

HPSA Extension Pack

Installation guide

Release V6.1



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In This Guide

This document is a guide for the process of installation of the HPSA Extension Pack.

Audience

The audience for this guide is the Solutions Integrator (SI). The SI has a combination of some or all of the following capabilities:

Understands and has a solid working knowledge of:

- UNIX® commands
- Windows® system administration

Understands networking concepts and language

Is able to program in Java™ and XML

Understands security issues

Understands the customer's problem domain

Conventions

The following typographical conventions are used in this guide.

Font	What the Font Represents	Example
<i>Italic</i>	Book or manual titles, and man page names	Refer to the <i>HP Service Activator — Workflows and the Workflow Manager</i> and the <i>Javadocs</i> man page for more information.
	Provides emphasis	You <i>must</i> follow these steps.
	Specifies a variable that you must supply when entering a command	Run the command: InventoryBuilder <sourceFiles>
	Parameters to a method	The <i>assigned_criteria</i> parameter returns an ACSE response.
Bold	New terms	The distinguishing attribute of this class...
Computer	Text and items on the computer screen	The system replies: Press Enter
	Command names	Use the InventoryBuilder command ...
	Method names	The get_all_replies() method does the following...
	File and directory names	Edit the file \$ACTIVATOR_ETC/config/mwfm.xml
	Process names	Check to see if mwfm is running.
	Window/dialog box names	In the Test and Track dialog...
	XML tag references	Use the <DBTable> tag to...
Computer Bold	Text that you must type	At the prompt, type: ls -l
Keycap	Keyboard keys	Press Return .
[Button]	Buttons on the user interface	Click [Delete]. Click the [Apply] button.
Menu Items	A menu name followed by a colon (:) means that you select the menu, then the item. When the item is followed by	Select Locate:Objects->by Comment.

Font	What the Font Represents	Example
	an arrow (->), a cascading menu follows	

Install Location Descriptors

The following names are used throughout this guide to define install locations.

Descriptor	What the Descriptor Represents
\$ACTIVATOR_OPT	<p>The install base location of Service Activator.</p> <p>The UNIX location is <code>/opt/OV/ServiceActivator</code></p> <p>The Windows location is <code><drive>:\HP\OpenView\ServiceActivator\</code></p>
\$ACTIVATOR_ETC	<p>The install location of specific Service Activator configuration files.</p> <p>The UNIX location is <code>/etc/opt/OV/ServiceActivator</code></p> <p>The Windows location is <code><drive>:\HP\OpenView\ServiceActivator\etc\</code></p>
\$ACTIVATOR_VAR	<p>The install location of specific Service Activator logging files.</p> <p>The UNIX location is <code>/var/opt/OV/ServiceActivator</code></p> <p>The Windows location is <code><drive>:\HP\OpenView\ServiceActivator\var\</code></p>
\$ACTIVATOR_BIN	<p>The install location of specific Service Activator binary files.</p> <p>The UNIX location is <code>/opt/OV/ServiceActivator/bin</code></p> <p>The Windows location is <code><drive>:\HP\OpenView\ServiceActivator\bin\</code></p>
\$JBOSS_HOME	<p>HOME The install location for JBoss.</p> <p>The UNIX location is <code>/opt/HP/jboss</code></p> <p>The Windows location is <code><drive>:\HP\jboss</code></p>
\$JBOSS_DEPLOY	<p>The install location of the Service Activator JEE components.</p> <p>The UNIX location is <code>/opt/HP/jboss/standalone/deployments</code></p> <p>The Windows location is</p>

