

IBM Software Group

# Plug-in Configuration Tool (PCT) v8.0

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WebSphere<sup>®</sup> Support Technical Exchange





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### Agenda

- Part 1 Web server Plug-in v8.0 configuration scenarios
  - Supported web servers
  - Standalone nodes
  - *Distributed* unmanaged and managed nodes (cells)
- Part 2 Using the Plug-in Configuration Tool (PCT)
  - What is PCT
  - Why do we need PCT
  - How to install PCT
  - How to use PCT gui
  - How to use PCT command line



### Agenda (cont'd)

#### Part 3 - Web server Plug-in script overview & execution

- Ant scripts
- Input parameters
- ConfigureWebserverX.bat(.sh)

#### Part 4 - PCT Troubleshooting

- Mustgather/logs
- Known Problems and Issues



# Part 1 - Web server Plug-in v8.0 configuration scenarios





WebSphere Application Server v8.0 supports these web servers:

IBM® HTTP Server v8

Apache Web Server V2.2

Lotus® Domino Web Server V8

Sun Java System Web Server V6.1, V7.0

Microsoft<sup>™</sup> Internet Information Services V6, V7



Three web server configuration scenarios

Local Standalone (unmanaged)

- Local Distributed (managed)
- Remote (unmanaged)

### Local Standalone (unmanaged)

- Web server is installed on the same system as a standalone WebSphere Application Server (ie. Base or Express).
- There is no WebSphere Node Agent, so IHS Admin Server is needed for administering IHS from the WAS Admin Console.
- Plug-in propagation is done by simple file copy to Plugins directory.







### Local Distributed (managed)

- Web server is installed on the same system as a federated WebSphere Application Server Node.
- The WebSphere Node Agent will manage IHS, so the IHS Admin Server is not needed.
- Plug-in configuration is propagated from DMGR to Node Agent, then copied to Plug-in directory on the node.



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### Remote (unmanaged)

- The web server is installed on a remote system that does NOT have WebSphere Application Server installed.
- IHS Admin Server is required for remote administration of IHS from the WAS Admin Console.
- For IHS, Plug-in propagation is from WAS to IHS Admin Server.
- For non-IHS web servers, Plug-in config must be copied manually.





# Part 2 – Using the Plug-in Configuration Tool (PCT)





# What is PCT?

- Plug-in Configuration Tool (PCT) is part of the new WebSphere Customization Toolbox (WCT) in WAS v8.0.
- PCT is used for the following purposes:
  - Accept user input about web server and Plugin.
  - Run various ANT scripts to:
    - Add Plug-in entries to web server configuration files.
    - Create configurewebserver1 script for adding web server definition in WebSphere Application Server.
    - Optionally, configure IHS Administration Server.



## Why do we need PCT?

- In version 7.0 and prior the IHS / Plug-in installation process would automatically do the following:
  - Add entries into the web server configuration file.
  - Create the configurewebserver1 script.
  - Configure the IHS Administration Server.
- In version 8.0 the IHS / Plug-in install does NOT automatically perform the steps shown above.
- In version 8.0 (and later) the Plug-in Configuration Tool (PCT) is used to perform those tasks.



# How to install Plug-in Config Tool (PCT)

- Download installation images from Passport Advantage Site
  - See instructions and part numbers here: http://www-01.ibm.com/support/docview.wss?uid=swg27021166
  - WCT is in the WAS 8.0 **Supplements** images
- Use Installation Manager to install WCT 8.0 with PCT feature
  - Set the repository location
  - Select WebSphere Customization Toolbox package
  - Select Web Server Plug-ins Configuration Tool feature

#### Start Installation Manager. Go to File $\rightarrow$ Preferences



#### Add repository locations pointing to the downloaded images.

Preferences		
type filter text	Repositories	$\phi \bullet \phi \bullet \bullet$
Repositories Appearance	Repositories:	
Files for Rollback Help	Location	Add <u>R</u> epository
Internet	C:\INSTALL\WASv8.0\WAS8.0-BASE-Supp-1of3-CZM91ML\repository.config C:\INSTALL\WASv8.0\WAS8.0-BASE-INSTALL\repository.config	Edit Repository
Passport Advantage Updates		Remo <u>v</u> e Repository
		Move <u>U</u> p
		<u>M</u> ove Down
		Clear Credentials
		<u>I</u> est Connections
	Service repositories are remote locations where updates or extensions to packages (including the itself) are stored.           Image: Search service repositories during installation and updates.	e Installation Manager efaults <u>A</u> pply
3	ОК	Cancel

Go back to Installation Manager start screen and choose INSTALL.



#### Select the WebSphere Customization Toolbox package, click Next.

Select packages to install:		
		3/-
Installation Packages	Status	Vendor License Key Typ
Image: Application Client for IBM WebSphere Application Server		
🔲 🕼 Version 8.0.0.0		IBM
IBM HTTP Server for WebSphere Application Server		2222
🛄 🖓 Version 8.0.0.0		IBM
IBM WebSphere Application Server	Installed	IDA 4
Uto Version 6.0.0.0 Image: A provide Application Client for IBM WebSphere Application Server	Installed	IPIM
Proggable Application client for Ibin websphere Application server     Proggable Application client for Ibin websphere Application server		IBM
Web Server Plug-ins for IBM WebSphere Application Server	Installed	
🕅 🕼 Version 8.0.0.0	Installed	IBM
WebSphere Customization Toolbox		
📝 🕼 Version 8.0.0.0	Will be installed	IBM
Show all versions		Other Versions, Fixes, and Extension
Jetails		
VebSphere Customization Toolbox 8.0.0.0		
WebSphere Customization Toolbox provides tools to simply and rapidly custom	ize a WebSphere Application Ser	ver environment More info
Repository: C:\INSTALL\WASv8.0\WAS8.0-BASE-Supp-1of3-CZM91ML		
	a Deale Martin	Tastall Course

