web-browser.
 - Return to the My requests list.
 - Move the cursor over the Run action icon. In the browser window, usually at the bottom, the web-browser address the Run action icon represents will be displayed. The address should be similar to:
`http://<IBMi_system_name>:<port>/webaccess/iWADbExec/sqlOutput.pdf?request=Inventory`
 - Make note of the web-browser address, you will need it in a later step. You may be able to right click on the Run action icon to display a menu for the icon. On that menu you may be able to select an option to copy the link location that the icon represents and then use that in a later step.
 - Close the web-browser.
 - Copy the `/QIBM/ProdData/Access/Web2/lib/iWATask.jar` file to a directory on the workstation
 - In the same directory where you copied `iWATask.jar`, create a file named `iwapdf.properties` and add the following properties to the file:
`url=http://<IBMi_system_name>:<port>/webaccess/iWADbExec`
`user=<your_IBMi_user_ID>`
`password=<your_IBMi_password>`
`parm.request=Inventory`
`output=iwapdf.pdf`
 - Save and close the `iwapdf.properties` file.
 - Run the `iWATask.jar` program using the syntax shown below. You must use the Java Runtime Environment v1.5 java command.
`java -jar iWATask.jar iwapdf.properties`
- To run the program and log information to the log file `iWATask.log`, use the syntax below:
- ```
java -jar -Dcom.ibm.as400.webaccess.iWATask.log.category=all iWATask.jar iwapdf.properties
```
- When the program runs, output will be written to standard out and will look similar to the following:  
Processing property file `iwapdf.properties`  
Connecting to `http://<IBMi_system_name>:<port>/webaccess/iWADbExec?request=Inventory`  
Connection completed, waiting for a response...  
Connection response code: 200  
Connection response code message: OK  
The URL connection completed successfully.  
Returned content type: application/pdf Output being written to: `iwapdf.pdf`  
Total bytes written to output file: 4590  
Processing completed for property file `iwapdf.properties`
  - You can now open `iwapdf.pdf` using a PDF reader to display the output from the `iWADbExec` servlet.
  - To automate the running of this task, you would use the workstation's scheduling function to invoke the `iWATask.jar` program as you did above.

**Related reference:**

“Database” on page 102

IBM i Access for Web provides support for accessing database tables on a system.

“Configuring IBM i Access for Web in a Web application server environment” on page 20

Installing IBM i Access for Web on the system running IBM i does not make it available for use. To use IBM i Access for Web, it must be configured in the Web application server environment.

**Related information:**

CFGACCWEB2 CL command

## NLS considerations

IBM i Access for Web displays information from a variety of sources. Some of these sources are able to provide information in more than one language, or format information in a language-specific manner.

These sources include:

- IBM i
- JDBC driver
- Web application server
- IBM i Access for Web

Such language-specific information includes forms, error messages, help, formatted dates and times, and sorted lists. When a choice of languages is available, every attempt is made to select a language that is appropriate for the user. The selected language is used to influence the language and format of information from these other sources. However, there is no guarantee that the information from a specific source will be in the selected language, or that all the information will be in the same language.

- | Messages and help which originate from the IBM i might not be in the selected language, depending on  
| which language versions are installed on the IBM i. If the selected language is not installed on the IBM i,  
| then IBM i messages displayed by IBM i Access for Web are in the primary language of the IBM i.

## Language and character set selection

IBM i Access for Web uses the following method to select an appropriate language and character set.

First, a list of potential language choices is assembled from the following sources:

- The IBM i Access for Web **locale=** parameter.
- The IBM i Access for Web **Preferred language** preference.
- The browser language configuration (HTTP Accept-Language header).
- The IBM i user profile Language ID.
- The Java Virtual Machine default locale.

Second, a list of acceptable character sets is assembled from the following sources:

- The IBM i Access for Web **charset=** parameter.
- The IBM i Access for Web **Preferred character set** preference.
- The browser character set information (HTTP Accept-Charset header).

**Note:** If the browser character set information (HTTP Accept-Charset header) indicates that UTF-8 is supported, the list of acceptable character sets will include UTF-8 before other character sets supported by the browser. In this case, UTF-8 is used as the character set when the **Preferred character set** preference is set to None.

Third, each language in the list of potential languages is examined to determine if it is available and if it can be represented using a character set from the list of acceptable character sets.

The first language that is available and can be represented using one of the acceptable character sets is selected.

The first character set from the list of acceptable character sets that can represent the language is selected.

## Information in multiple languages (multilingual)

Because the information displayed by IBM i Access for Web comes from a variety of sources, there is a possibility that the information is in more than one language. When multiple languages are displayed in a browser simultaneously, a multilingual character set, such as UTF-8, might be required to display all the characters correctly. If this is the case, the **Preferred character set** preference should be changed to either Multilingual [UTF-8] or None.

**Note:** Since most browsers support UTF-8 as a character set, if you specify None for the **Preferred character set** preference, IBM i Access for Web uses UTF-8 for the character set.

## CCSIDs and IBM i messages

To ensure that information is displayed properly, make certain that the Coded Character Set ID (CCSID) setting for the user profile is appropriate for the messages originating from IBM i.

## Saving and restoring IBM i Access for Web in a Web application server environment

The commands SAVLICPGM and RSTLICPGM can be used to save and restore IBM i Access for Web from one system to another. Using these commands has the same effect as installing IBM i Access for Web using the install media (CD-ROM). However, the advantage of using the commands is that any IBM i Access for Web PTFs that have been applied are saved from the source system and restored to the target system.

If IBM i Access for Web has been used on the source system and users have generated and saved user data, the SAVLICPGM and RSTLICPGM process will not propagate that user data to the target system. To propagate the user data, additional steps must be performed.

To start IBM i Access for Web and propagate the user data, do the following:

1. Complete the Planning, installing, and configuring checklist. The RSTLICPGM command does not make IBM i Access for Web available for use on the target system. IBM i Access for Web must first be configured and started before it can be used. To configure IBM i Access for Web, refer to the Planning, installing, and configuring checklist. The checklist contains steps to install IBM i Access for Web on the system using the install media (CD-ROM). At the point in the checklist that installation is addressed, you would run the SAVLICPGM and RSTLICPGM commands from the source system to the target system.
2. Use the CFGACCWEB2 command. Continue with the checklist and run the steps to configure IBM i Access for Web on the target system using the CFGACCWEB2 command.
3. Run the WRKLNK command. After configuring IBM i Access for Web, run the command WRKLNK OBJ('/QIBM/UserData/Access/Web2/\*') on the target system.
4. Identify the users path on the target system. Several directories will be listed. One directory has a name that corresponds to the Web application server type that was configured using the CFGACCWEB2 command. That directory contains subdirectories that identify the instance and application server of the Web application server type that is configured.

Expand the directories until a directory named 'users' is displayed. Make note of this complete directory path. User data will be copied to this users directory in a later step.

If you have multiple Web application server types configured, you might need to locate multiple users directories under different directory trees.

5. Run the WRKLNK command. On the source system, run the command WRKLNK OBJ('/QIBM/UserData/Access/Web2/\*').
6. Identify the users path on the source system. Several directories will be listed. One directory has a name that corresponds to the Web application server type that has been used on the source system. That directory contains subdirectories that identify the instance and application server of the Web application server type that is configured.  
Expand that directory tree until a directory named users is displayed. Make note of this complete directory path. This users directory contains the user data that is to be saved and restored to the target system.  
If you have multiple Web application server types configured, you might need to locate multiple users directories under different directory trees.
7. Save and restore the users directory. The users directory on the source system should now be saved and restored to the users directory on the target system. Use the save and restore mechanism you are most comfortable using.
8. Save and restore the config directory. The directory that contains the users directory also contains a directory called config. The config directory contains files that should also be saved and restored. If they exist, the files to save and restore are: webaccess.policies extension.properties, and disposition.properties.
9. Run the CFGACCWEB2 command. Now that all the user data files have been saved from the source system and restored to the target system, the CFGACCWEB2 command must be run again. Running the command again will ensure that all the user data files that were saved and restored have the correct data and object authority settings.  
If you have multiple Web application server types configured, you need to repeat steps 7, 8, and 9 for each pair of user directories located in steps 4 on page 128 and 6.
10. Return to the checklist. Return to the Planning, installing, and configuring checklist and complete any remaining steps.

**Related concepts:**

“Checklist: Planning, installing, and configuring” on page 10

This checklist guides you through the steps necessary to plan, install, verify, and configure a simple IBM i Access for Web environment. These steps do not take into account other Web applications or more complex Web environments.

**Related information:**

CFGACCWEB2 CL command

WRKLNK CL command

---

## IBM i Access for Web in a portal environment

IBM i Access for Web provides a set of portlets to access IBM i resources through a browser interface. These portlets run in the portal environment on an IBM i system.

IBM i Access for Web has two portal offerings: a standard portal application and an IBM portal application. To learn more about these offerings, see IBM i Access for Web offerings.

The following topics provide information about configuring, customizing, using, and saving the product in this environment. Concepts unique to the portal environment are also discussed.

**Related concepts:**

“IBM i Access for Web offerings” on page 4

IBM i Access for Web has offerings for both the Web application server and the portal server environments. Use the information in these topics to learn about each offering and decide which is best for you.

“Portal application (Standard)” on page 130

IBM i Access for Web provides a standard portal application that runs in a portal environment, such as

WebSphere Portal.

“Portal application (IBM)” on page 140

IBM i Access for Web provides an IBM portal application that runs in a portal environment, such as WebSphere Portal.

## Portal application (Standard)

IBM i Access for Web provides a standard portal application that runs in a portal environment, such as WebSphere Portal.

The following topics provide information on configuring, customizing, using, and saving the product in this environment.

### Related concepts:

“IBM i Access for Web in a portal environment” on page 129

IBM i Access for Web provides a set of portlets to access IBM i resources through a browser interface. These portlets run in the portal environment on an IBM i system.

“Browser considerations” on page 15

There are several considerations regarding browser use that you need to be aware of when using IBM i Access for Web.