	<drive>:\HP\jboss\standalone\deployments
\$ACTIVATOR_DB_USER	The database user name you define. Suggestion: ovactivator
\$ACTIVATOR_SSH_USER	The Secure Shell user name you define. Suggestion: ovactusr
\$SOSA_HOME	The install base location of SOSA. The default UNIX location is /opt/OV/ServiceActivator/EP/SOSA The default Windows location is <drive>:\HP\OpenView\ServiceActivator\EP\SOSA\
\$SOSA_BIN	The install location of specific SOSA binary files. The default UNIX location is /opt/OV/ServiceActivator/EP/SOSA/bin The default Windows location is <drive>:\HP\OpenView\ServiceActivator\EP\SOSA\bin\
\$SOSA_ETC	The install location of specific SOSA configuration files. The default UNIX location is /opt/OV/ServiceActivator/EP/Sosa/config The default Windows location is <drive>:\HP\OpenView\ServiceActivator\EP\SOSA\config\
\$ECP_HOME	The install base location of Equipment Connections Pool. The default UNIX location is /opt/OV/ServiceActivator/EP/ECP The default Windows location is <drive>:\HP\OpenView\ServiceActivator\EP\ECP\
\$ECP_BIN	The install location of specific Equipment Connections Pool binary files. The default UNIX location is /opt/OV/ServiceActivator/EP/ECP/bin The default Windows location is <drive>:\HP\OpenView\ServiceActivator\EP\ECP\bin\
\$ECP_ETC	The install location of specific Equipment Connections Pool configuration files. The default UNIX location is /opt/OV/ServiceActivator/EP/ECP/conf The default Windows location is <drive>:\HP\OpenView\ServiceActivator\EP\ECP\conf\

1 Preparing to install the Product

This chapter provides an overview of the hardware and software requirements for the installation of Extension Pack for HP Service Activator. When your site meets all of the requirements described in this chapter, proceed to the instructions in “Installing the Product” on page 29 to complete your Extension Pack installation.

1.1 Upgrading Extension Pack

If you are upgrading from an older version of Extension Pack, do not follow the instructions provided in this document. Instead, please refer to the *Extension Pack Migration Guide*.

1.2 Getting Started

The Extension Pack must be installed in a server where HP Service Activator has been already installed. It can be installed on an HP-UX, Windows Server 2008 R2, or Linux operating system and it requires a database server.

This manual describes the installation of the Extension Pack for Service Activator on the supported Operating Systems. The server must be configured with each of the preinstallation packages referenced in this chapter, as well as the Extension Pack components discussed in Chapter 2, “Installing the Product,” on page 29.

1.3 Understanding Hardware Requirements

Extension Pack meets the same hardware requirements as Service Activator. Please refer to the *Service Activator Installation Guide* to acknowledge the minimum requirements needed for the installation of the Extensions Pack.

1.4 Understanding Software Requirements for the Extension Pack Server

Install and configure the following software on a Service Activator server, in the order listed, prior to installing Extension Pack:

1. The operating system and all available patches. It is crucial that all available patches are installed for the operating system. Supported operating systems are Microsoft Windows 2008 R2, HP-UX 11i v3 and Red Hat Enterprise Linux 6.3.
2. Microsoft Internet Explorer 9.0, Firefox 17, or Chrome 23.
3. Java SE 6 update 37 JDK or later (version 6, but not version 7), 32-bit. The 64-bit version is not supported.
4. Oracle 11g or PPAS 9.2. The database does not need to be installed on the Service Activator server; it can be installed on any server that is accessible to the Service Activator server.
5. Service Activator 6.1 and available patches. It is required that Service Activator 6.1 is installed in drive C.

6. In Windows environments, Cygwin must be also installed.

Instructions for installing Cygwin are provided in the section “Installing the Base Products”. Instructions for installing the rest of these base products are provided with the Service Activator *Installation Guide*.

1.5 Addressing Localization Requirements

If Extension Pack for Service Activator is deployed in a non-English environment, all Service Activator components including JBoss, Oracle, PPAS, and the Secure Shell server must be running under the same locale.

1.6 Installing the Base Products

Use the following information and instructions to install the required software on your Service Activator server.

1.6.1 Installing the Operating System

Follow the instructions provided with Service Activator *Installation Guide*.

1.6.2 Installing Java SE update 37 JDK

Follow the instructions provided with Service Activator *Installation Guide*.

1.6.3 Installing Database Software

Follow the instructions provided with Service Activator *Installation Guide*.

1.6.4 Installing a Supported Browser

Make sure that all users who interact with Service Activator use a supported browser only.

Set the following values for your Display properties:

- Screen area: 1024x768 (minimum with is 1024 pixels).
- Colours: 16 bit (minimum); 24 bit (recommended).
- Fonts: normal size; 96 DPI (recommended).

If you use values other than those indicated here, the browser will not display many of the frames and colours properly in the Operator UI. The Operator UI (i.e. the Solution Container) requires that the browser is maximized.