#### Read and Accept the license agreement. Click Next.

nstall Packages				
Read the following license	agreements carefully.			2
Install Licen	es Location Features Summary	$\geq 0$		
International Program Lice	nse Agreement			_
Part 1 - General Terms				
BY DOWNLOADING, INST. LICENSEE AGREES TO THE WARRANT THAT YOU HA - DO NOT DOWNLOAD, IN	LLING, COPYING, ACCESSING, CLICKING ON AN "ACCEP TERMS OF THIS AGREEMENT. IF YOU ARE ACCEPTING TH /E FULL AUTHORITY TO BIND LICENSEE TO THESE TERM ISTALL, COPY, ACCESS, CLICK ON AN "ACCEPT" BUTTOI	PT" BUTTON, OR OTHEI HESE TERMS ON BEHAL S. IF YOU DO NOT AGRE N, OR USE THE PROGRA	RWISE USING THE PROG F OF LICENSEE, YOU REP E TO THESE TERMS, M; AND	RAM, PRESENT AND
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"Authorized Use" - the spe users, millions of service u	cified level at which Licensee is authorized to execute or m nits ("MSUs"), Processor Value Units ("PVUs"), or other lev	un the Program. That le el of use specified by IB	vel may be measured by VI.	number of
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I accept the terms in the	license agreement			Print All
I do not accept the term	s in the license agreement			Enne All
	-	c Pack	Toortall	Canad
			install	Cancel

#### Specify the installation directory. Click Next.

A package group is a location that contains one or more	packages. Some compatible packages can be installed into a common package
group and will share a common user interface. Select an e	existing package group, or create a new one.
<u>Use the existing package group</u> <u>Create a new package group</u>	satures summary
Package Group Name	Installation Directory
Rea WebSphere Customization Toolbox V8.0	C:\Program Files\IBM\WebSphere\Toolbox
Package Group Name: WebSphere Customization Toolb Installation <u>D</u> irectory: C:\Program Files\JBM\WebSphe	ox V8.0 re\Toolbox B <u>r</u> owse
Package Group Name: WebSphere Customization Toolb Installation <u>D</u> irectory: C:\Program Files\JBM\WebSphe <b>Details</b> Shared Resources Directory: C:\Program Files\IBM\JMSha	ox V8.0 re\Toolbox ared Volume C: 259.08 GB
Package Group Name: WebSphere Customization Toolb Installation <u>D</u> irectory: C:\Program Files\IBM\WebSphe <b>Details</b> Shared Resources Directory: C:\Program Files\IBM\IMSh:	ox V8.0 re\Toolbox ared Volume C: 259.08 GB

#### Select the Web Server Plug-ins Configuration Tool feature. Click Next.

nstall Packages		-4
elect the features to install.		1
Install Licenses Location Features	Summary	
Features		
WebSphere Customization Toolbox 8.0.0.0     Web Server Plug-ins Configuration Tool     Profile Management Tool (z/OS only)     z/OS Migration Management Tool     Remote Installation Tool for IBM i		
Show dependencies	Expand All	Restore Default
Show dependencies - Selected by Installation Manager because of dependencies	Expand All	Restore Default
Show dependencies - Selected by Installation Manager because of dependencies - Septer Plug-ins Configuration Tool	Expand All	<u>R</u> estore Default
Show dependencies - Selected by Installation Manager because of dependencies - Selected by Installation Selected by Selected by Selected by Installation - Selected by Installation Selected by Selected by Selected by Selected by Selected by Installation Selected by Selected by Installation Selected by Selected by Installation Selected by Installation Selected by Selected by Installation Selected by Selec	<u>Expand All</u> <u>Collapse All</u> erver plug-ins for IBM WebSphere Application Server Ve ner. Learn more about configuring the Web server plug-	Restore Default
Show dependencies - Selected by Installation Manager because of dependencies - Selected by Installation - Selected by Installat	Expand All Collapse All erver plug-ins for IBM WebSphere Application Server Va her. Learn more about configuring the Web server plug-	Restore Default

You might be prompted to for the location of Supplements disk2 and disk3.

Insert Disk	×
Insert Disk Insert disk 2 and press OK. Alternatively you can type a directory path or browse to a directory.	Ø
Insert disk 2 of disk set labeled WebSphere Customization Toolbox 8.0.0.0.	
C:\INSTALL\WASv8.0\WAS8.0-BASE-Supp-2of3-CZM94ML\disk2	
	Browse
OK	Cancel

Insert Disk		X
Insert Disk Insert disk 3 and press OK. Alternatively you can type a directory path or browse	e to a directory.	
Insert disk 3 of disk set labeled WebSphere Customization Toolbox 8.0.0.0.		
C:\INSTALL\WASv8.0\WAS8.0-BASE-Supp-3of3-CZM95ML\disk3		
		Browse
	ОК	Cancel
	ОК	Cancel

Review the summary page, then click Install to start the installation.

M Installation Manager		
Install Packages		
Review the summary informa	tion.	
Install Licenses	Location Features S	ummary
Target Location Package Group Name: Installation Directory: Shared Resources Directory: Packages	WebSphere Customization Toolbox V8.0 C:\Program Files\IBM\WebSphere\Toolbox C:\Program Files\IBM\IMShared	
Destroyes		
Environment		Disk Space Information
English		Total Available Space
		C: 259.08 GB Total Download Size: 164.16 MB Total Installation Size: 395.95 MB
<ul> <li>Repository Information</li> </ul>		C: 259.08 GB Total Download Size: 164.16 MB Total Installation Size: 395.95 MB
Repository Information		C: 259.08 GB Total Download Size: 164.16 MB Total Installation Size: 395.95 MB < <u>Back</u> Next > Install Cancel

#### After the install, you can choose to run WCT now. Click Finish.



# How to launch the Plug-in Config Tool gui

In Windows, start WCT / PCT from the Start menu:

- Start → All Programs → IBM WebSphere
   → WebSphere Customization Toolbox → Tools
   → Web Server Plug-in Configuration Tool
- In Unix, start WCT / PCT from the command line: cd /usr/IBM/WebSphere/Toolbox/WCT ./wct.sh

# How to use Plug-in Config Tool (PCT) gui

Add the Web Server Plug-in Runtime Location

- Points to the location of the Plugins directory
- ie. C:\Program Files\IBM\WebSphere\Plugins
- Create the Web Server Definition
  - Select web server type
  - Specify the location of the web server config file
  - Configure IBM HTTP Server Admin Server options
  - Specify if web server is LOCAL or REMOTE

### From the WCT welcome screen, launch the PCT tool.

e <u>W</u> indow <u>H</u> elp	
Welcome	
Welcome 🖾	-
elcome to the WebSphere Customization Toolbox	
lect a tool in the following list to display the welcome information for t	hat tool. To launch a tool, select a tool in the
t, and click Launch Selected Tool. Alternatively, select Window > Open F	Perspective and select a tool in the list.
st of provided tools:	
Veb Server Plug-Ins Configuration Tool	
aunch Selected Tool	
Welcome information for selected tool	
Use the Web Server Plug-ins Configuration Tool to configure the Web	server plug-ins for IBM WebSphere
Application Server Version 8.0 so that your web server and application Learn more about configuring the Web server plug-ins from the Web S	server can communicate with each other. Server Plug-ins Configuration Roadmap for
WebSphere Application Server Version 8.0 or the online information ce	nter.

### In the top box, click the Add button...

WebSphere Customizatio	on Toolbox 8.0	<b>a</b>	
<u>File Window H</u> elp			
🔡 🚫 Web Server Plug-in	is Configuration Too	Melcome	
🚫 Web Server Plug-in Run	time Locations		
Name		Location	[A <u>d</u> d
			Remove
a [		m	Roadmap
S Web Server Plug-in Cor	nfigurations 🚫 We	b Server Plug-in Response File	- [
Web Server Definition	Web Server Type	Plug-in Configuration File	Create
			Delete
A [	m		×.

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and the

Add Web	Server Plug-in Location	
Add a prev	viously installed Web server plug-in location to your working	g set.
Web serve	r plug-in location	
<u>N</u> ame:	Web Server Plug-in v8.0	
Location:	C:\Program Files\IBM\WebSphere\Plugins	Browse
	Default location for Plug-in v8.0 on Wind	lows
		Finish

🕀 Web Ser	ver Plug-ins Configuration Tool 8.0	- 0 ×
Add Web Add a pre	Server Plug-in Location riously installed Web server plug-in location to your working set.	
Web serve	r plug-in location	
<u>N</u> ame:	Web Server Plug-in v8.0 64-bit	
Location:	C:\Program Files\IBM\WebSphere\Plugins\v8.0-64bit	B <u>r</u> owse
	On my system, I chose to install Plug-in here	
Th	en, click the finish button Einish	Cancel

### Next we can create the Web Server Definition

HebSphere Customizat	tion Toolbox 8.0		
<u>File Window H</u> elp			
🔡 🚫 Web Server Plug-	ins Configuration Too	ol 🕕 Welcome	
S Web Server Plug-in Ru	intime Locations		- 0
Name		Location	A <u>d</u> d
Web Server Plug-in v8.0	64-bit	C:\Program Files\IBM\WebSphere\Plugins\v8.0-64bit	Remove
			R <u>o</u> admap
Server Plug-in Co	onfigurations 🔕 We	b Server Plug-in Response File	
Web Server Definition	Web Server Type	Plug-in Configuration File	Create
			Delete
	This but	tton is not enabled until after the	
	Plug-in	Runtime Location is defined above.	

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Can All

Web Server Plug-ins Configuration Tool 8.0		
Web Server Selection		a la
Select the Web server to configure. Verify that the Web server you select to	configure has been installed.	
IBM <u>H</u> TTP Server V8		
Apache Web Server V2.2		
<u>Lotus Domino Web Server V8</u>		
Sun Java System Web Server V6.1 or Sun Java System Web Server V7.0		
Microsoft Internet Information Services V7		
Microsoft Internet Information Services V6		
	< Back Next > Ei	inish Cancel

### Browse and select the web server config file

Web Server Plug-ins Configuration Tool 8.0	
Web Server Configuration File Selection	
Select the Web server configuration file and identify the Web server port to configure the Web server definition.	
C:\Program Files\IBM\HTTPServer8.0\conf\httpd.conf	Browse
Specify the Web server port: 80	
< <u>Back</u> <u>Next &gt;</u> <u>Finish</u>	Cancel

Web Server Plug-ins Configuration Tool 8.	0	
Setup IBM HTTP Server Administra	tion Server	E S
Optionally configure an administrative server Server administrative console by using the IB	to administer the Web server. You can manage M HTTP Server administrative server to control	the Web server from a WebSphere Application the communication between them.
Setup IBM H1 IP Server Administration Set	rver	
Specify a port number for IBM HTTP Serv use, then change to another port that is a might restrict use of ports below 1024.	er administation server to communicate. The d vailable. Running IBM HTTP Server administati	efault port is 8008. If the default port is already in on server without root or Administrative privileges
HTTP Administration Port:		
8008		
Server administrative console. The user ID user IDs after the configuration by using t Create a user ID for IBM HTTP Server A	) and password is encrypted and stored in the c the htpasswd utility. Administration Server, othentication	onf/admin.passwd file. You can create additional
User ID:	ibsadmin	VVAS Admin Console
– <u>P</u> assword:	•••••	will use this User ID
Confirm password:		and password to
		connect to IUC Admin
	Rack	Next > Finish Cancel
	Dack	