Portal application (Standard)

IBM i Access for Web provides a standard portal application that runs in a portal environment, such as WebSphere Portal.

## Portal concepts

IBM offers many products, such as WebSphere Portal, that provide a portal environment in which applications can be installed and run. A portal in simplistic terms is a single point of access to multiple information sources. Each information source is called a portlet. A portlet is one of the small windows or content areas that appears on a portal page.

By putting portlets on a portal page, many "applications" or sources of data can be displayed at once. Since an individual portlet can process data from any available back-end server, a portal page provides consolidation of data independent of data location or data format.

IBM i Access for Web portlets provide portal functionality for accessing IBM i resources.

- | Many of the portlets provided by IBM i Access for Web provide the ability to perform multiple tasks. For
- | example, the Files portlet can: lists files and directories, display the contents of a file, edit a file, and work
- | with a zip file archive. These portlets support running in different modes, or states, to perform each of
- | the tasks. A **Done** or **Close** button is provided to return to the previous state. For example, the Files
- | portlet begins in the **list files and directories** state. You can use the view action to switch to **view file**
- | state. Pressing the **Done** button returns you to **list** state.

The following topics contain more information about portlets and their usage.


### Cross-site scripting:

WebSphere Portal enables Cross-site scripting (CSS) security protection by default. With CSS security protection enabled, the characters ">" (greater than) and "<" (less than) in form input are changed to the character entities "&gt;" and "&lt;". This is done to minimize the security risk of malicious input which can disrupt portal content.

Having CSS security protection enabled can cause problems with IBM i Access portlets that rely on form input to retrieve information from the user. For example, the SQL portlet uses a form to retrieve a SQL



statement to run. Any ">" or "<" characters in the statement are changed to "&gt;" and "&lt;". When the modified statement is run, it fails with this message: [SQL0104] Token & was not valid. Valid tokens: < > = <> <= ...

WebSphere Portal provides a configuration option to disable CSS security protection. Disabling this protection avoids the problems associated with modifying form input; however, the security implications associated with disabling this support need to be considered. Search for "Cross-Site Scripting" in the WebSphere Portal documentation  for more information.

## Configuring IBM i Access for Web in a portal environment (Standard)

Installing IBM i Access for Web on the IBM i system does not make it available for use. To use IBM i Access for Web, it must be deployed using the WebSphere Portal administration functions.

The IBM i Access for Web standard portal application is delivered in the iwajsr168.war archive file. This file can be found in the /QIBM/ProdData/Access/Web2/install directory after the product is installed.

The WebSphere Portal Administration interface is used to deploy portal applications. Use the **Portlet Management > Web Modules** install function to deploy the iwajsr168.war archive.

The standard portal application can be viewed within the **Portlet Management > Applications** function after it is deployed. The application is named IBM i Access for Web Portlets (Standard Portlet API).

Individual portlets can be viewed within the **Portlet Management > Portlets** function by searching for "IBM i" in the portlet title.

After deploying the portal application, the IBM i Access for Web portlets can be added to portal pages and made available to portal users.

### Related tasks:

"Installing IBM i Access for Web" on page 18

Follow these instructions to install IBM i Access for Web on the system. You can install 7.1 IBM i Access for Web on 6.1 and later releases of IBM i.

### Related reference:

"Creating pages"


After configuring the IBM i Access portlets for WebSphere Portal, you need to add the portlets to one or more WebSphere Portal pages. You can create new portal pages for the portlets or you can add the portlets to existing pages.

## Customizing IBM i Access for Web in a portal environment

You can customize IBM i Access for Web in a portal environment by creating pages and assigning portal roles.

### Creating pages:

After configuring the IBM i Access portlets for WebSphere Portal, you need to add the portlets to one or more WebSphere Portal pages.

For information on creating and managing pages in WebSphere Portal, see the WebSphere Portal information center .

### Related reference:

"Configuring IBM i Access for Web in a portal environment (Standard)"

Installing IBM i Access for Web on the IBM i system does not make it available for use. To use IBM i Access for Web, it must be deployed using the WebSphere Portal administration functions.

## Customizing portlets:

IBM i Access portlets are customized using edit mode settings. Most of the IBM i Access portlets require edit mode settings to be configured before they can be used.

To access the edit mode settings, use the Personalize (or Edit) option from the portlet menu at the top of the portlet window. If this option is not available, edit mode might not be available for the portlet or an administrator might have disabled edit mode for the portlet.

There are common configuration options available with most of the IBM i Access for Web portlets. Many portlets also have portlet unique settings. For IBM i Access portlets that access secured IBM i resources, the system and authentication edit mode settings must be configured.


Many of the portlets provided by IBM i Access for Web provide the ability to perform multiple tasks. For example, the Files portlet can: list files and directories, display the contents of a file, edit a file, and work with a zip file archive. These portlets support running in different modes, or states, to perform each of the tasks. Edit mode settings are provided to customize each of the portlet's supported states.

Online help for each of the edit mode settings for a portlet is available while in edit mode.

## Portal roles:

After configuring the IBM i Access portlets for WebSphere Portal, you need to assign roles to the portal application or portlets.

In WebSphere Portal, access to portal applications and portlets is controlled by roles. A role defines a set of permissions to a resource, such as a portal application or a portlet, for a specific user or group. By default, no roles are assigned to the portal application or portlets when they are deployed. To assign roles to the portal application or portlets, use the **Access > User and Group Permissions** administration interface.

- | For information on controlling access to portal applications and portlets in WebSphere Portal, see the
- | WebSphere Portal information center  .

## IBM i Access for Web functions

A list of functions that can be performed in a portal environment follows. Select a function from the list to see the supported tasks, usage considerations, and restrictions.

### 5250:

The IBM i Access portlets provide support for starting and using 5250 sessions.

The available portlet follows:

### IBM i 5250 Session

A 5250 session can be started to any system running IBM i. The system to access is not required to have IBM i Access for Web installed. Options are provided to customize the appearance and behavior of the session. Keyboard support is available for some JavaScript enabled browsers.

### Considerations

The keyboard enter key is supported with most browsers that have JavaScript enabled. See Restrictions for information about browsers that are not supported.

The keyboard page up, page down and function keys are supported with the following browsers when JavaScript is enabled.

- Microsoft Internet Explorer (version 5.0 and later)
- Netscape (version 6.0 and later)
- Mozilla
- Firefox

There is no support for macros.

All 5250 sessions for a user are stopped when the user logs out or is automatically logged out of WebSphere Portal.

### **Restrictions**

Keyboard support is not available for the following browsers:

- Opera version 6.x or earlier (version 7.0 and later are supported)
- Konqueror

### **Command:**

This topic describes the IBM i Command portlet.

### **IBM i Command:**

The IBM i Command portlet provides support for running batch type CL commands on an IBM i system.

### **Considerations**

Interactive CL commands may be run, but the output will not be displayed.

### **Restrictions**

None.

**Database:** IBM i Access for Web provides support for accessing database tables on a system running IBM i.

The list of available portlets follows:

- **IBM i Database Table**

IBM i Database Table displays a list of database table records. An SQL wizard is provided to help filter the list of records displayed. From the list, table records can be inserted, updated, or deleted. Options are provided to customize how the insert and update forms are displayed.

- **IBM i Database SQL**

IBM i Database SQL runs SQL statements and displays the results in a paged table or in a supported client file format. Any SQL statement supported by the IBM Toolbox for Java JDBC driver can be run. The SQL statement can either be defined in edit mode or entered by the user when the portlet window is displayed. An edit mode SQL wizard is provided to help build query statements. The wizard also supports building prompted queries with parameter markers.

- **IBM i Database Requests**

IBM i Database Requests is used to display and manage a list of saved SQL requests. The list can contain requests for the current WebSphere Portal user or requests with a specified share name. From the list, requests can be created, run, updated and deleted. See Database considerations for required configuration information.

### *Database considerations:*

The following considerations apply to using the IBM i Access for Web database functions in a portal environment.

#### **Cross-site scripting**

Statements containing greater than (>) or less than (<) characters fail with the default configuration of WebSphere Portal. See Cross-site scripting for information about how to handle this.

#### **IBM i Database Requests**

The database requests created and managed by the IBM i Database Requests portlet are stored in a back-end database table. A WebSphere data source must be configured to provide access to a database server for storing this information. This data source must meet these requirements:

- The data source cannot be version 4.
- The data source JNDI name must be set to jdbc/iwads.
- The data source must have a container-managed alias set.

If any of these requirements are not met, the portlet displays a message stating the required configuration has not been performed.

**Note:** IBM i Access for Web is tested using the IBM Toolbox for Java JDBC driver. Using a different driver will likely work, but this is an untested and unsupported environment.

The database table is created in a schema named QUSRIWA2. If this schema does not exist, it is created. If this schema exists, the user identified by the data source authentication alias must have read and write access to the schema.

The default table name is QIWADTA. This value can be changed using an edit mode setting. Each portlet window has a separate set of edit mode settings; therefore, changing the table name only affects the portlet window for which the change is made.

If the configured table does not exist, it is created. If it does exist, the user identified by the data source authentication alias must have read and write access to the table.

It is possible to share database requests among multiple WebSphere Portal instances. This is done by configuring the jdbc/iwads data source for each instance to the same back-end database server and by using the same database table name for each instance. The authentication settings for the database requests must also be configured to facilitate sharing among multiple WebSphere portal instances as follows:

- Use credential defined with data source or on JDBC URL: Requests created with this authentication option can be used from multiple instances.
- Use credential specific to this request: A request configured with this authentication option can only be used from the instance where it was created.
- Use credential set with IBM i Credentials portlet and Use system shared credential set by administrator: Requests created with either of these authentication options can be used from multiple instances, provided a credential with the selected name exists for each instance.
- Use authenticated WebSphere credential: Requests created with this authentication option can be used from multiple instances, provided each instance is correctly configured for the selected environment.