1.6.5 Installing Service Activator 6.1

Follow the instructions provided with Service Activator *Installation Guide*.

1.6.6 Installing Cygwin

Go to <http://www.cygwin.com> and download the latest official release of Cygwin. Follow the instructions provided with the software to install it.

Cygwin is only required to start up and stop SOSA in a windows environment. It is not required if SOSA is not going to be used.

2 Installing the Product

This chapter provides the instructions for installing Extension Pack for HP Service Activator on the operating system. Before installing the Extension Pack, be sure that your system meets the hardware and software requirements detailed in previous sections.

2.1 Getting Started

Use the instructions in this section to install Service Activator on the Service Activator server.

The Service Activator CD is organized as follows:

`/Binaries/bin/` Location of the installation file required to start up the installation process of Extension Pack for Service Activator.

`/Binaries/Windows/` Location of the Windows installation file, `ServiceActivator.exe`, which also includes Auto Pass licensing and JBoss.

`/Documentation/` Location of the product documentation.

`/ReadMe/` Location of end user license agreement as well as 3rd-party licenses.

`/Opensource/` Location of 3rd-party sources.

2.1.1 Preparing for Installation and Configuration

When you install the product, verify the following:

- The environment variable `JAVA_HOME` is set to point to the location of the Java JDK.

Have the following information available:

- The ports that the Workflow Manager, Oracle Database Listener/PPAS, Resource Manager and Web server will use to communicate. Default ports are:
 - 2000 for the Workflow Manager
 - 1521 for the Oracle Database Listener
 - 5444 for PPAS
 - 9223 for the Resource Manager
 - 8080 for the Web server
- The account and port information you used when creating the database instance and user account during the Database configuration, including:
 - Username
 - Password
 - Database host
 - Database instance
 - Oracle Listener or PPAS database port (default is 1521 for Oracle and 5444 for PPAS)

2.1.2 Migration from an Old Version

If you wish to upgrade an old Service Activator installation to this version, then please look in the *Migration Guide* for further information.

2.1.3 Preserving Configuration Files

You should not attempt to reinstall Extension Pack over an existing installation. If you wish to replace an existing installation for any reason, you should first uninstall Extension Pack and then perform a new installation. Before doing so, however, you may wish to backup the following configuration files to a location outside the Service Activator and JBoss installation directories. In particular, if you have customized any of these files, and you would like to reuse the customized information in your new installation, be sure to backup them.

To prevent any inconvenience it is recommended to backup the Service Activator (including an eventual previous installation of Extension Pack) installation directory as well as the database schema.

Depending on the operating system, Service Activator will be installed in:

- Windows:
 - `C:/HP/jboss`
 - `C:/HP/OpenView/ServiceActivator`
- HP-UX and Linux:
 - `/opt/HP/jboss`
 - `/etc/opt/OV/ServiceActivator`
 - `/opt/OV/ServiceActivator`
 - `/var/opt/OV/ServiceActivator`

2.2 Installing

The installation process for Service Activator includes installation of the Service Activator software (including the JBoss application server) and configuration of the software.

2.2.1 Installing Extension Pack for Service Activator

- Verify that all of the preinstallation requirements have been met (see Chapter 1, “Preparing to Install the Product”).
- Make sure that Service Activator is stopped.
- Log in to the system as an Administrator user, and then insert the Extension Pack installation compact disc.
- Browse to the `/Binaries` directory and locate the zipped file called `HPSAEP61.zip`.
- Unzip the file `HPSAEP61.zip` in a temporary directory in your hard disk. In Windows, you must copy it to drive C. Five directories will be created: `bin`, `data`, `dist`, `etc` and `lib`. To unzip the file the following ways are possible:

- Windows: Download and use one of the available free tools Internet, like e.g. 7zip (<http://www.7-zip.org>)
- HP-UX and Linux: Type the next command in a command line console:

```
jar xvf HPSAEP61.zip
```
- In a command line console browse to the `bin` directory (this directory must have been created after unzipping the file in the previous step). Type the name of the script designed for working on your operating system to start the installation of Extension Pack:
 - `install.bat`: Script for Windows environments.
 - `install`: Script for HP-UX and Linux environments.
- Different options will be offered. Chose the one called `install` by typing `install` and pressing Intro.
- Type `Yes` when asked for confirmation.
- Type the database user name and password when that information is requested. The database host name, port and instance name will be automatically obtained from the Service Activator configuration.
- Type `Yes` when asked to clear the JBoss cache directories.