### On Unix enter the userid and group for IHS Admin



### On Windows configure the IHS Admin service options

Web Server Plug-ins Configuration Too	
Setup IBM HTTP Server Adminis	stration Server
Choose whether to use a Windows service service to be able to manage the web serv startup type to have the Windows service	e to run IBM HTTP Server administration server. The Administration Server must be run as a Windows ver from a WebSphere Application Server administration Console. If a service is created, also select a start manually or automatically when rebooting the system.
Run IBM HTTP Server Administration S	Server as a Windows Service.
Log on as a local system account	
Log on as a specified user account	
∐ser name:	
Password:	
The user account that runs the Windo	ws service must have the following user rights:
<ul> <li>Act as part of the operating system</li> <li>Log on as a service</li> </ul>	î.
<u>S</u> tartup type:	Manual
	Default is Automatic
	< <u>B</u> ack <u>Next</u> <u>Finish</u> Cancel

### Specify the name of the web server (ie. webserver1)

Web Server Plug-ins Configuration Tool 8.0	- O X
Web Server Definition Name	
Use a Web server definition to manage a Web server through the WebSphere Application Server administrative console or the was definition name must be unique because this name is used to identify this Web server in the administrative console.	admin tool. The
Specify a unique Web server definition name:	
webserver1	
The web server definition name must not be empty and it must not contain the following special characters or space: $/\langle *, :; = +?   <> \& \%' " []> # $ ^{} Note: a period(.) is not valid if it is the first character.$	
< <u>Back</u> <u>Next</u> > <u>Finish</u>	Cancel
### Remote

Web Server Plug-ins Configuration Tool 8.0	
Configuration Scenario Selection	<b>B</b>
Configure the Web server plug-ins to the computer where the Web server exists. When the Web server and application computer, choose the remote configuration scenario. When both Web server and application server are on the same configuration scenario. In the local scenario, the Web server definition you create in this wizard is defined automatically	server are not on the same imputer, choose the local in the application server.
Configuration scenario	
(Remote) Host name or IP address of the application server	
was80dmgr.ibm.com	1
C (Local) Installation location of WebSphere Application Server	
	Browse
For the remote configuration scenario, the host name must be accessible on the network through one of the following Fully qualified domain name system (DNS) host name The default short DNS host name Numeric IP address Choose REMOTE if the web server is different system than the WAS appser	address formats: ON A VE <b>r</b> .
< <u>B</u> ack <u>N</u> ext > <u>Finit</u>	h Cancel

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### Local

Web Server Plug-ins Configuration Tool 8.0
Configuration Scenario Selection
Configure the Web server plug-ins to the computer where the Web server exists. When the Web server and application server are not on the same computer, choose the remote configuration scenario. When both Web server and application server are on the same computer, choose the local configuration scenario. In the local scenario, the Web server definition you create in this wizard is defined automatically in the application server.
Configuration scenario
(Remote) Host name or IP address of the application server
(Local) Installation location of WebSphere Application Server
C:\Program Files\IBM\WebSphere\AppServer
Browse
For the remote configuration scenario, the host name must be accessible on the network through one of the following address formats: Fully qualified domain name system (DNS) host name The default short DNS host name Numeric IP address
Choose LOCAL if the web server is on the
same system as the WAS appserver.
< <u>Back</u> <u>Next</u> > <u>Einish</u> Cancel

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### Local - select the WAS Node Profile name

Web Server Plug-ins Configuration Tool 8.0	
WebSphere Application Server Profile Selection	- Contraction of the second se
Select the WebSphere Application Server profile to configure with the current Web server plug-in and create the Web s	erver definition.
Available Profiles:	
AppSrv01	•
AppSrv01	
Salast the Maherbara Appender pade	
Select the webSphere AppServer hode	
profile name (ie. AppSrv01 or Custom01)	
from the list	
Do NOT select the deployment manager	
profile (Dmgr01).	
< Back Next > Eini	ish Cancel
	,

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### Review the Summary screen, then click Configure.

Plug-in Configuration Summary		E A
Manual configuration steps are required before starting the We Configuration Roadmap. Afterwards, you may start up your W	eb server. Follow the configuration procedure in the Web Server Plug-in Veb server and application server to test your configuration.	ĥ
Web server to configure:		
IBM HTTP Server V8		
Web server definition:		
webserver1		E
C:\Program Files\IBM\WebSphere\Plugins\v8.0-64bit\conf	fig\webserver1\plugin-cfg.xml	
		-
*		۲
	< Back Configure > Einish C	ancel
		2

### Review the Result screen, then click Finish.

Web Server Plug-ins Configuration Tool 8.0	- • • ×
Plug-in Configuration Result	
Success: The configuration has been completed successfully. Manual configuration steps are required before starting the Web server. Follow the configuration procedure in the Web Server PI Configuration Roadmap. Afterwards, you may start up your Web server and application server to test your configuration.	ug-in
✓ Launch the plug-in configuration roadmap	E
Manual configuration script: C:\Program Files\IBM\WebSphere\Plugins\v8.0-64bit\bin\configurewebserver1.bat	
Web server type configured: IBM HTTP Server V8	
Web server definition: webserver1	
Plug-in configuration file: C:\Program Files\IBM\WebSphere\Plugins\v8.0-64bit\config\webserver1\plugin-cfg.xml	•
*:	*
< <u>B</u> ack Configure > Einish	Cancel

### Now PCT shows the web server definition

WebSphere Customiza	tion Toolbox 8.0		- 0 ×
<u>File Window H</u> elp			
🖹 🚫 Web Server Plug-	ins Configuration To	ol 🕀 Welcome	
🚫 Web Server Plug-in Ru	untime Locations		- 0
Name		Location	A <u>d</u> d
Web Server Plug-in v8.0 64-bit		C:\Program Files\IBM\WebSphere\Plugins\v8.0-64bit	Remove
		See the response file options here	R <u>o</u> admap
🚫 Web Server Plug-in Co	onfigurations 🔕 We	eb Server Plug <sup>2</sup> in Response File	- 6
Web Server Definition	Web Server Type	Plug-in Configuration File	Create
webserver1	IBM HTTP Server	C:\Program Files\IBM\WebSphere\Plugins\v8.0-64bit\config\webserver1\plugin-	Delete

