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How to install WebSphere Application Server 6.1 in a silent mode for Rational Asset Manager v7.x

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Introduction

The purpose of this document is to provide a step by step instruction on how to install WebSphere Application Server version 6.1 in a silent mode for Rational Asset Manager 7.x versions on the Linux platform.

Problem Statement

Research shows X windows System poses a security risk on UNIX platforms environment. Through a network, once the intruder gets access to your X resources anyone can read, modify, and corrupt what you are typing or clicking could potentially gain access to your system. This is a huge security hole, because it gives anyone access to your resources. In the environment where security vulnerability cannot be compromised, the UNIX system administrator typically disables xhost +. Without xhost+, any Graphical User Interface (GUI) Installation cannot be done.

InstallShield MultiPlatform (ISMP) wizard and Silent Install Options

The installation uses an InstallShield MultiPlatform (ISMP) wizard. You can also use the wizard in silent mode. However, in the LINUX operating systems where security is one of the main concerns, X windows libraries and runtime might not get installed. In order to get around this problem we will have to install the product via command line invocation in a silent mode.

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Agenda for Silent Installations

A. A step by step instruction on how to install WebSphere Application Server 6.1 in a silent mode
B. How to install Update Installation V7.0.0.3 for WebSphere Application server in a silent mode
C. How to install WebSphere maintenance packages 6.1.0.21 in a silent mode

Note: Reference from WebSphere Server 6.1 documentation.

Prerequisites

Before starting this installation, review the following topics:

1. Planning to install WebSphere Application Server
2. Preparing the operating system for product installation
3. Review the prerequisites on the WebSphere Application Server detailed system requirements web site if you have not already done so.
4. Preparing Red Hat Enterprise Linux 4 for WebSphere Application Server base product Installation
5. Preparing Linux systems for installation.

Assumptions

1. UNIX platform environment where the graphical installation interface is prohibited.

2. Your Linux installation has the current and all compatibility versions of the GTK runtime libraries and C++ runtime library such as
   - *compat-libstdc++-33-3.2.3-47.3*
     Required for C++ runtime compatibility. Used by such components as GSKit, the Java 2 Software Development Kit (SDK), and the Web server plug-ins.
   - compat-db-4.1.25-9
     Required by IBM HTTP Server. Some of the modules use the libraries contained within this package.

Note: Run the rpm -qa | grep *package_name* command to verify that you have both versions of each package. Substitute the name of each package for the *package_name* variable.

3. You are installing on Red Hat Enterprise Linux 4

4. Root access is required.

5. Your installation of Red Hat Enterprise Linux 4 has been upgraded with Update 2 or later.

Note:
a. Root umask should be set to 002.

b. If the silent installation failed silently then check at all files from the following directory to find out what went wrong.
   - *Install_root/logs*
   - *user_home/waslogs*
   - *tmp/niflogs*

A step by step instructions on how install WebSphere Application Server 6.1 in a silent mode on Linux operating system.

1. Log on to the operating system as root

   For root umask of 022 is recommend for the WebSphere Application Server 6.1 installation and configuration. We need to set the umask to 022 that allows the owners to read/write to the files, and allows others to access them accordingly as well.

   To set the umask setting to 022, issue the following command:

   umask 022

2. Extract the tar file with -p option to preserve files permission. (The command line should be something like "**tar -pxvzf file.tar**")

3. Navigate to a directory where you just extracted the tar file and cd to the "*WAS*" sub-directory

```
[root@1601-qsrv114-sw tmp]# cd was6.1
[root@1601-qsrv114-sw was6.1]# ls
Copyright.txt  launchpad      launchpad.sh         notices.txt  Version.txt
JDK            launchpad.ini  non_IBM_license.txt  readme       WAS
[root@1601-qsrv114-sw was6.1]# cd WAS
[root@1601-qsrv114-sw WAS]# ls
docs                  responsefile_old.base.txt  was.itlm.express.pak
framework             response_file.txt          was.itlm.nd.pak
install               setup.jar                  was.license.pak
installRegistryUtils  swg_info_common.css        was.ndonly.common.pak
lafiles               version.txt                was.ndonly.pak
lib                   was.baseonly.pak           was.primary.pak
pakdef                was.embed.common.pak       was.samples.beenthere.pak
panels                was.embed.pak              was.samples.common.pak
readme                was.expressonly.pak        was.samples.pak
readme.html           was.installconfig.pak      was.server.common.pak
responsefile.base.txt was.itlm.base.pak          was.server.pak
[root@1601-qsrv114-sw WAS]# █
```