2.2.2 Javacvs.jar file installation

The file `javacvs.jar` must be manually downloaded from the Internet. The file can be downloaded from <http://sourceforge.net/projects/javacvs/files/JavaCVS/>. The version to use is 0.4.1. This jar file is only needed in case you want to use the workflow node `AuditBackup` provided with the Extensions Pack. That jar file must be copied to `$JBOSS_DEPLOY/hpsa.ear/lib`.

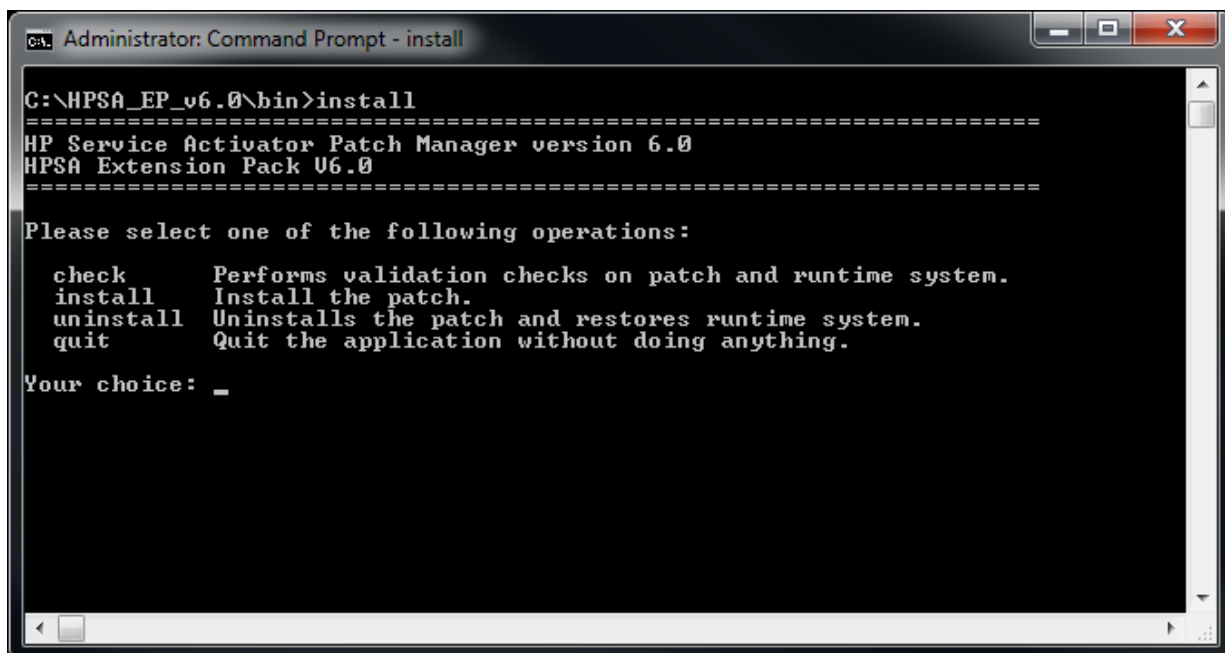
2.2.3 Installation example

For this example it will be assumed that the file `HPSAEP61.zip` described in the installation process has been unzipped into `C:\HPSA_EP_v6.1`.

First, from a command line call the script `install.bat` to start up the installation process for Extension Pack:

```
C:\HPSA_EP_v6.1\bin>install.bat
```

Four options will be displayed: `check`, `install`, `uninstall` and `quit`.