Database requests created by the IBM portal application can be accessed by the IBM i Database Requests portlet; however, modifying these requests with the IBM i Database Requests portlet makes them unavailable to the IBM portal application. Modifications can be made with the IBM portal application to

keep the requests available to both sets of portlets. Database Requests created by the IBM i Database Requests portlet cannot be accessed by the IBM portal application.

**Related concepts:**

“Portal application (IBM)” on page 140

IBM i Access for Web provides an IBM portal application that runs in a portal environment, such as WebSphere Portal.

“Cross-site scripting” on page 141

WebSphere Portal enables Cross-site scripting (CSS) security protection by default. With CSS security protection enabled, the characters ">" (greater than) and "<" (less than) in form input are changed to the character entities "&gt;" and "&lt;". This is done to minimize the security risk of malicious input which can disrupt portal content.

“Other” on page 137

IBM i Access for Web provides a set of utility portlets that can be useful when working with the other functions of IBM i Access for Web

*Database restrictions:*

This topic describes restrictions involved in using the database function in a portal environment.

If you use Microsoft Internet Explorer and OpenOffice.org and you get an error when displaying SQL output in OpenDocument spreadsheet format, try one of the following:

- Ensure you have the latest version of OpenOffice.org.
- Uninstall the OpenOffice.org ActiveX option.
- Use a different browser.

**Files:**

The IBM i Access portlets provide support for accessing files on an IBM i.

The list of available portlets follows:

- **IBM i Files**

IBM i Files displays a list of files and directories for navigating the IBM i integrated file system. From the list, files can be viewed, edited, downloaded, and deleted. Files can be uploaded from the local workstation file system to the IBM i integrated file system. Directories can be created and deleted. Zip files can be created and worked with. When working with zip files, entries can be added, extracted, and deleted. Options are provided to control how the list is displayed and which actions are available.

- **IBM i File Viewer**

IBM i File Viewer displays the content of a file in the IBM i integrated file system. Binary files are viewed in a separate browser window.

*File considerations:*

The following are considerations for files.

- **Editing files containing > and < characters**

Files edited with IBM i Files will have greater than (>) and less than (<) characters changed to '&gt;' and '&lt;' with the default configuration of WebSphere Portal. See the Cross-site scripting topic for information on how to handle this.

- **Files not locked while editing**

IBM i Files does not lock files while editing. Other users can edit a file while it is being edited by IBM i Files.

- **Document Library Services (QDLS) file system enrollment**

A user must be enrolled in the system directory in order to access the Document Library Services (QDLS) file system with IBM i Access for Web. The steps needed to enroll a user follow. If the user has previously been enrolled or does not need access to the QDLS file system, these steps are not necessary. A user can still use the File function of IBM i Access for Web without having access to the QDLS file system.

1. Enter GO PCSTSK at the IBM i command prompt. This display screen is shown:

```

PCSTSK IBM i Access Tasks System: SYSTEM1
Select one of the following:

User Tasks
 1. Copy PC document to database
 2. Copy database to PC document
 3. Work with documents in folders
 4. Work with folders
 5. PC Organizer

Administrator Tasks
 20. Work with IBM i Access administrators
 21. Enroll IBM i Access users
 22. Configure PC connections
 23. Work with line description query status
 24. Start servers for IBM i Access Clients

```

Figure 3. Client Access Tasks (GO PCSTSK)

2. Select the Enroll Client Access Users option. This display screen is shown:

```

 Enroll IBM i Access Users
Type choices, press Enter.

User profile AARON Name
User identifier:
 User ID AARON Character value
 Address SYSTEM1 Character value
User description AARON B.
Add to system directory . . *YES *NO, *YES

```

Figure 4. Enroll Client Access Users display

3. Enter the appropriate information for these values:

**User profile**

Name of user

**User ID**

Usually the same as the User profile name

**User address**

Usually the same as the system name

**User description**

A description of the user

**Add to system directory**

Use \*YES if you want to use the QDLS file system

See the online help for a complete description of the entry fields.

4. Repeat the preceding steps to enroll other users in the Directory Entry Database.

**Related concepts:**

“Cross-site scripting” on page 141

WebSphere Portal enables Cross-site scripting (CSS) security protection by default. With CSS security protection enabled, the characters ">" (greater than) and "<" (less than) in form input are changed to the character entities "&gt;" and "&lt;". This is done to minimize the security risk of malicious input which can disrupt portal content.

*File restrictions:*

The following restrictions apply to using the IBM i Access for Web functions in a portal environment.

### **Restrictions**

**File size:** There is currently a 2 147 483 647 byte (approximately 2 GB) size limit for files created on the system.

### **Other:**

IBM i Access for Web provides a set of utility portlets that can be useful when working with the other functions of IBM i Access for Web

The list of available portlets follows:

- **IBM i Credentials**

IBM i Credentials is used to display and manage a list of saved credentials. Credentials define a specific user name and password combination. From the list, credentials can be created, updated and deleted. Credentials created with this portlet are available as a selection when configuring the authentication option for IBM i Access portlets. In addition, an option is available to change IBM i user profile passwords and automatically update currently defined credentials with the new password value.

- **IBM i Access for Web Data Store**

IBM i Access for Web Data Store displays a list of data stored by IBM i Access portlets. From the list, items can be renamed and deleted. The access to stored data items can also be changed. The data items are stored in a back-end database. See Database considerations for required configuration information.

### **Considerations**

None.

### **Restrictions**

None.

### **Related concepts:**

“Database considerations” on page 134

The following considerations apply to using the IBM i Access for Web database functions in a portal environment.

### **Print:**

IBM i Access for Web provides support for accessing print related resources on a system running IBM i.

The list of available portlets follows:

- **IBM i Printer Output**

IBM i Printer Output displays a list of printer output files. Individual printer output files can be changed, moved to a different printer or output queue, deleted, viewed, held, released, or printed. The output queue containing a printer output file can be viewed, held, or released. The printer associated

with the output queue containing a printer output file can be viewed, started, and stopped. Options are provided to control how the list is displayed and which actions are available.

- **IBM i Printers**

IBM i Printers displays a list of printers on your system. Individual printers can be started or stopped. A list of printer output files contained in the output queue associated with the printer can be displayed. Individual printer output files can be changed, moved to a different printer or output queue, deleted, viewed, held, released, or printed. Options are provided to control how the list is displayed and which actions are available.

- **IBM i Printer Output Queues**

IBM i Printer Output queues displays a list of output queues on your system. Individual output queues can be held or released. A list of printer output files contained in the output queue can be displayed. Individual printer output files can be changed, moved to a different printer or output queue, deleted, viewed, held, released, or printed. Options are provided to control how the list is displayed and which actions are available.

## Considerations

### PDF Transformations of Printer Output

| When viewing SCS or AFPDS printer output files with the IBM i Access for Web, there are three PDF transformation possibilities:

- | • IBM Infoprint Server for iSeries (5722-IP1)
- | • AFP to PDF Transform (5770-TS1 option 1)
- | • TIFF transform

| Infoprint Server is a separately purchasable product that gives IBM i Access for Web users the ability to create full text PDF files that deliver document fidelity, while preserving the ability to navigate through the document. AFP to PDF Transform is an option of the IBM Transform Services (5770-TS1) product that gives users the ability to create full text PDF files. If you have Infoprint Server installed, IBM i Access for Web automatically detects and uses it. If you do not have Infoprint Server installed, IBM i Access for Web automatically detects and uses AFP to PDF Transform. If Infoprint Server is not installed and AFP to PDF Transform is not installed, the individual pages of the spooled file are converted into images. These images become the pages of the PDF document. You cannot edit content in any of these pages.

| **Notes:**

- | 1. Infoprint Server might make changes to the order of the printer output files in the current user's printer output list. It might also make changes to the creation date and time and the start and complete date and time of a printer output file.
- | 2. The printer output file must be in either the HELD, READY, or SAVED state to be printed by Infoprint Server.

| **Restrictions**

### Viewing spooled files using the AFP Viewer

The external resources in AFP spooled files will not be displayed.

## NLS considerations

The IBM i Access for Web portlets display information from a variety of sources. Some of these sources are able to provide information in more than one language, or format information in a language-specific manner. Such language-specific information includes forms, error messages, help, formatted dates and times, and sorted lists.

The sources of information displayed by portlets include:



- IBM i
- JDBC driver
- portal server
- IBM i Access for Web portlets

The IBM i Access for Web portlets use the language selected for the user by the portal server to influence the language and format of information from the other sources. However, there is no guarantee that the information from a specific source will be in the selected language, or that all the information will be in the same language.

Messages and help which originate from IBM i might not be in the selected language, depending on which language versions are installed for IBM i. If the selected language is not installed, then IBM i messages displayed by the IBM i Access for Web portlets will be in the primary language of IBM i.

For information on the language support in WebSphere Portal, refer to **Administering WebSphere Portal > Language support** in the WebSphere Portal Information Center.

The IBM i Access for Web portlets support languages that WebSphere Portal does not support by default. For information about configuring WebSphere Portal to support additional languages, see **Administering WebSphere Portal > Language support > Supporting a new language** in the WebSphere Portal Information Center.

## WebSphere Portal language selection

For information on how WebSphere Portal selects the language for displaying portal content and instructions for affecting the language selection process for a user, see **Administering WebSphere Portal > Language support > Selecting and changing the language** in the WebSphere Portal Information Center.

## Information in multiple languages (multilingual)

Because the information displayed by the IBM i Access for Web portlets comes from a variety of sources, there is the possibility that the information is in more than one language. When multiple languages are displayed in a browser simultaneously, a multilingual character set, such as UTF-8, may be required to display all the characters correctly. For information on the character set used by WebSphere Portal to display portal content and for instructions on changing the character set, see **Administering WebSphere Portal > Language support > Changing the character set for a language** in the WebSphere Portal Information Center.

## CCSIDs and IBM i messages

To ensure that information is displayed properly, make certain that the Coded Character Set ID (CCSID) setting for the user profile is appropriate for messages originating from IBM i.

## Saving and restoring IBM i Access for Web in a portal environment

IBM i Access for Web can be propagated to other IBM i systems but there are considerations that need to be reviewed before saving and restoring it.