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# Using PCT from command line

- Create a response file with the correct options
  - See this page in the InfoCenter:

http://pic.dhe.ibm.com/infocenter/wasinfo/v8r0/topic/com.ibm.websphere.nd.doc/info/ae/ae/tins\_pctcl\_using.html

- There is a example response file with comments here: webSphere/Toolbox/WCT/pct\_responsefile.txt
- Run wctcmd.bat(sh) using the response file you created.

cd /opt/IBM/WebSphere/Toolbox/WCT

./wctcmd.sh -tool pct -defLocPathname /opt/IBM/WebSphere/Plugin
-defLocName myDef -response /tmp/myresponsefile.txt



# Using IHS Admin Server on a Federated WAS Node

- If you have IHS on a federated WAS node (managed), but you want to use the IHS Admin Server (unmanaged) anyway, do NOT use the configurewebserver1.bat(sh) script.
- Use the WAS Admin Console to manually create the unmanaged node definition. (Nodes → Add Node → Unmanaged)
- Then, use WAS Admin Console to create the web server definition linked to that unmanaged node. (web servers → New)



# Part 3 - Web server plug-in Scripts overview & execution



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### Plug-in Ant scripts overview

script location: <Plugins\_home>\config\actionRegistry\actions

**99SBootStrapPlugins<webserver\_type>.ant** scripts are executed by PCT to configure the web server *plugin-cfg.xml* configuration file and appropriate plug-in *binary* (*e.g. mod\_was\_ap22\_http.dll*) in the web server based on OS Family and web server Architecture example: C:\Program Files (x86)\IBM\WebSphere\Plugins\config\actionRegistry\actions\99SBootStrapPluginsIHS.ant

<webserver\_type>UnInstall.ant scripts are executed to uninstall
the web server plugin-cfg.xml and plug-in binary during uninstall
example: C:\Program Files (x86)\IBM\WebSphere\Plugins\config\actionRegistry\actions\IHSUnInstall.ant

**98SConfigureWebServerDefinition.ant** script is executed to create a *ConfigureWebserverX.bat(.sh) file* which is used to create the web server definition within the *WebSphere Administrative Console* 



### **IBM HTTP Administration Ant scripts overview**

script location: <IHS\_Home>\properties\postinstall\actions

**CreateAdminPasswd.ant** script is executed by PCT to create the *userid* and *password* needed to *authenticate* the WebSphere Administration Console with the IBM HTTP Administration service when making Web server administration and configuration changes

**CreateWinServices.ant** (windows platform only) script is executed to create the *IBM HTTP Administration service* within the *Windows services panel* for starting and stopping the service

**SetupAdm.ant** (unix platforms) script is executed to create or define the OS user and group in the admin.conf that is used to run the IBM HTTP Administration Server. In addition, permission and group information is adjusted for the httpd.conf



### Script Registry used by PCT for configuration actions

registry location: <Plugins\_home>\config\actionRegistry

file name: ConfigurePlugins.xml

<actions>

<action path="98SConfigureWebserverDefinition.ant" priority="01" isFatal="false"/> <action path="99SBootStrapPluginsApache.ant" priority="01" isFatal="false"/> <action path="99SBootStrapPluginsDomino7.ant" priority="01" isFatal="false"/> <action path="99SBootStrapPluginsDomino8.ant" priority="01" isFatal="false"/> <action path="99SBootStrapPluginsIHS.ant" priority="01" isFatal="false"/> <action path="99SBootStrapPluginsIHS.ant" priority="01" isFatal="false"/> <action path="99SBootStrapPluginsIIS6.ant" priority="01" isFatal="false"/> <action path="99SBootStrapPluginsIIS6.ant" priority="01" isFatal="false"/> <action path="99SBootStrapPluginsIIS7.ant" priority="01" isFatal="false"/> <action path="99SBootStrapPluginsSUNOne.ant" priority="01" isFatal="false"/> <action path="99SBootStrapPluginsSunOne.ant" priority="01" isFatal="false"/>



### Script **Registry** (cont'd)

file name: UnConfigurePlugins.xml

<actions>

<action path="**ApacheUnInstall.ant**" priority="01" isFatal="false"/> <action path="**Domino7UnInstall.ant**" priority="01" isFatal="false"/> <action path="**Domino8UnInstall.ant**" priority="01" isFatal="false"/> <action path="**IHSUnInstall.ant**" priority="01" isFatal="false"/> <action path="**IIS6UnInstall.ant**" priority="01" isFatal="false"/> <action path="**IIS7UnInstall.ant**" priority="01" isFatal="false"/> <action path="**IIS7UnInstall.ant**" priority="01" isFatal="false"/> <action path="**IIS7UnInstall.ant**" priority="01" isFatal="false"/> <action path="**SunOneUnInstall.ant**" priority="01" isFatal="false"/> <action path="**SunOneUnInstall.ant**" priority="01" isFatal="false"/> </actions>



### Script **Registry** (cont'd)

registry location: <IHS\_Home>\properties\postinstall

file name: *ihsAdminConfigRegistry.xml* 

<actions> <action path="actions/**CreateAdminPasswd.ant**" priority="99" isOptional="false" isFatal="true" /> <action path="actions/**CreateWinServices.ant**" priority="99" isOptional="false" isFatal="true" /> <action path="actions/**SetupAdm.ant**" priority="99" isOptional="false" isFatal="true" /> </actions>



## IBM HTTP Administration Server Ant Scripts Execution



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### **IBM HTTP Administration Server** Ant script execution

#### <IHS\_Home>\properties\postinstall\actions\CreateAdminPasswd.ant

executes:

\${IHS\_HOME}\bin\htpasswd.exe -cmb \${IHS\_HOME}\conf\admin.passwd rlboretti
\*\*\*\*\*\*\*

### <IHS\_Home>\properties\postinstall\actions\CreateWinServices.ant

executes: \${IHS\_HOME}\bin\httpd.exe -f \${IHS\_HOME}\conf\admin.conf" -k install -n "IBM HTTP Administration for WebSphere Application Server V8.0"



### **IBM HTTP Administration Server** Ant script execution

#### <IHS\_Home>\properties\postinstall\actions\SetupAdm.ant

executes:

\${IHS\_HOME}/bin/**setupadm** -create -usr \${ADMUSER} -grp \${ADMGRP} –cfg \${IHS\_HOME}/conf/httpd.conf -adm \${IHS\_HOME}/conf/admin.conf"

#### -create

This parameter specifies that you want to create a user and group. note: must be running the application server as the root user. If you do not specify this parameter, the values for the -usr and -grp parameters must exist.