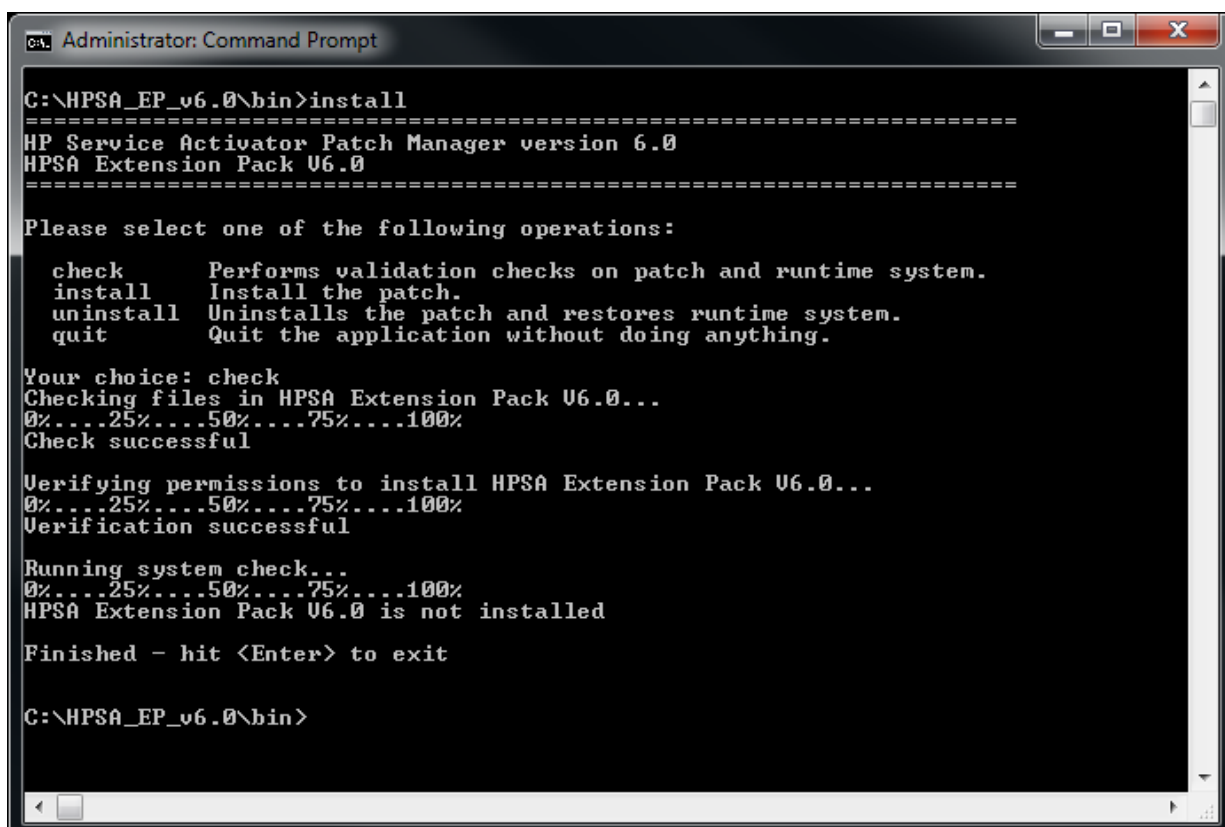
```
C:\HPSA_EP_v6.0\bin>install
=====
HP Service Activator Patch Manager version 6.0
HPSA Extension Pack V6.0
=====

Please select one of the following operations:

  check      Performs validation checks on patch and runtime system.
  install    Install the patch.
  uninstall  Uninstalls the patch and restores runtime system.
  quit       Quit the application without doing anything.

Your choice: _
```

Select (i.e. type) `check`. This operation may take a few seconds. The result should be the same as:



```
C:\HPSA_EP_v6.0\bin>install
=====
HP Service Activator Patch Manager version 6.0
HPSA Extension Pack V6.0
=====

Please select one of the following operations:

  check      Performs validation checks on patch and runtime system.
  install    Install the patch.
  uninstall  Uninstalls the patch and restores runtime system.
  quit       Quit the application without doing anything.

Your choice: check
Checking files in HPSA Extension Pack V6.0...
0%....25%....50%....75%....100%
Check successful

Verifying permissions to install HPSA Extension Pack V6.0...
0%....25%....50%....75%....100%
Verification successful

Running system check...
0%....25%....50%....75%....100%
HPSA Extension Pack V6.0 is not installed

Finished - hit <Enter> to exit

C:\HPSA_EP_v6.0\bin>
```

As it can be seen, there is no previous version of Extension Pack installed, yet. Also, no files belonging to Service Activator will be affected or modified.

Now select the `install` option. You can directly select this option by typing:

```
C:\HPSA_EP_v6.1\bin>install.bat install
```

You will be asked to confirm the installation (you must answer **Yes** to proceed). It will take a few seconds to install Extension Pack v6.1.