You can save IBM i Access for Web and restore it to other IBM i systems using the **SAVLICPGM** and **RSTLICPGM** commands. Using these commands has the same effect as installing IBM i Access for Web using the install media (CD) but the advantage of using the commands is that any PTFs that have been applied are saved from the source system and restored to the target system.

To configure IBM i Access for Web, refer to the Planning, installing, and configuring checklist. The checklist contains steps to install IBM i Access for Web on the system using the install media (CD-ROM). At the point in the checklist that installation is addressed, run the SAVLICPGM/RSTLICPGM commands to

save from the source system and restore to the target system. After completing the SAVLICPGM/RSTLICPGM process, continue with steps in the checklist to complete the required configuration steps.

**SAVLICPGM** and **RSTLICPGM** will not save any user-generated data. In the WebSphere Portal environment, all user configuration settings and user generated data are stored within the WebSphere Portal environment. Refer to WebSphere Portal documentation for saving and restoring user configuration settings and data. WebSphere Portal documentation can be found at the WebSphere portal for multiplatforms library page



#### **Related concepts:**

“Checklist: Planning, installing, and configuring” on page 10

This checklist guides you through the steps necessary to plan, install, verify, and configure a simple IBM i Access for Web environment. These steps do not take into account other Web applications or more complex Web environments.

## **Portal application (IBM)**

IBM i Access for Web provides an IBM portal application that runs in a portal environment, such as WebSphere Portal.

The following topics provide information on configuring, customizing, utilizing, and saving the product in this environment.

#### **Related concepts:**

“Database considerations” on page 134

The following considerations apply to using the IBM i Access for Web database functions in a portal environment.

“IBM i Access for Web in a portal environment” on page 129

IBM i Access for Web provides a set of portlets to access IBM i resources through a browser interface. These portlets run in the portal environment on an IBM i system.

“Browser considerations” on page 15

There are several considerations regarding browser use that you need to be aware of when using IBM i Access for Web.

“Portal application (IBM)” on page 5

IBM i Access for Web provides an IBM portal application that runs in a portal environment, such as WebSphere Portal.

#### **Related information:**

|  IBM HTTP Server for i

 WebSphere Portal

## **Portal concepts**

IBM offers many products, such as WebSphere Portal, that provide a portal environment in which applications can be installed and run. A portal in simplistic terms is a single point of access to multiple information sources. Each information source is called a portlet. A portlet is one of the small windows or content areas that appears on a portal page.

By putting portlets on a portal page, many "applications" or sources of data can be displayed at once. Since an individual portlet can process data from any available back-end server, a portal page provides consolidation of data independent of data location or data format.

The individual portlets on a page may or may not be related. When portlets are related, it is helpful when the portlets are able work together to perform a set of tasks for the end user. Portlets that are able to communicate with each other to perform related tasks are called cooperative portlets.

IBM i Access for Web portlets provide portal functionality for accessing IBM i resources.

The following topics contain more information about portlets and their usage.

### **Cooperative portlets:**

The term cooperative portlets refers to the capability of portlets on a page to interact with each other by sharing information. IBM i Access for Web provides some cooperative portlets for working with IBM i resources.

One or more cooperative portlets on a portal page can automatically react to changes from a source portlet triggered by an action or event in the source portlet. A source portlet is the sender of information that will be consumed and processed by a target or receiving portlet. Portlets that are targets or receivers of the piece of information can process the information and react by displaying the appropriate information in their portlet content area. Cooperation between source and target portlets is facilitated by a WebSphere Portal runtime entity called the property broker.

Portlets on a page can cooperate in this way even if they were developed independently and are part of different applications. The only requirement for this to work is both the sender portlet and the receiver portlet of a piece of information need to be on the same portal page, and be set up to handle the same type of information. By default a manual action is required for source portlet information to be sent to a target portlet. This manual action is called Click To Action (C2A). If an automatic sending of the information is desired, the portlets can be "wired" together. An administrator can do the wiring by using the IBM Wiring portlet. In this scenario, the piece of information will automatically flow to the correct receiving portlet when an action is taken in the source portlet. End users or administrators can also wire two portlets together by holding down the CTRL key while clicking on the Action icon on the source portlet. This source-target relationship will be honored until a user holds down the CTRL key and clicks on the Action icon a second time.

The portal functionality in IBM i Access for Web includes multiple cooperative portlets. The functional areas containing cooperative portlets include: Database, File, and Print. See the detailed information in these sections to determine which portlets work together to provide a more advanced set of functionality.

### **Related concepts:**

"Print" on page 156

IBM i Access for Web provides support for accessing print related resources on an system running IBM i.

"Database" on page 151

### **Related reference:**

"Files" on page 153


The IBM i Access portlets provide support for accessing files on an IBM i.

### **Cross-site scripting:**

WebSphere Portal enables Cross-site scripting (CSS) security protection by default. With CSS security protection enabled, the characters ">" (greater than) and "<" (less than) in form input are changed to the character entities "&gt;" and "&lt;". This is done to minimize the security risk of malicious input which can disrupt portal content.

Having CSS security protection enabled can cause problems with IBM i Access portlets that rely on form input to retrieve information from the user. For example, the SQL portlet uses a form to retrieve a SQL statement to run. Any ">" or "<" characters in the statement are changed to "&gt;" and "&lt;". When the modified statement is run, it fails with this message: [SQL0104] Token & was not valid. Valid tokens: < > = <> <= ...

WebSphere Portal provides a configuration option to disable CSS security protection. Disabling this protection avoids the problems associated with modifying form input; however, the security implications

associated with disabling this support need to be considered. Search for "Cross-Site Scripting" in the WebSphere Portal documentation  for more information.

#### **Related concepts:**

"Database considerations" on page 134

The following considerations apply to using the IBM i Access for Web database functions in a portal environment.

"Database considerations" on page 151

The following considerations apply to using the IBM i Access for Web database functions in a portal environment.

#### **Related reference:**

"File considerations" on page 153

The following are considerations for files.

"File considerations" on page 135

The following are considerations for files.

"Database considerations" on page 103

The following considerations apply to using the IBM i Access for Web database functions in a Web application server environment.

### **Configuring IBM i Access for Web in a portal environment (IBM)**

Installing IBM i Access for Web on the system running IBM i does not make it available for use. To use IBM i Access for Web, it must be deployed to the portal environment.

**Note:** If you are upgrading IBM i Access for Web from a previous release, you must still configure IBM i Access for Web to enable the new functions.

### **Configuration commands**

IBM i Access for Web provides commands to perform and manage the configuration on the system. These commands must be used to perform actions such as configuring and removing the IBM i Access for Web configuration within the portal environment.

Both CL and script commands are provided. Providing different types of commands gives you the flexibility to manage IBM i Access for Web using the interface you are most comfortable with. The CL and script commands perform identical functions, they are just invoked differently. The parameters are also identical, but are input differently.

The CL commands are installed to the library QIWA2. The script commands are installed to /QIBM/ProdData/Access/Web2/install and can be used within the QShell environment.

The IBM i Access for Web CL commands are:

- **CFGACCWEB2:** Deploys the IBM i Access for Web portal application.
- **RMVACCWEB2:** Removes the IBM i Access for Web configuration.

The IBM i Access for Web script commands are:

- **cfgaccweb2:** Deploys the IBM i Access for Web portal application.
- **rmvaccweb2:** Removes the IBM i Access for Web configuration.

### **Command help**

There are multiple ways to access help for CL commands. Enter the command name on the command line and press F1. Alternatively, enter the command name and press F4 to prompt the command, then move the cursor to any field and press F1 for help on that field.

To get help on a script command, specify the `-?` parameter. For example, start a QShell session by running the command `STRQSH`, then enter the command `/QIBM/ProdData/Access/Web2/install/cfgaccweb2 -?`

## Configuration scenarios

If you are not familiar with the portal environment and need to create an HTTP and Web application server and deploy a portal environment, or if you want to create a new portal environment for IBM i Access for Web, examples are available to walk you through the process.

If you are familiar with the portal environment and already have HTTP and Web application servers created and a portal environment deployed and ready for use, examples are available that show you how to invoke the IBM i Access for Web commands and what to input into the commands.

### Related tasks:

“Installing IBM i Access for Web” on page 18

Follow these instructions to install IBM i Access for Web on the system. You can install 7.1 IBM i Access for Web on 6.1 and later releases of IBM i.

### Related reference:

“Creating pages” on page 149

After configuring the IBM i Access portlets for WebSphere Portal, you need to add the portlets to one or more WebSphere Portal pages. You can create new portal pages for the portlets or you can add the portlets to existing pages.

“Upgrade considerations” on page 16

When upgrading IBM i Access for Web from a previous release, there are considerations when using the Web application and IBM portal application.

### Related information:

CFGACCWEB2 CL command

RMVACCWEB2 CL command

## Examples for configuring a new portal environment:

These examples provide step-by-step instructions for setting up a complete portal environment and configuring IBM i Access for Web to that environment.

The instructions walk you through creating an HTTP and Web application server, deploying a portal environment, deploying the IBM i Access for Web portal application, and verifying that the IBM i Access for Web portal application is working.