#### -usr

This parameter specifies the user ID that will run the IBM Administration server. This user ID value is updated in the <User> directive within the admin.conf.

#### -grp

This parameter specifies the group name that will run the IBM Administration server. When you specify a value, it is used to change the file permissions for the configuration files and the user or group authentication files. This group name value is updated in the <Group> directive within the admin.conf

#### -cfg

This parameter defines the fully qualified path to the IBM HTTP Server web server configuration file, httpd.conf. Within this file, the permission and group information is updated. Avoid trouble: The IBM Administration server requires both read and write access to IBM HTTP Server configuration files.

#### -adm

This parameter specifies the fully qualified path to the IBM Administration server configuration file, admin.conf.



## 99SBootStrapPlugins<webserver\_type>.ant Script *Execution*



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### **Initial** Plug-in files used by 99SBootStrapPlugins...

#### <Plugins\_home>\config\templates (default plugin-cfg.xml template location)

plugin-cfg.xml

#### <Plugins\_home>\etc (default plug-in keyfile location)

plugin-key.crl plugin-key.rdb plugin-key.sth plugin-key.kdb

#### <Plugins\_home>\bin\32bits (32-bit plug-in binaries)

example: iisWASPlugin\_http.dll mod\_was\_ap22\_http.dll

<Plugins\_home>\bin\64bits (64-bit plug-in binaries)

example: iisWASPlugin\_http.dll

### 99SBootStrapPlugins<webserver\_type>.ant execution

### example: **99SBootStrapPluginsIHS.ant**

#### **Creates the webserverX directories**

e.g. <Plugins\_home>\config\webserver1 <Plugins\_home>\logs\webserver1 (*http\_plugin.log location*)

#### **Copies these files**

plugin-cfg.xml

FROM <Plugins\_home>\config\templates TO <Plugins\_home>\config\webserverX

plugin-key.crl plugin-key.rdb plugin-key.sth plugin-key.kdb

FROM <Plugins\_home>\etc TO <Plugins\_home>\config\webserverX

### 99SBootStrapPluginsIHS.ant example (cont'd)

#### **Executes**

chmod, chgrp (unix)

-adjusts permissions for the http\_plugin.log, plugin-cfg.xml and plugin-key\* files ascii to ebcidc

-z/OS specific to convert httpd.conf file for ANT to make changes. Converts back afterward

determines bitmode

-various calls are made to determine if plugin is running on 32 or 64 bit OS

#### Appends lines to <IHS\_Home>/bin/httpd.conf

LoadModule -based on bitmode determinations (32 bit versus 64 bit arch) WebSpherePluginConfig based on < Pluging, homes loonfig/webserverX\_location

-based on <Plugins\_home>\config\webserverX location

example:

LoadModule was\_ap22\_module "D:\WebSphere\Plugins\bin**\32bits**\mod\_was\_ap22\_http.dll" WebSpherePluginConfig "D:\WebSphere\Plugins\config\webserver1\plugin-cfg.xml"



### 98SConfigureWebserverDefinition.ant Script *Execution*



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### 98SConfigureWebserverDefinition.ant execution

### Sets install type based on following input parameter passed by PCT

Install types \*\*input parameter: remote, \*local\_standalone or \*local\_distributed

(\*) which install type input parameter is passed by PCT depends on the **WebSphere Profile** selected in the PCT GUI or the response file (PCT command line)

(\*\*) input parameters will be discussed later in this presentation

#### Creates

*configurewebserverX.bat(.sh)* file used to create the web server definition within the WebSphere Administration Console

file location: <Plugins\_home>\bin

e.g. C:\Program Files (x86)\IBM\WebSphere\Plugins\bin\ configurewebserver1.bat

### 98SConfigureWebserverDefinition.ant execution(cont'd)

Creates (ONLY if install type is *remote*)

<Plugins\_home>\bin\crossPlatformScripts directory and following subdirectories <Plugins\_home>\bin\crossPlatformScripts\os390 <Plugins\_home>\bin\crossPlatformScripts\os400 <Plugins\_home>\bin\crossPlatformScripts\unix

Note: the ant script will create a *configurewebserverX.sh* script in the above directories. If one machine is running Windows and the other is running unix os390 or os400 the corresponding configurewebserverX.sh script should be used to create the web server definition in the WebSphere Administration Console



### 98SConfigureWebserverDefinition.ant execution(cont'd)

Executes (ONLY if install type is *local\_standalone*)

configurewebserverX.bat(.sh) script is *locally executed* **automatically** by the Ant script to create the web server definition in the local WebSphere standalone Node. (not executed automatically for *remote* or *local\_distributed*)

For local\_standalone, the Ant script also executes the following command to generate and propagate the plugin-cfg.xml file to the <*Plugins\_home>\config\webserverX directory* 

./GenPluginCfg.bat(.sh) -webserver.name \${WEBSERVER\_NAME} -node.name \${WS\_CMT\_NODE\_NAME} -propagate yes

File location: **<WAS\_HOME>\AppServer\bin\** e.g. C:\Program Files (x86)\IBM\WebSphere\AppServer\bin\**GenPluginCfg.bat** 