4. Back up the original copy of "*responsefile.base.txt*" file.

5. Edit the responsefile.base.txt with the following content.

```
-OPT silentInstallLicenseAcceptance="true"
-OPT disableOSPrereqChecking="true"
-OPT disableNonBlockingPrereqChecking="true"
-OPT installType="installNew"
-OPT feature="noFeature"
-OPT installLocation="/opt/IBM/WebSphere/AppServer"
-OPT PROF_enableAdminSecurity="true"
-OPT PROF_adminUserName=wasadmin
```

```
-OPT PROF_adminPassword=wasadmin
-OPT PROF_profileName=AppSrv01
-OPT PROF_hostName=localhost
-OPT PROF_nodeName=node01
-OPT PROF_defaultPorts="true"
-OPT traceLevel=INFO
```

Note: For more detailed information on what each option mean, review the contents of the original file. "responsefile.base.txt"

6. Run the following command:

    ./install –options responsefile_old.base.txt -silent

    Note: The name of your response file may be different than the one above.

    If the silent install finishes quickly, this means the installation failed silently. You should check the log files that I have mentioned at the beginning of this documentation.

    If it all goes well. The installation should take about 15 minutes or so to complete.

7. Check at WebSphere Application Server logs to verify that the installation is finished successfully.

Log	Content	Indicators
app_server_root /logs/install/log.txt	Logs all installation events	**Return code meaning** 0 Success 1 Failure 2 Partial Success

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Installing the Update Installer V7.0.0.3 for WebSphere Software

1. Rational Asset Manager V7.1.1.1 requires WebSphere Application Server fix pack 6.1.0.21. In order to install the maintenance fix packs for WebSphere Application Server, you need to download the most recent Update Installer package that matches your platform from the **Download package** section of Download location for IBM Update Installer V7.0.0.3 for WebSphere Software for Linux

    The Update Installer installation packages can be downloaded in the **zip** and **tar.gz** format by using the FTP and DD links in the table from the Download package section.

Download	Release Date	Language	Size(Bytes)	Download options	
32-bit x86 AMD/Intel (zip)	03/27/2009	US English	100961367	FTP	DD
32-bit x86 AMD/Intel (tar.gz)	03/27/2009	US English	100320126	FTP	DD

2. Ensure that you have stopped all WebSphere Application Server and related processes. The product to be updated must not be running while you apply maintenance.

3. Extract the downloaded Update Installer package (gunzip –d or tar -pxvzf file) to a temporary directory.

4. Navigate to the "*UpdateInstaller*" subdirectory.

5. Back up the original copy of "*responsefile.updiinstaller.txt*" file.

    This file (responsefile.updiinstall.txt) can be used to configure Install with the options specified below. When the wizard is run with the "-options" command line option. A common use of an options file is to run the wizard in silent mode. This lets the options file author specify wizard settings without having to run the wizard in graphical or console mode.

6. Edit the "*responsefile.updiinstaller.txt*" with the following content:
    ```
    -OPT silentInstallLicenseAcceptance="true"
    -OPT disableOSPrereqChecking="true"
    -OPT installLocation="/opt/IBM/WebSphere/UpdateInstaller"
    -OPT traceLevel=INFO
    ```

Note: For more details information on what each option means, review the contents of the original file. "*responsefile.updiinstaller.txt*"

7. To install "*UpdateInstaller*" in a silent mode execution, use the following command line arguments

   ./install –options responsfile.upddinstaller.txt -silent

```
[root@1601-qsrv114-sw UpdateInstaller]# pwd
/tmp/UpdateInstaller
[root@1601-qsrv114-sw UpdateInstaller]# ls
framework  panels                            setup.jar
install    relabel_java.sh                   updi.primary.pak
lafiles    responsefile.old.updiinstaller.txt  updi.updi.pak
lib        responsefile.updiinstaller.txt      version.txt
[root@1601-qsrv114-sw UpdateInstaller]# ./install -options responsefile.updiinsta
ller.txt -silent ▮
```

8. Once the installation is completed. Navigate to */opt/IBM/WebSphere* and verify that the "*UpdateInstaller*" directory is created.

```
[root@1601-qsrv114-sw UpdateInstaller]# cd /opt/IBM/WebSphere
[root@1601-qsrv114-sw WebSphere]# ls
AppServer  UpdateInstaller
[root@1601-qsrv114-sw WebSphere]# ▮
```

How to install maintenance packages for WebSphere Application Server 6.1

1. Download the version of the interim fix, fix pack, or refresh pack file from the **6.1.0.21: WebSphere Application Server V6.1 Fix Pack 21 for Linux page** under **Download package** section into the *updi_root*/maintenance directory.