Before using these examples, ensure you have completed the Planning, installing, and configuring checklist.

| *Configuring IBM WebSphere Portal V6.1:*

| This example is for users that are not familiar with the Web serving environment. It describes all the steps necessary to get IBM i Access for Web running in an IBM WebSphere Portal V6.1.

| This example consists of these steps:

- | • Start the IBM Web Administration for i interface. See step 1.
- | • Create an HTTP Web server, create a WebSphere application server, and deploy IBM WebSphere Portal. See step 2.
- | • Use the IBM i Access for Web portlets. See step 3.

| To configure the IBM WebSphere Portal environment, do the following:

- | 1. To start the IBM Web Administration for IBM i interface, do the following:

- a. Start a 5250 session to the server.
  - b. Sign on with a user profile that has at least these special authorities: \*ALLOBJ, \*IOSYSCFG, \*JOBCTL, and \*SECADM.
  - c. Run the following server command to start the web administration interface job: STRTCPSVR SERVER(\*HTTP) HTTPSVR(\*ADMIN)
  - d. Minimize the 5250 session.
2. To create an HTTP web server, create a WebSphere application server, and deploy IBM WebSphere Portal V6.1, do the following:
    - a. Open a browser to `http://<system_name>:2001/HTTPAdmin`.
    - b. Log in with a user profile that has, at least these special authorities: \*ALLOBJ, \*IOSYSCFG, \*JOBCTL, and \*SECADM.
    - c. Select the **Setup** tabbed page.
    - d. Under Common Tasks and Wizards, select **Create WebSphere Portal**.
    - e. Select **Next**.
    - f. The Select WebSphere Portal Version page opens. Select one of the **V6.1 IBM WebSphere Portal** or **IBM WebSphere Portal Express** versions. Select **Next**.
    - g. The Select an Existing WebSphere Application Server Location page opens. Select your WebSphere Application Server. Select **Next**.
    - h. The Specify name for server page opens. In the Server name field, enter `iwawps61`, then select **Next**.
    - i. The Specify Internal Ports Used by the Application Server page opens. In the First port in range field, enter `30061`, or specify a range of ports available in your environment. Select **Next**.
    - j. The Select HTTP Server Type page opens. Select the **Create a new HTTP server** option. Select **Next**.
    - k. The Create a new HTTP server page opens. In the HTTP server name field, enter `IWAWPS61`. In the Port field, enter `3061`, or specify a port available in your environment. Select **Next**.
    - l. The Create DB2 Database for Portal page opens. Make a selection appropriate for your environment. Select **Next**.
    - m. The Configure Proxy Information for Content Access Service page opens. Select **Do not use proxy** option. Select **Next**.
    - n. The Deploy Default Portlets page opens. Select the **IBM i Access for Web portlets** option. This will automatically deploy the IBM i Access for Web portlets and create portal pages containing the portlets. Select **Next**.
    - o. The Secure Application Server and WebSphere Portal with LDAP page opens. Select the **Configure security using LDAP at a later time** option. Select **Next**.
    - p. The Portal Administrative Group and Administrative User page opens. The Portal administrator name is `wpsadmin`. Enter a password for this user. Select **Next**.
    - q. The Summary page opens. Review the information and select **Finish**.
    - r. The Manage/Application Servers tabbed page is displayed. Under Server, `iwawps61/WebSphere Portal – V6.1 (portal)` is listed with a status of `Creating`. From this Web page, you can manage the IBM WebSphere Portal environment. Use the refresh icon next to the `Creating` status to refresh the page, if the page does not periodically refresh.  
When the process completes, the status is updated to `Running`.
    - s. The page is updated with information about the WebSphere Portal environment that was created and started. A URL will be listed that is similar to `http://(server_name):3061/wps/portal`. Click this link or cut/paste it into a new web browser session.
    - t. Minimize the IBM Web Administration for IBM i browser window.
  3. Use the IBM i Access for Web portlets.

- a. Open a new browser window to the IBM WebSphere Portal log in page. The URL might be similar to `http://<system_name>:3061/wps/portal`.
- b. Select the **Log in** link in the upper right corner of the page to log in to IBM WebSphere Portal.
- c. The Web page prompts for a User ID and Password.
  - In the **User ID** field, enter an IBM WebSphere Portal user ID that has administrative authority.
  - In the **Password** field, enter the password.

Select **Log in**.

- d. The Web page is updated displaying the Welcome page.
- e. Select the new **My IBM i** tabbed page.
- f. Configure the IBM i Access for Web portlets.

Most of the IBM i Access for Web portlets must be configured before they can be used. The remaining steps use the IBM i Printer Output portlet as an example to describe how to configure most IBM i Access for Web portlets.
- g. Select the **Print** link.
- h. In the IBM i Printer Output portlet window, select the down arrow icon in the upper right corner of the portlet window to display the Portlet Menu. Select **Edit Shared Settings** from the Portlet Menu. This selection allows you to edit the configuration settings for the portlet.
  - In the **System** section, leave the default value for **System** or enter the name of your IBM i system.
  - In the **Authentication** section, select **Use credential specific to this portlet window**. Enter IBM i user and password information for the system specified in the **System** field.
  - In the **General** section, select **Show system** and **Show user**.

At the bottom of the Portlet window, select **OK**.

- i. The page is updated. The IBM i Printer Output portlet lists available spooled files. Each spooled file has several action icons available.

Select the **Send printer output name to** icon, then select **Send to IBM i Printer Output - Viewer**.
  - j. The IBM i Printer Output - Viewer portlet is updated with a link to a PDF version of the spooled file selected in the previous step. If you prefer to view the PDF within the portlet, select the down arrow in the upper right corner of the Portlet window to display the Portlet Menu. Select **Edit Shared Settings** on the Portlet Menu.
    - In the Open Printer Output File section, select **View file within portlet**.
- At the bottom of the Portlet window, select **OK**.

- k. Select the **5250** link on the left side of the window.
- l. The IBM i 5250 Session portlet **System** field contains a default value. Enter a different IBM i system name or leave the default setting.

Select **Start Session**. The IBM i 5250 Session portlet is connected to your IBM i.

The steps above are a simple example for setting up and using IBM i Access for Web portlets to access your IBM i system. IBM i Access for Web portlets can be added to other pages and coexist with other portlets.

By following these steps, you completed these tasks:

- Created an IBM WebSphere Portal web serving environment.
- Installed IBM i Access for Web portlets.
- Began using IBM i Access for Web portlets.

If you need to remove the IBM i Access for Web portlets from the WebSphere Portal configuration, use the `RMVACCWEB2/rmvaccweb2` command to remove the portlets and My IBM i Portal pages that were created.

| **Related information:**

| CL command finder

**Examples for configuring an existing portal environment:**

These examples provide instructions for configuring IBM i Access for Web within an existing portal environment. They assume that an HTTP server and Web application server exist and that WebSphere Portal has been deployed. Before using these examples, ensure you have completed the planning, installing, and configuring checklist.

| *Configuring IBM WebSphere Portal V6.1:*

| This example is for users that are familiar with the Web serving environment and have an existing IBM WebSphere Portal V6.1 environment. This example describes all the steps necessary to get IBM i Access for Web running in an existing IBM WebSphere Portal V6.1 environment.

| Configuring your portal environment consists of these steps:

- | • Start the IBM Web Administration for i interface. See step 1.
- | • Start the IBM WebSphere Portal environment. See step 2.
- | • Configure IBM i Access for Web portlets. See step 3.
- | • Use the IBM i Access for Web portlets. See step 4 on page 148.

| **Steps to configure the IBM WebSphere Portal environment:**

- | 1. Start the IBM Web Administration for i interface.
  - | a. Start a 5250 session to the system.
  - | b. Sign on with a user profile that has at least these special authorities: \*ALLOBJ, \*IOSYSCFG, \*JOBCTL, and \*SECADM.
  - | c. Run the following command to start the Web administration interface job: STRTCPSVR  
SERVER(\*HTTP) HTTPSVR(\*ADMIN)
  - | d. Minimize the 5250 session.
- | 2. Start the IBM WebSphere Portal environment.
  - | a. Open a browser to `http://<system_name>:2001/HTTPAdmin`.
  - | b. Log in with a user profile that has, at least, these special authorities: \*ALLOBJ, \*IOSYSCFG, \*JOBCTL, and \*SECADM.
  - | c. Select the **Manage** tabbed page.
  - | d. Start the IBM WebSphere Portal environment where IBM i Access for Web portlets will be configured. Wait for the environment to reach a running status before continuing to the next step.
- | 3. Configure IBM i Access for Web portlets. IBM i Access for Web provides commands to configure the product. Two different commands are provided, a CL command and a QShell script command. Both commands provide and perform the same function. Use the version which works best for your circumstances.
  - | • For a portal environment using a WebSphere Application Server ("Base edition") profile, use these commands:
    - | – To use the CL command:

```
QIWA2/CFGACCWEB2 APPSVRTYPE(*WP61BASE)
WASPRF(was_profile_name)
WASINSDIR('was_install_directory')
WPUSRID(wp_user_ID) WPPWD(wp_password)
WPURL('your_system_name:port/wps/config')
WPDFTPAG(*CREATE)
```
    - | – To use the QShell script command:



```

| QSYS/STRQSH
| cd /QIBM/ProdData/Access/Web2/install
| cfgaccweb2 -appsvrtype *WP61BASE -wasprf was_profile_name
| -wasinsdir was_install_directory
| -wpusrid wp_user_ID -wppwd wp_password
| -wpurl your_system_name:port/wps/config
| -wpdftpag *CREATE

```

- For a portal environment using a WebSphere Application Server Network Deployment profile, use these commands:

- To use the CL command:

```

| QIWA2/CFGACCWEB2 APPSVRTYPE(*WP61ND)
| WASPRF(was_profile_name)
| WASINSDIR('was_install_directory')
| WPUSRID(wp_user_ID) WPPWD(wp_password)
| WPURL('your_system_name:port/wps/config')
| WPDFTPAG(*CREATE)

```

- To use the QShell script command:

```

| QSYS/STRQSH
| cd /QIBM/ProdData/Access/Web2/install
| cfgaccweb2 -appsvrtype *WP61ND -wasprf was_profile_name
| -wasinsdir was_install_directory
| -wpusrid wp_user_ID -wppwd wp_password
| -wpurl your_system_name:port/wps/config
| -wpdftpag *CREATE

```

The configuration command uses these variables:

***was\_profile\_name***

The name of the WebSphere Application Server profile where WebSphere Portal has been deployed and is currently running.

***was\_install\_directory***

The location in the IBM i integrated file system where the WebSphere Application Server edition being used to run WebSphere Portal is installed.

The default location for the WebSphere Application Server V6.1 ("Base edition") install directory is /QIBM/ProdData/WebSphere/AppServer/V61/Base. This default location is used when the WASINSDIR/wasinsdir parameter is not specified and the APPSRVTYPE/appsvrtype parameter is set to \*WP61BASE.