On the next step the database user name and password will be requested.

Once typed, the installation process will proceed to the deployment of the Extension Pack files. After that you will be asked to indicate whether you want to migrate the system database or not. If you answer **Yes**, the database will be migrated, otherwise it will be left as is.

```

C:\Windows\system32\cmd.exe
=====
HP Service Activator Patch Manager version 6.0
HPSA Extension Pack U6.0
=====

Please select one of the following operations:

  check      Performs validation checks on patch and runtime system.
  install     Install the patch.
  uninstall   Uninstalls the patch and restores runtime system.
  quit       Quit the application without doing anything.

Your choice: install
Checking files in HPSA Extension Pack U6.0...
0%....25%....50%....75%....100%
Check successful

Verifying permissions to install HPSA Extension Pack U6.0...
0%....25%....50%....75%....100%
Verification successful

Running system check...
0%....25%....50%....75%....100%
HPSA Extension Pack U6.0 is not installed

Are you sure that you want to install HPSA Extension Pack U6.0? [Yes/No] Yes

Backing up files...
0%....25%....50%....75%....100%
Success.

Installing HPSA Extension Pack U6.0...
0%....25%....50%....75%....100%
Success.

DB configuration:
Host      : linux_db
Port      : 1521
Instance : OUSA
Please enter DB user name: OUSA
Please enter DB password : OUSA
Success.
Installing database schema...
Do you wish to install the database? [Yes/No] Yes
Success.

It is highly recommended that you delete JBoss' temporary files.
Do you want to delete JBoss' temporary files? [Yes/No] Yes

Deleting files in JBoss' default tmp directory...
Success.

Finished - hit <Enter> to exit

```

2.2.4 Manual Deployment

Once the Extension Pack has been installed it is possible to manually deploy ECP, Lock Manager and SOSA into a different environment where Service Activator and/or Extension Pack may not have been deployed. This section will describe in detail the steps required to move each component to a different location.

ECP, Lock Manager and SOSA are installed by default in the Extension Pack home directory inside Service Activator. The notation `$EP_HOME` will be used to refer to this directory, which depending on the operating system is:

- Windows:
`$EP_HOME = C:\HP\OpenView\ServiceActivator\EP\ECP`
- HP-UX and Linux:
`$EP_HOME = /opt/OV/ServiceActivator/EP`

2.2.4.1 ECP

The directory where ECP is installed by default is `$EP_HOME/ECP`. To manually deploy it in a different environment, copy that directory to the new one in the new environment. If the path for the new directory for ECP in the new environment is different than `$ECP_HOME/ECP` the new path has to be configured (replacing the old one with the new one) in the next files of the new environment:

- `$EP_HOME/ECP/bin`
- `$EP_HOME/ECP/conf/ecp.properties`

In the same way make sure that a valid host name or IP is configured in those files for the properties `RMI_HOST` and `RMI_STUB_EXPORT_HOST` which are required when ECP needs to be accessed from a different host.

Finally copy the contents below the next directories to the same path in the new environment:

- `$JBOSS_HOME/modules`
- `$JBOSS_DEPLOY/hpsa.ear/lib`

2.2.4.2 Lock Manager

The directory where Lock Manager is installed by default is `$EP_HOME/LockManager`. To manually deploy it in a different environment, copy that directory to the new one in the new environment. If the path for the new directory for Lock Manager in the new environment is different than `$ECP_HOME/LockManager` the new path has to be configured (replacing the old one with the new one) in the next files of the new environment:

- `$EP_HOME/LockManager/bin`
- `$EP_HOME/LockManager/conf/LockManager.properties`

In the same way make sure that a valid host name or IP is configured in those files for the properties `RMI_HOST` and `RMI_STUB_EXPORT_HOST` which are required when Lock Manager needs to be accessed from a different host.

Finally copy the contents below the next directories to the same path in the new environment:

- `$JBOSS_HOME/modules`
- `$JBOSS_DEPLOY/hpsa.ear/lib`

2.2.4.3 SOSA

The directory where SOSA is installed by default is `$EP_HOME/SOSA`. To manually deploy it in a different environment, copy that directory to the new one in the new environment.