   !!!**DO NOT ATTEMPT TO UNTAR .pak file!!!**

   In the example below, updi_root =
   /opt/IBM/WebSphere/UpdateInstaller/maintenance

   ```
   [root@1601-qsrv114-sw UpdateInstaller]# cd /opt/IBM/WebSphere
   [root@1601-qsrv114-sw WebSphere]# ls
   AppServer  UpdateInstaller
   [root@1601-qsrv114-sw WebSphere]# cd UpdateInstaller
   [root@1601-qsrv114-sw UpdateInstaller]# ls
   bin        install.txt  lib          properties    update.jar
   docs       java         logs         responsefiles update.sh
   framework  lafiles      maintenance  uninstall     version.txt
   [root@1601-qsrv114-sw UpdateInstaller]# cd maintenance
   [root@1601-qsrv114-sw maintenance]# ls
   6.1.0-WS-WAS-LinuxX32-FP0000021.pak
   [root@1601-qsrv114-sw maintenance]#
   ```

   Note: If you need to install EJB or JAVA SDK. The installation steps are the same. If EJB 3.0 Feature Pack is installed on your system, you must download and install both WebSphere Application Server Fix Pack 21 and EJB 3.0 Feature Pack FIX Pack 21 together or your update installer will not allow the installation to proceed.

2. Backup the original copy of "*install.txt*".

   This is the silent install response file for installing maintenance packages using the update installer. A common use of an options file is to run the wizard in silent mode. This lets the option file author specify wizard settings without having to run the wizard in graphical or console mode.

3. Edit the "*install.txt*" with the following content.

   ```
   -OPT checkFilePermissions="true"
   -OPT disableNonBlockingPrereqChecking="true"
   -W product.location="/opt/IBM/WebSphere/AppServer"
   -W update.type="install"
   ```

4. Make sure that all application servers are stopped.

   Run the **stopServer** command on all WebSphere Application Server profiles.

```
[root@1601-qsrv114-sw bin]# pwd
/opt/IBM/WebSphere/AppServer/bin
[root@1601-qsrv114-sw bin]# ./stopServer.sh server1
ADMU0116I: Tool information is being logged in file
           /opt/IBM/WebSphere/AppServer/profiles/AppSrv01/logs/server1/stopServer
.log
ADMU0128I: Starting tool with the AppSrv01 profile
ADMU3100I: Reading configuration for server: server1
ADMU3201I: Server stop request issued. Waiting for stop status.
ADMU4000I: Server server1 stop completed.
```

5. Stop all WebSphere Application Server related Java processes that are running on the system where you are using the Update Installer program.

   For example, Java processes can include:
   a. All Java virtual machines (JVM)
   b. WebSphere Application Server processes:

      WebSphere Application Server processes include application server processes, such as the process created when server1 is running.

   c. IBM HTTP Server processes
   d. Web server processes that use a plug-in that you are updating
   e. First steps consoles
   f. Installation verification test (IVT) processes
   g. The Profile Management tool
   h. Other InstallShield for Multiplatforms (ISMP) installation programs
   i. InstallShield for Multiplatforms uninstall programs
   j. The IBM Rational Application Developer Agent Controller

   Stop all Java processes if necessary. If you install an interim fix while a WebSphere Application Server related Java process runs, IBM does not guarantee that the product can continue to run successfully, or without error.

   Review the following technote for more information: Stop all WebSphere Application Server-related Java processes before using the Update Installer for WebSphere software.

6. Change directories to the *updi_root* directory and use the update command to install the maintenance package.

   Use the following command syntax to install the last maintenance package that you downloaded. The Update Installer wizard runs in two modes: the silent mode, as a background process, and the regular mode, using the graphical user interface.

   In our example, we will be using the Update Installer wizard in silent mode.

   ./update.sh -silent -options install.txt

   Note: For more details information on how to install maintenance package, review the WebSphere Application Server 6.1 documentation