The default location for WebSphere Application Server Network Deployment V6.1 install directory is /QIBM/ProdData/WebSphere/AppServer/V61/ND. This default location is used when the WASINSDIR/wasinsdir parameter is not specified and the APPSRVTYPE/appsvrtype parameter is set to \*WP61ND.

If your install directory is not in a default location or you are using WebSphere Application Server V7.0, you must specify the WASINSDIR/wasinsdir parameter.

***wp\_user\_ID***

The WebSphere Portal user ID that has administrator-level authority to perform configuration changes to WebSphere Portal.

***wp\_password***

The password for the user ID specified in the WPUSRID/wpusrid parameter.

***your\_system\_name:port/wps/config***

The Uniform Resource Locator (URL) to access the WebSphere Portal configuration servlet. Replace *your\_system\_name:port* with the name of your IBM i system and the port the environment is using.

| **\*CREATE**

| Tells the command to create the default IBM i Access for Web portal pages and add IBM i Access  
| for Web portlets to those pages. Specify \*NOCREATE if you do not want these portal pages to be  
| created.

| 4. Use the IBM i Access for Web portlets.

- | a. Open a new browser window to the IBM WebSphere Portal log in page. The URL might be similar  
| to `http://<system_name>:<port>/wps/portal`.
- | b. Select the **Log in** link in the upper right corner of the page to log in to IBM WebSphere Portal.
- | c. The Web page prompts for a User ID and Password.
- | • In the **User ID** field, enter an IBM WebSphere Portal user ID that has administrative authority.
  - | • In the **Password** field, enter the password.

| Select **Log in**.

- | d. The Web page is updated displaying the Welcome page.
- | e. Select the new **My IBM i** tabbed page.
- | f. Configure the IBM i Access for Web portlets.

| Most of the IBM i Access for Web portlets must be configured before they can be used. The  
| remaining steps use the IBM i Printer Output portlet as an example to describe how to configure  
| most IBM i Access for Web portlets.

- | g. Select the **Print** link.
- | h. In the IBM i Printer Output portlet window, select the down arrow icon in the upper right corner  
| of the portlet window to display the Portlet Menu. Select **Edit Shared Settings** from the Portlet  
| Menu. This selection allows you to edit the configuration settings for the portlet.
- | • In the **System** section, leave the default value for **System** or enter the name of your IBM i  
| system.
  - | • In the **Authentication** section, select **Use credential specific to this portlet window**. Enter IBM i  
| user and password information for the system specified in the **System** field.
  - | • In the **General** section, select **Show system** and **Show user**.

| At the bottom of the Portlet window, select **OK**.

- | i. The page is updated. The IBM i Printer Output portlet lists available spooled files. Each spooled  
| file has several action icons available.

| Select the **Send printer output name to** icon, then select **Send to IBM i Printer Output - Viewer**.

- | j. The IBM i Printer Output - Viewer portlet is updated with a link to a PDF version of the spooled  
| file selected in the previous step. If you prefer to view the PDF within the portlet, select the down  
| arrow in the upper right corner of the Portlet window to display the Portlet Menu. Select **Edit  
| Shared Settings** on the Portlet Menu.
- | • In the Open Printer Output File section, select **View file within portlet**.

| At the bottom of the Portlet window, select **OK**.

- | k. Select the **5250** link on the left side of the window.

- | l. The IBM i 5250 Session portlet **System** field contains a default value. Enter a different IBM i system  
| name or leave the default setting.

| Select **Start Session**. The IBM i 5250 Session portlet is connected to your IBM i.

| The steps above are a simple example for configuring and using IBM i Access for Web portlets to access  
| your IBM i system. IBM i Access for Web portlets can be added to other pages and coexist with other  
| portlets.

| By following these steps, you completed these tasks:

- | • Configured IBM i Access for Web portlets.
- | • Began using IBM i Access for Web portlets.

| If you need to remove the IBM i Access for Web portlets from the WebSphere Portal configuration, use the RMVACCWEB2/rmvaccweb2 command to remove the portlets and My IBM i Portal pages that were created.

| **Related information:**


| CL command finder

## Customizing IBM i Access for Web in a portal environment

You can customize IBM i Access for Web in a portal environment by creating pages, customizing portlets, and assigning portal roles.

### Creating pages:

When configuring IBM i Access portlets for WebSphere Portal, you can create default WebSphere Portal pages populated with the IBM i Access portlets.

For information on creating and managing pages in WebSphere Portal, see the WebSphere Portal information center .

### Related reference:

“Configuring IBM i Access for Web in a portal environment (IBM)” on page 142

Installing IBM i Access for Web on the system running IBM i does not make it available for use. To use IBM i Access for Web, it must be deployed to the portal environment.

### Customizing portlets:

IBM i Access portlets are customized using edit mode settings. Most of the IBM i Access portlets require edit mode settings to be configured before they can be used.

To access the edit mode settings, use the Personalize (or Edit) option from the portlet menu at the top of the portlet window. If this option is not available, edit mode might not be available for the portlet or an administrator might have disabled edit mode for the portlet.

There are common configuration options available with most of the IBM i Access for Web portlets. Many portlets also have portlet unique settings. For IBM i Access portlets that access secured IBM i resources, the system and authentication edit mode settings must be configured.

Online help for each of the edit mode settings for a portlet is available while in edit mode.

### Related concepts:


“Database” on page 151

### Portal roles:

In WebSphere Portal, access to portlets is controlled by roles. A role defines a set of permissions to a resource, such as a portlet, for a specific user or group. By default, the *Privileged user* role is assigned to the IBM i Access portlets, for the *All Authenticated Users* group, when these portlets are deployed.

This role and group assignment allows IBM i Access portlets to be accessible by any authenticated (logged in) WebSphere Portal users. In addition, edit mode capability is also permitted. To change the default role assignment provided by IBM i Access portlets, use the **Access > User and Group Permissions** administration interface.

| For information on controlling access to portal applications and portlets in WebSphere Portal, see the

| WebSphere Portal information center .

### Related concepts:

“Security considerations” on page 6

Security considerations for IBM i Access for Web include user authentication, specifying user access, object-level security, using a security protocol, the use of exit programs, and Single sign-on considerations.

## **IBM i Access for Web functions**

A list of functions that can be performed in a portal environment follows. Select a function from the list to see the supported tasks, usage considerations, and restrictions.

### **5250:**

The IBM i Access portlets provide support for starting and using 5250 sessions.

The available portlet follows:

#### **IBM i 5250 Session**

A 5250 session can be started to any system running IBM i. The system to access is not required to have IBM i Access for Web installed. Options are provided to customize the appearance and behavior of the session. Keyboard support is available for some JavaScript enabled browsers.

#### **Considerations**

The keyboard enter key is supported with most browsers that have JavaScript enabled. See Restrictions for information about browsers that are not supported.

The keyboard page up, page down and function keys are supported with the following browsers when JavaScript is enabled.

- Microsoft Internet Explorer (version 5.0 and later)
- Netscape (version 6.0 and later)
- Mozilla
- Firefox

There is no support for macros.

All 5250 sessions for a user are stopped when the user logs out or is automatically logged out of WebSphere Portal.

#### **Restrictions**

Keyboard support is not available for the following browsers:

- Opera version 6.x or earlier (version 7.0 and later are supported)
- Konqueror

#### **Command:**

The Command portlet provides support for running CL commands on your system.

#### **IBM i Command:**

The IBM i Command portlet provides support for running batch type CL commands on a system running IBM i.

## Considerations

Interactive CL commands may be run, but the output will not be displayed.

## Restrictions

None.

**Database:** IBM i Access for Web provides support for accessing database tables on a system running IBM i.

The list of available portlets follows:

- **IBM i Database Table**

IBM i Database Table displays a list of database table records. An SQL wizard is provided to help filter the list of records displayed. From the list, table records can be inserted, updated, or deleted. Options are provided to customize how the insert and update forms are displayed.

- **IBM i Dynamic SQL**

IBM i Dynamic SQL runs SQL statements and displays the results in a paged table or in a supported client file format. This portlet is not restricted to query statements. Any SQL statement supported by the JDBC driver can be run.

- **IBM i SQL Query**

IBM i SQL Query displays the results of an SQL query in a paged table or in a supported client file format. An SQL wizard is provided to help build the query statement for a single or joined table. The wizard can also build prompted queries using parameter markers.

- **IBM i SQL Requests**

IBM i SQL Requests is used to display and manage a list of saved SQL requests. The list can contain requests for the current WebSphere Portal user or requests with a specified share name. From the list, requests can be created, updated, deleted, exported, and imported. Requests can also be sent to the IBM i SQL Results - Viewer portlet where the statement is run and the SQL results are displayed. See Database considerations for required configuration information.

- **IBM i SQL Results - Viewer**

IBM i SQL Results - Viewer can receive a request from user interaction with the IBM i SQL Requests portlet, run the statement specified in the request, and display the SQL results using the request output settings.

### Related concepts:

“Cooperative portlets” on page 141

The term cooperative portlets refers to the capability of portlets on a page to interact with each other by sharing information. IBM i Access for Web provides some cooperative portlets for working with IBM i resources.

### Related reference:

“Customizing portlets” on page 149

IBM i Access portlets are customized using edit mode settings. Most of the IBM i Access portlets require edit mode settings to be configured before they can be used.

### *Database considerations:*

The following considerations apply to using the IBM i Access for Web database functions in a portal environment.

## Cross-site scripting

Statements containing greater than (>) or less than (<) characters fail with the default configuration of WebSphere Portal. See Cross-site scripting for information about how to handle this.

## IBM i SQL requests

The SQL requests created and managed by the IBM i SQL Requests portlet are stored in a back-end database table. A WebSphere data source must be configured to provide access to a database server for storing this information. This data source must meet these requirements:

- The data source cannot be version 4.
- The data source JNDI name must be set to `jdbc/iwads`.
- The data source must have a container-managed alias set.

If any of these requirements are not met, the portlet displays a message stating the required configuration has not been performed.