### configurewebserverX.bat(.sh) script remote execution

**remote** (standalone and unmanaged dist. environments)

script needs to be **copied** to remote **machine A** and run from <WAS\_HOME>/AppServer/bin

• Standalone - AppServer should be started

machine B - IHS, machine A - AppServer

Unmanaged - Dmgr and node agent should be running

machine C - IHS, machine B - federated AppServer, machine A - Dmgr

Note: after running the script, you will need to synchronize the changes with the federated node. From the *administrative console of the deployment manager*, click **System administration > Save Changes to Master Repository > Synchronize changes with Nodes > Save** 



# *configurewebserverX.bat(.sh)* script local\_distributed execution

□ *local\_distributed* (managed dist. environment)

script needs to be **copied** to remote **machine A** and run from <WAS\_HOME>/AppServer/bin

• managed - Dmgr and node agent should be running

machine B - IHS & federated AppServer, machine A - Dmgr

Note: after running the script, you will need to synchronize the changes with the federated node. From the *administrative console of the deployment manager*, click **System administration > Save Changes to Master Repository > Synchronize changes with Nodes > Save** 

See *roadmap* for more information: <Plugins\_home>\roadmap\index\_roadmap\_en.html



### **Input Parameters**





### **Input Parameters**

When using the PCT GUI or command line to configure a remote or local web server plug-in configuration scenario, *input parameters* are used by the ant scripts to complete the configuration

- PCT GUI: input parameters are passed under the covers to the plug-in 98SConfigureWebserverDefinition.ant and 99SBootStrapPlugins<webserver\_type>.ant scripts to complete the plug-in configuration actions
- Command line: input parameters are coded in a response file and passed to the scripts

wctcmd.bat -tool pct -defLocPathname C:\data\IBM\WebSphere\Plugins -defLocName mywebserverplugin -response C:\IBM\WebSphere\tools\WCT\my\_*responsefile.txt* 



### Input Parameters (cont'd)

 PCT provides a sample response file that includes a description of available Input parameters with syntax examples

file location: <WebSphere\_Home>\Toolbox\WCT\pct\_responsefile.txt

 In addition, when PCT is used to configure a Web server plug-in, the tool automatically creates a response file which may used for future installations

file location: <**Plugins\_home>\config\webserver(x)\** example: **webserver1.responseFile** 





### webserver1.responseFile example

### local\_standalone scenario

configType=local standalone enableAdminServerSupport=true enableUserAndPass=true enableWinService=true ihsAdminPassword=\*\*\*\*\*\* ihsAdminPort=8008 ihsAdminUserID=rlboretti ihsWindowsStartupType=demand mapWebServerToApplications=true profileName=AppSrv01 wasExistingLocation=C:\Program Files (x86)\IBM\WebSphere\AppServer webServerConfigFile1=C:\Program Files (x86)\IBM\HTTPServer8.0\conf\httpd.conf webServerDefinition=webserver1 webServerHostName=IBM-7LL06ACAMCV webServerInstallArch=32 webServerPortNumber=80 webServerSelected=ihs webServerType=IHS

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### Input Parameters (cont'd)

For *IBM HTTP Server* configurations, some of the input parameters are acquired from the web server's *postinst.properties* file

#### file location: <IHS\_Home>\conf\postinst.properties

example: SERVERROOT\_NATIVE=C:\Program Files (x86)\IBM\HTTPServer8.0 SERVERROOT=C:/Program Files (x86)/IBM/HTTPServer8.0 PORT=80 GSK7LIBDIR\_NATIVE=C:\Program Files (x86)\IBM\HTTPServer8.0\gsk8\lib GSK7LIBDIR=C:/Program Files (x86)/IBM/HTTPServer8.0/gsk8/lib SERVERNAME=IBM-7LL06ACAMCV JAVADIR\_NATIVE=C:\Program Files (x86)\IBM\HTTPServer8.0\java\jre JAVADIR\_C:/Program Files (x86)/IBM/HTTPServer8.0/java\jre WINSERVICE=IBM HTTP Server V8.0





# Part 4 – PCT Troubleshooting



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### Mustgather/Logs

The following configuration files and logs should be collected to investigate failures related to PCT configuration actions. This includes problems with the execution of the underlying ant scripts, utilization of input parameters, creation of the IBM HTTP Adminstration Service (windows), creation of the configurewebserver(x).bat, etc..

### LOGS:

- 1. WebServerPluginConfiguration.log
- 2. wct.log
- 3. configure\_<WEBSERVER\_TYPE>\_webserver.log
- 4. install<WEBSERVER\_TYPE>Plugin.log
- 5. IHSAdminConfiguration.log (if configuring IBM HTTP Administration Server)



### Mustgather/Logs

This log will include successful or failure messages related to the executing of the repository/registry actions by the tool. In addition, input parameters used will be recorded in this log as arguments

PCT specific log: <Plugins\_home>\logs\WebServerPluginConfiguration.log





### Mustgather/Logs (cont'd)

This log records additional underlying functions and operations performed by the WebSphere Customization Toolbox (WCT)

WCT specific log: wct.log

• Windows:

<USER\_HOME>/AppData/Local/IBM/WebSphere/workspaces/WCT8/.meta data/.plugins/com.ibm.ws.pmt.tools/wct.log

 Unix: Look for the value below from <WebSphere\_Home>/Toolbox/WCT/configuration/config.ini e.g. osgi.instance.area.default=@user.home/AppData/Local/IBM/WebSphere

/workspaces/WCT8 ..