7. Once you log in to the WebSphere Application Server Integrated Admin Console, you should see the WebSphere Application Server version information listed.
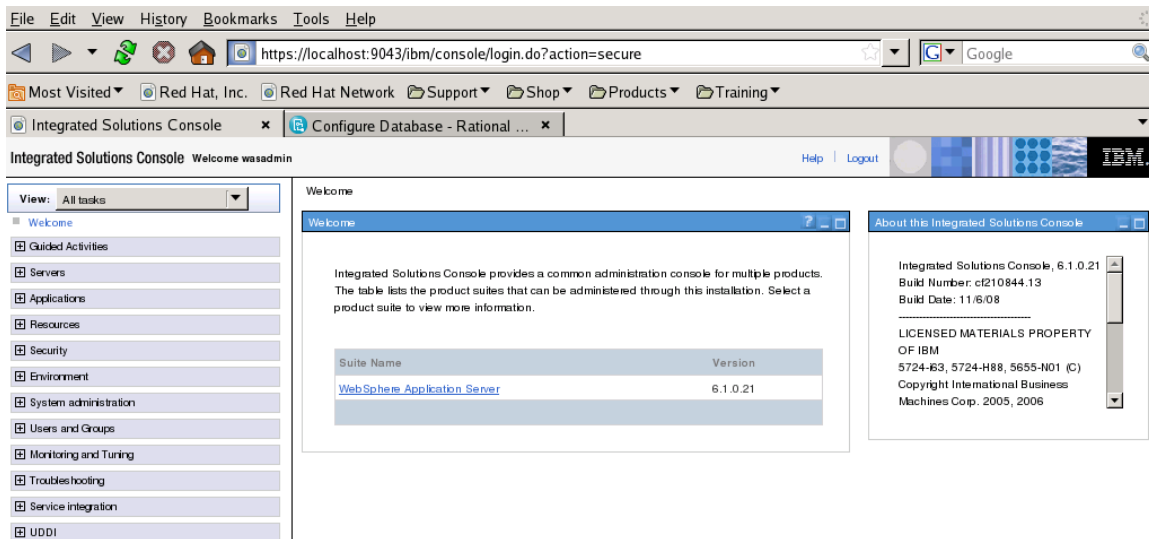
8. In order for this to work with Rational Asset Manager, there is a pre-installation task that needs to be completed.

   When you are installing Rational Asset Manager into an existing WebSphere Application Server v6.1, application security must be enabled. If application security is not enabled, the Rational Asset Manager server setup application will be unable to make any configuration changes for WebSphere Application Server.

a. In the WebSphere Administrative Console, click **Security**.
b. Make sure **Enable application security** is checked.
c. Click **Apply**.
d. Click **Save**.
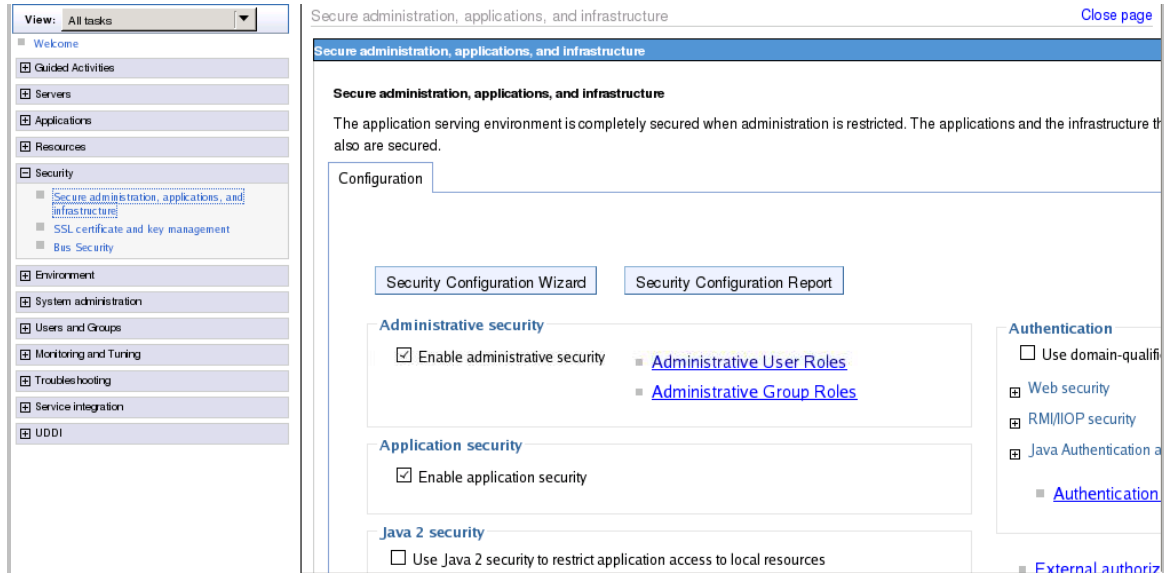
9. Proceed with Rational Asset Manager 7.x Installation and sever setup.

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Summary

The successful silent installation greatly depends upon a good installation planning such as checking at the operating system requirement and prerequisite. Most of the time when the silent installation fails, it is because the incorrect information was entered to a response file. To avoid such problems, I have included the examples of the response files that you can use as a guideline as well.

For a successful installation and configuration, the following is recommended:

1. Check the Linux system OS whether it is running on a 32 bits more or 64 bit mode.

2. Download WebSphere 6.1 Server (base version), Update Installer and WebSphere 6.1.0.21 fix pack ahead of time.

3. By default our products will be installed at **/opt/IBM**, ensure that you have assigned enough disk space under /opt directory.

   Note: If you do not have enough disk space under /opt, a default installation location can be changed as well.