**Note:** IBM i Access for Web is tested using the IBM Toolbox for Java JDBC driver. Using a different driver will likely work, but this is an untested and unsupported environment.

The database table is created in a schema named QUSRIWA2. If this schema does not exist, it is created. If this schema exists, the user identified by the data source authentication alias must have read and write access to the schema.

The default table name is QIWADTA. It might be necessary to override this value if, for example, multiple WebSphere Portal instances target the same back-end database server. The IBM i Access for Web web Module (`iwawps.war`) defines the **dataTable** parameter to configure the table name. The WebSphere Portal administration interface provides a way to modify this parameter value. See the WebSphere Portal documentation for more information.

**Important:** Ensure there are no active users of the IBM i Access for Web Data Store or the IBM i SQL Requests portlets while the **dataTable** parameter is being modified.

If the configured table does not exist, it is created. If it does exist, the user identified by the data source authentication alias must have read and write access to the table.

It is possible to share database requests among multiple WebSphere Portal instances. This is done by configuring the `jdbc/iwads` data source for each instance to the same back-end database server and by using the same database table name for each instance. The authentication settings for the database requests must also be configured to facilitate sharing among multiple WebSphere portal instances as follows:

- Use credential specific to this request: A request configured with this authentication option can only be used from the instance where it was created.
- Use credential set with IBM i Credentials portlet and Use system shared credential set by administrator: Requests created with either of these authentication options can be used from multiple instances, provided a credential with the selected name exists for each instance.
- Use authenticated WebSphere credential and Use WebSphere Portal identity: Requests created with either of these authentication options can be used from multiple instances, provided each instance is correctly configured for the selected environment.

### Related concepts:

“Cross-site scripting” on page 141

WebSphere Portal enables Cross-site scripting (CSS) security protection by default. With CSS security protection enabled, the characters ">" (greater than) and "<" (less than) in form input are changed to the character entities "&gt;" and "&lt;". This is done to minimize the security risk of malicious input which can disrupt portal content.

### *Database restrictions:*

This topic describes restrictions involved in using the database function in a portal environment.

If you use Microsoft Internet Explorer and OpenOffice.org and you get an error when displaying SQL output in OpenDocument spreadsheet format, try one of the following:

- Ensure you have the latest version of OpenOffice.org.
- Uninstall the OpenOffice.org ActiveX option.
- Use a different browser.

## Files:

The IBM i Access portlets provide support for accessing files on an IBM i.

The list of available portlets follows:

- **IBM i File List**

IBM i File List displays a list of files and directories for navigating the integrated file system. From the list, files can be viewed, downloaded and deleted. Files can be sent to the IBM i File List - Editor and IBM i File List - Viewer portlets for editing and viewing. New directories can be created. Files can be uploaded from the local workstation file system to the integrated file system. Options are provided to control how the list is displayed and which actions are available.

- **IBM i File List - Editor**

IBM i File List - Editor can receive a file from user interaction with the IBM i File List portlet and edit the file. Changes can be saved or discarded.

- **IBM i File List - Viewer**

IBM i File List - Viewer can receive a file from user interaction with the IBM i File List or IBM i Zip File portlets and view the file. An option is provided to allow binary files to be viewed in a separate browser window. A list of recently viewed files can also be displayed.

- **IBM i File Viewer**

IBM i File Viewer displays the content of a file in the IBM i integrated file system. An option is provided to allow binary files to be viewed in a separate browser window.

- **IBM i Zip File**

IBM i Zip File can receive a zip file from user interaction with the IBM i File List portlet and view the contents. A new zip file can also be created. Files within the zip file can be viewed or deleted. Files can also be added. The zip file can be extracted to the integrated file system. A list of recently viewed zip files can also be displayed.

## Related concepts:

“Cooperative portlets” on page 141

The term cooperative portlets refers to the capability of portlets on a page to interact with each other by sharing information. IBM i Access for Web provides some cooperative portlets for working with IBM i resources.

## File considerations:

The following are considerations for files.

- **Editing files containing > and < characters**

Files edited with IBM i File List - Editor will have greater than (>) and less than (<) characters changed to '&gt;' and '&lt;,' with the default configuration of WebSphere Portal. See the Cross-site scripting topic for information on how to handle this.

- **Files not locked while editing**

IBM i File List - Editor does not lock files while editing. Other users can edit a file while it is being edited in IBM i File List - Editor.

- **Document Library Services (QDLS) file system enrollment**

A user must be enrolled in the system directory in order to access the Document Library Services (QDLS) file system with IBM i Access for Web. The steps needed to enroll a user follow. If the user has

previously been enrolled or does not need access to the QDLS file system, these steps are not necessary. A user can still use the File function of IBM i Access for Web without having access to the QDLS file system.

1. Enter GO PCSTSK at the IBM i command prompt. This display screen is shown:

```

PCSTSK IBM i Access Tasks System: SYSTEM1
Select one of the following:

User Tasks
 1. Copy PC document to database
 2. Copy database to PC document
 3. Work with documents in folders
 4. Work with folders
 5. PC Organizer

Administrator Tasks
 20. Work with IBM i Access Administrators
 21. Enroll IBM i Access users
 22. Configure PC connections
 23. Work with line description query status
 24. Start servers for IBM i Access Clients

```

Figure 5. Client Access Tasks (GO PCSTSK)

2. Select the Enroll Client Access Users option. This display screen is shown:

```

 Enroll IBM i Access Users
Type choices, press Enter.

User profile AARON Name
User identifier:
 User ID AARON Character value
 Address SYSTEM1 Character value
 User description AARON B.
 Add to system directory . . *YES *NO, *YES

```

Figure 6. Enroll Client Access Users display

3. Enter the appropriate information for these values:

**User profile**

Name of user

**User ID**

Usually the same as the User profile name

**User address**

Usually the same as the system name

**User description**

A description of the user

**Add to system directory**

Use \*YES if you want to use the QDLS file system

See the online help for a complete description of the entry fields.

4. Repeat the preceding steps to enroll other users in the Directory Entry Database.

**Related concepts:**



“Cross-site scripting” on page 141

WebSphere Portal enables Cross-site scripting (CSS) security protection by default. With CSS security protection enabled, the characters ">" (greater than) and "<" (less than) in form input are changed to the character entities "&gt;" and "&lt;". This is done to minimize the security risk of malicious input which can disrupt portal content.

*File restrictions:*

The following restrictions apply to using the IBM i Access for Web functions in a portal environment.

### **Restrictions**

**File size:** There is currently a 2 147 483 647 byte (approximately 2 GB) size limit for files created on the system.

### **IFrame:**

The IBM i Access for Web IFrame portlet lets you access IBM i Access for Web servlet functions from a portal environment.

### **IBM i Access for Web IFrame:**

The IFrame portlet provides the ability to access IBM i Access for Web servlet functions from a portal environment. The IBM i Access for Web application must be installed and configured, on the IBM i system, before accessing functions with the IFrame portlet. The first time the IFrame portlet accesses a servlet, the browser prompts for the IBM i user and password.

**Note:** If the IBM i Access for Web application has been configured to participate in a WebSphere Single sign-on (SSO) environment, the browser may not need to prompt for an IBM i user and password. See "Single sign-on considerations" for more information.

### **Considerations**

None.

### **Restrictions**

Tasks restricted in the Web application server environment, through Customize policies, are also restricted in the portal environment.

### **Related concepts:**

“Single sign-on considerations” on page 8

IBM i Access for Web can be used in single sign-on environments. This topic will discuss the single sign-on environment options available to IBM i Access for Web.

### **Other:**

IBM i Access for Web provides a set of utility portlets that can be useful when working with the other functions of IBM i Access for Web

The list of available portlets follows:

- **IBM i Credentials**

IBM i Credentials is used to display and manage a list of saved credentials. Credentials define a specific user name and password combination. From the list, credentials can be created, updated and deleted. Credentials created with this portlet are available as a selection when configuring the

authentication option for IBM i Access portlets. In addition, an option is available to change IBM i user profile passwords and automatically update currently defined credentials with the new password value.

- **IBM i Related Links**

IBM i Related Links displays links to information relating to the IBM i Access portlets.

- **IBM i Welcome**

IBM i Welcome displays a summary of available IBM i Access portlets. Additional product information links are also provided.

- **IBM i Access for Web Data Store**

IBM i Access for Web Data Store displays a list of data stored by IBM i Access portlets. From the list, items can be renamed and deleted. The access to stored data items can also be changed. The data items are stored in a back-end database. See Database considerations for required configuration information.

## Considerations

None.

## Restrictions

None.

## Related concepts:

“Database considerations” on page 151

The following considerations apply to using the IBM i Access for Web database functions in a portal environment.

## Print:

IBM i Access for Web provides support for accessing print related resources on an system running IBM i.

The list of available portlets follows:

- **IBM i Printer Output**

IBM i Printer Output displays a list of printer output files. Individual files can be modified, moved to a different printer or output queue, deleted, viewed, or printed. To view a printer output file, the IBM i Printer Output - Viewer portlet needs to be on the same portal page as the IBM i Printer Output portlet.

- **IBM i Printer Output - Viewer**

IBM i Printer Output Viewer displays an SCS, AFPDS, or ASCII printer output file. Options exist to display the file in the current window, or to provide a link to view the file in a new window. The IBM i Printer Output - Viewer portlet will display a printer output file when requested to do so by user interaction with the IBM i Printer Output portlet.

- **IBM i Printers**

IBM i Printers lists the printers on your system. Individual printers can be started or stopped.

- **IBM i Printer Output Queues**

IBM i Printer Output Queues displays the list of output queues on your system. Individual output queues may be held or released.

## Considerations

### PDF Transformations of Printer Output

- | When viewing SCS or AFPDS printer output files with IBM i Access for Web, there are two PDF transformation possibilities: IBM Infoprint Server for iSeries (5722-IP1) or a TIFF transformation. Infoprint

Server is a separately purchasable product that gives IBM i Access for Web users the ability to create full text PDF files that deliver document fidelity, while preserving the ability to navigate through the document. If you have Infoprint Server installed, IBM i Access for Web automatically detects and uses it. If you do not have Infoprint Server installed, the individual pages of the printer output file will be converted into images. These images become the pages of the PDF document. You cannot edit content in any of these pages.