Then starting with .metadata/.plugins/com.ibm.ws.pmt.tools/wct.log


# Mustgather/Logs (cont'd)

*Configuration results:* creation of the configurewebserver(x) script for local & remote scenarios and cross platform scripts for remote scenarios. *Execution results:* mapping of applications, generation and propagation of the plugin-cfg.xml for local scenarios. Also records the input parameters used to complete the configuration tasks

#### <Plugins\_home>\logs\config\configure\_<WEBSERVER\_TYPE>\_webserver.log e.g. configure\_IHS\_webserver.log

*Installation results:* installing the default plugin-cfg.xml & keyfiles and plug-in binary file to the web server. Also records the input parameters used to complete the configuration tasks

#### <Plugins\_home>\logs\config\install<WEBSERVER\_TYPE>Plugin.log e.g. install/HSPlugin.log

Configuration actions and results: setting up the IBM HTTP Administration Server

#### <IHS\_Home>\logs\config\IHSAdminConfiguration.log

# Mustgather/Logs (cont'd)

#### CONFIGURATION RELATED FILES:

- **1. admin.conf** (IBM HTTP Administration Server configuration file)
- **2.** httpd.conf (Apache, IHS plug-in binary & configuration file location)
- **3. postinst.properties** (IHS, gskit & java path locations, port, windows service name input parameters)
- 4. webserverX.responseFile (input parameters)
- **5. plugin-cfg.xml** (plug-in configuration file)
- 6. plugin-cfg.loc (IIS plug-in configuration file location)
- **7. ApplicationHost.config** (IISv7 plug-in ISAPI configuration) e.g. C:\Windows\system32\inetserv\ApplicationHost.config
- 8. Metabase.xml (IISv6 plug-in ISAPI configuration) e.g. C:\Windows\system32\inetserv\metabase.xml
- 9. configurewebserverX.bat(.sh) (script used to create webserver definition)
- **10.magnus.conf**, **obj.conf** (sunone plug-in binary & configuration file location)
- **11.notes.ini** (domino plug-in binary & configuration file location)



## **Known Problems and Issues**

 PCT tool configures a 64-bit plug-in binary on 32-bit web server when using a responsefile

e.g. LoadModule was\_ap22\_module "D:\WebSphere\Plugins\bin**\64bits**\mod\_was\_ap22\_http.dll"

The responsefile MUST contain *webServerInstallArch* specifying the architecture of the web server. If missing the PCT tool will use the architecture of the OS instead. e.g. webServerInstallArch=32

#### The IBM HTTP Administration windows service is not created

You can configure the service to run as Local System account or a user ID that you specify. The user ID requires the following advanced user rights:

Act as part of the operating system and Log on as a service

## Known Problems and Issues (cont'd)

 When choosing to configure the IBM HTTP Administration Server as part of the configuration, the PCT tool may not create the WebServerPluginConfiguration.log file. Instead, "ALL" PCT tool related tasks are recorded in the IHSAdminConfiguration.log

Only config actions related to the IBM HTTP Administration server should be recorded in the IHSAdminConfiguration.log. All other PCT tool config actions should be logged in WebServerPluginConfiguration.log

L3 tool development is looking into the issue

#### Bad setupadm file in IHS 8.0.0.3 causes PCT to fail on Solaris

Published technote: http://www-01.ibm.com/support/docview.wss?uid=swg21610878



# Known Problems and Issues (cont'd)

 PM38957: The Web server plug-ins configuration tool (PCT) fails during IHS web server configuration if its httpd.conf file is read-only

Fixed in WebSphere Customization Toolbox 8.0.0.1 http://www-01.ibm.com/support/docview.wss?uid=swg1PM38957

 PM45371: (PCT) CANNOT RECOGNIZE WEBSPHERE APPLICATION SERVER PROFILES DURING CONFIGURATION

Fixed in WebSphere Customization Toolbox 8.0.0.1 http://www-01.ibm.com/support/docview.wss?uid=swg1PM45371

 PM46369: CREATE BUTTON UNRESPONSIVE IN WAS v8 PLUGIN CONFIGURATION TOOL (PCT)

Fixed in WebSphere Customization Toolbox 8.0.0.2 http://www-01.ibm.com/support/docview.wss?uid=swg1PM46369



# Known Problems and Issues (cont'd)

 PM43260: IHS ADMIN START-UP IS "AUTOMATIC" DESPITE CHOOSING "MANUAL" IN THE PLUG-IN CONFIGURATION TOOL (PCT)

Fixed in WebSphere Customization Toolbox 8.0.0.2 http://www-01.ibm.com/support/docview.wss?uid=swg1PM43260

 PM59957: REMOVE IHS ADMIN SERVER SERVICE DURING UN-CONFIGURATION OF IHS WEBSERVER PLUG-IN USING (PCT)

This APAR corresponds with FIS R014222. This feature is to be planned for delivery in a future release http://www-01.ibm.com/support/docview.wss?uid=swg1PM59957

Workaround: manually remove the IBM HTTP Administration windows service

<IHS\_HOME>\bin\httpd.exe -k uninstall -n "IBM HTTP Administration for WebSphere Application Server V8.0"

### PCT directory tree reference

#### <Plugins\_home>

#### ..\bin

- ..\bin\32bits
- ..\bin\64bits
- ..\bin\crossPlatformScripts
- $.. \verb|bin|crossPlatformScripts|os390|$
- $..\bin\crossPlatformScripts\os400$
- ..\bin\crossPlatformScripts\unix
- ..\config
- ..\config\templates
- ..\config\webserverX
- ..\config\actionRegistry
- ..\config\actionRegistry\actions
- ..\etc
- ..\logs
- ..\logs\config
- ..\logs\webserverX
- ..\roadmap

#### <IHS\_home>

..\bin

- ..\conf
- ..\logs\config
- ..\properties
- ..\properties\postinstall
- ..\properties\postinstall\actions

#### <WebSphere\_home>

- ..\Toolbox ..\Toolbox\WCT ..\Toolbox\WCT\configuration
- ..\AppServer ..\AppServer\bin
- ..\Plugins

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- Discover the latest trends in WebSphere Technology and implementation, participate in techniCally-focused briefings, webcasts and podcasts at: <a href="http://www.ibm.com/developerworks/websphere/community/">http://www.ibm.com/developerworks/websphere/community/</a>
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# **Questions and Answers**