**Notes:**

1. Infoprint Server might make changes to the order of the printer output files in the current user's printer output list. It might also make changes to the creation date and time and the start and complete date and time of a printer output file.
2. The printer output file must be in either the HELD, READY, or SAVED state to be printed by Infoprint Server.

**Restrictions**

None.

**Related concepts:**

“Cooperative portlets” on page 141

The term cooperative portlets refers to the capability of portlets on a page to interact with each other by sharing information. IBM i Access for Web provides some cooperative portlets for working with IBM i resources.

**NLS considerations**

The IBM i Access for Web portlets display information from a variety of sources. Some of these sources are able to provide information in more than one language, or format information in a language-specific manner. Such language-specific information includes forms, error messages, help, formatted dates and times, and sorted lists.

The sources of information displayed by portlets include:

- IBM i
- JDBC driver
- portal server
- IBM i Access for Web portlets

The IBM i Access for Web portlets use the language selected for the user by the portal server to influence the language and format of information from the other sources. However, there is no guarantee that the information from a specific source will be in the selected language, or that all the information will be in the same language.

Messages and help which originate from IBM i might not be in the selected language, depending on which language versions are installed for IBM i. If the selected language is not installed, then IBM i messages displayed by the IBM i Access for Web portlets will be in the primary language of IBM i.

For information on the language support in WebSphere Portal, refer to **Administering WebSphere Portal > Language support** in the WebSphere Portal Information Center.

The IBM i Access for Web portlets support languages that WebSphere Portal does not support by default. For information about configuring WebSphere Portal to support additional languages, see **Administering WebSphere Portal > Language support > Supporting a new language** in the WebSphere Portal Information Center.

## WebSphere Portal language selection

For information on how WebSphere Portal selects the language for displaying portal content and instructions for affecting the language selection process for a user, see **Administering WebSphere Portal > Language support > Selecting and changing the language** in the WebSphere Portal Information Center.

## Information in multiple languages (multilingual)

Because the information displayed by the IBM i Access for Web portlets comes from a variety of sources, there is the possibility that the information is in more than one language. When multiple languages are displayed in a browser simultaneously, a multilingual character set, such as UTF-8, may be required to display all the characters correctly. For information on the character set used by WebSphere Portal to display portal content and for instructions on changing the character set, see **Administering WebSphere Portal > Language support > Changing the character set for a language** in the WebSphere Portal Information Center.

## CCSIDs and IBM i messages

To ensure that information is displayed properly, make certain that the Coded Character Set ID (CCSID) setting for the user profile is appropriate for messages originating from IBM i.

### Related information:

 [WebSphere Portal Information Center](#)

## Saving and restoring IBM i Access for Web in a portal environment

IBM i Access for Web can be propagated to other IBM i systems but there are considerations that need to be reviewed before saving and restoring it.

You can save IBM i Access for Web and restore it to other IBM i systems using the **SAVLICPGM** and **RSTLICPGM** commands. Using these commands has the same effect as installing IBM i Access for Web using the install media (CD) but the advantage of using the commands is that any PTFs that have been applied are saved from the source system and restored to the target system.

To configure IBM i Access for Web, refer to the Planning, installing, and configuring checklist. The checklist contains steps to install IBM i Access for Web on the system using the install media (CD-ROM). At the point in the checklist that installation is addressed, run the SAVLICPGM/RSTLICPGM commands to save from the source system and restore to the target system. After completing the SAVLICPGM/RSTLICPGM process, continue with steps in the checklist to complete the required configuration steps.

**SAVLICPGM** and **RSTLICPGM** will not save any user-generated data. In the WebSphere Portal environment, all user configuration settings and user generated data are stored within the WebSphere Portal environment. Refer to WebSphere Portal documentation for saving and restoring user configuration settings and data. WebSphere Portal documentation can be found at the WebSphere portal for multiplatforms library page



### Related concepts:

“Checklist: Planning, installing, and configuring” on page 10

This checklist guides you through the steps necessary to plan, install, verify, and configure a simple IBM i Access for Web environment. These steps do not take into account other Web applications or more complex Web environments.

---

## Deleting IBM i Access for Web

You can delete IBM i Access for Web configurations or you can delete the entire product from your server.

To remove an IBM i Access for Web configuration, follow step 1. To delete the product from the system, follow step 1 for each IBM i Access for Web configuration and then complete step 2.

1. Remove an IBM i Access for Web configuration.
  - a. Sign on to the system.
  - b. Enter QIWA2/RMVACCWEB2 for the configured Web application or portal server instance to delete.  
If you do not know what configuration has been performed, see /QIBM/ProdData/Access/Web2/config/instances.properties for a list of Web application server instances and portal configurations in which IBM i Access for Web has been configured to run.

**Note:** If you are removing IBM i Access for Web from a WebSphere Web application server configuration, the Web application server must be running and in a ready status before running the RMVACCWEB2 command.

- c. Follow any instructions displayed by the **RMVACCWEB2** command.
2. Delete the IBM i Access for Web licensed program.
  - a. Enter GO LICPGM, option 12.
  - b. Page down through the list of installed licensed programs and locate 5770-XH2. Enter 4 to delete 5770-XH2.
  - c. Press **Enter** to delete the licensed program.

**Note:** The directory and library where user-generated data was stored while using IBM i Access for Web will not be deleted from the system. The directory for the user-generated data is /QIBM/UserData/Access/Web2. The library for the user-generated data is QUSRIWA2.

#### **Related tasks:**

“Removing IBM i Access for Web from an unsupported environment”

Removal of previous releases of IBM i Access for Web supported Web application serving environments that are not supported in the current release.

#### **Related information:**

RMVACCWEB2 CL command

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## **Removing IBM i Access for Web from an unsupported environment**

Removal of previous releases of IBM i Access for Web supported Web application serving environments that are not supported in the current release.

The IBM i software requirements for the current release lists the supported Web application serving environments. If you have IBM i Access for Web configured to a Web application serving environment that is no longer supported, you should do the following:

1. Install or upgrade to the current release of IBM i Access for Web.
2. Create a new or identify an existing Web application serving environment that is supported by the current release of IBM i Access for Web.
3. Configure IBM i Access for Web basing the new configuration on the existing unsupported configuration. User generated data and configuration settings from the existing configuration will be migrated to the new configuration. Refer to the Configuring IBM i Access for Web in a Web application server environment and New Web application server considerations topics for additional information.
4. Remove IBM i Access for Web from the unsupported Web application serving environment using the RMVACCWEB2 command. The RMVACCWEB2 command will allow you to remove IBM i Access for Web from unsupported Web application serving configurations.

Refer to the Deleting IBM i Access for Web topic for more information. Do not just delete the Web application serving environment. The IBM i Access for Web configuration should be removed using the RMVACCWEB2 command.

**Related tasks:**

“Deleting IBM i Access for Web” on page 158

You can delete IBM i Access for Web configurations or you can delete the entire product from your system. Deleting a configuration deletes all configuration information for a specific Web application server or portal instance. If the Web application server or portal instance is being deleted, the IBM i Access for Web configuration must be deleted first.

**Related reference:**

“New Web application server considerations” on page 84

Use this information when IBM i Access for Web is already configured for a Web application server and a new Web application server is added to the environment. In this situation, IBM i Access for Web can be configured for the new Web application server based on the existing configuration. All user-generated data and configuration settings can be copied from the existing environment to the new environment.

“IBM i software requirements” on page 12

Before installing and using IBM i Access for Web, ensure that you have the appropriate software installed.

“Configuring IBM i Access for Web in a Web application server environment” on page 20




Installing IBM i Access for Web on the system running IBM i does not make it available for use. To use IBM i Access for Web, it must be configured in the Web application server environment.

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## Related information

These Web sites contain information related to IBM i Access for Web.



### IBM i Access information

- IBM i Access for Web home page  (<http://www.ibm.com/systems/i/software/access/web/>) Visit this site to learn more about IBM i Access for Web.
- IBM i Access for Web Service Packs (PTFs) Available. <http://www.ibm.com/systems/i/software/access/web/servicepacks.html> ). This Web page contains links to the service packs available for IBM i Access for Web.
- IBM i Access for Web Documentation  (<http://www.ibm.com/systems/i/software/access/web/doc.html> ) Refer to this site for important information or technical changes to the product.
- IBM i Access home page  (<http://www.ibm.com/systems/i/software/access/> ) This Web site includes online product information about IBM i Access.



### HTTP Server information

- HTTP Server for i documentation  (<http://www.ibm.com/systems/i/software/http/>). This Web page has links to documentation for the HTTP Server.



### WebSphere information

- WebSphere Application Server for IBM i documentation (<http://www.ibm.com/systems/i/software/websphere/>) This Web page has links to information about all versions of WebSphere Application Server.
- WebSphere Portal Enable  (<http://www.ibm.com/software/genservers/portal/enable/>) Get an overview of WebSphere Portal Enable.
- WebSphere Portal Information Center
  - WebSphere Portal V6.1  (<http://publib.boulder.ibm.com/infocenter/wpdoc/v6r1/index.jsp>)

## IBM i information

- Support for IBM System i  (<http://www.ibm.com/systems/support/supportsite.wss/brandmain?brandind=5000027>) Change text to Technical support and resources for IBM i.
- IBM i home page  (<http://www.ibm.com/systems/i/>) Learn about IBM i systems.

## Manuals and publications

- IBM Publications Center  (<http://www.elink.ibm.link.ibm.com/public/applications/publications/cgibin/pbi.cgi>) Search this site for manuals published by IBM.
- IBM Redbooks® home page  (<http://www.redbooks.ibm.com>) See this site for documents that explore integration, implementation, and operation of realistic customer scenarios.





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## Appendix. Notices

This information was developed for products and services offered in the U.S.A.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

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