Finally copy the contents below the next directories to the same path in the new environment:

- `$JBOSS_DEPLOY/hpsa.ear/lib`

2.2.5 Configuring Extension Pack

It is mandatory that an authentication module is configured in the `mwfm.xml` file before the Service Activator is started up. Otherwise user will never be able to log on the Solution Container (which is the name of the Operator UI provided with the Extension Pack). Note that this limitation does only apply to the Solution Container but not to Service Activator, so users will always be able to log on to Service Activator even though an authentication module is not configured.

If there were more users defined in the system than the system user it is highly recommended that the system user logs on the system first and assigns those users to the role `futuregui`. Otherwise those users will be able to log in the system, but no menu option will be displayed in the menu bar since they don't have access permissions for anything.

Along with the Solution Container a solution for Equipment Configuration Management is provided. The usage of this solution requires the deployment of the work flows that will be stored below

`$ACTIVATOR_ETC/workflows`

Refer to the specific documents for Solution Container, ECP, Lock manager and SOSA to properly configure each of them.

2.3 Starting and Stopping Extension Pack

This section describes how to start up each component provided with Extension Pack.

2.3.1 Solution Container

The Solution Container is the Operator UI provided with the Extension Pack for Service Activator and it is deployed as a separated web application of the JBoss that is installed as part of Service Activator:

`$JBOSS_DEPLOY/hpsa.ear/ep.war`

This means that the Solution Container will be started up as part of Service Activator (the same applies to stop it), so as it is explained for Service Activator, follow the next steps for each operating system.

2.3.1.1 Windows

You can start and stop Service Activator (and hence the Solution Container) the following way:

1. Press the `[Start]` button and select
`Settings -> Control Panel -> Administrative Tools -> Services.`
2. Select the `HP Service Activator service`.
3. From the `Action` menu, select the action you want to take.

This can also be made through command line typing the next command:

```
net start "HP Service Activator"
```

2.3.1.2 HP-UX

Service Activator, and hence the Solution Container, is started up through command line invoking the next script:

```
/sbin/init.d/activator start
```

In a similar way it is stopped:

```
/sbin/init.d/activator stop
```

2.3.1.3 Linux

Service Activator, and hence the Solution Container, is started up through command line invoking the next script:

```
/etc/init.d/activator start
```

In a similar way it is stopped:

```
/etc/init.d/activator stop
```

2.3.2 ECP

ECP is deployed below `$EP_HOME/ECP`. Follow the next steps to start it up and stop it depending on the operating system.

2.3.2.1 Windows

Execute the next script to start it up:

```
$EP_HOME\ECP\bin\StartServer.bat
```

Execute the next script to stop it:

```
$EP_HOME\ECP\bin\StopServer.bat
```

2.3.2.2 HP-UX and Linux

Type the next command to start it up:

```
$EP_HOME/ECP/bin/StartServer.sh
```

Type the next command to stop it:

```
$EP_HOME/ECP/bin/StopServer.sh
```

2.3.3 Lock Manager

Lock Manager is deployed below `$EP_HOME/LockManager`. Follow the next steps to start it up and stop it depending on the operating system.

2.3.3.1 Windows

Execute the next script to start it up:

```
$EP_HOME\LockManager\bin\StartServer.bat
```

Execute the next script to stop it:

```
$EP_HOME\LockManager\bin\StopServer.bat
```

2.3.3.2 HP-UX and Linux

Type the next command to start it up:

```
$EP_HOME/LockManager/bin/StartServer.sh
```

Type the next command to stop it:

```
$EP_HOME/LockManager/bin/StopServer.sh
```

2.3.4 SOSA

SOSA is deployed below `$EP_HOME/SOSA`. Follow the next steps to start it up and stop it depending on the operating system.

2.3.4.1 Windows

Open Cygwin and execute the next script to start it up:

```
$EP_HOME\SOSA\bin\sosa_cygwin.sh start
```

Execute the next script to stop it:

```
$EP_HOME\SOSA\bin\sosa_cygwin.sh stop
```

2.3.4.2 HP-UX and Linux

Type the next command to start it up:

```
$EP_HOME/SOSA/bin/sosa.sh start
```

Type the next command to stop it:

```
$EP_HOME/SOSA/bin/sosa.sh stop
```

2.3.5 Start up as non-root user

In HP-UX and Linux environments it is possible to run Extension Pack as a non-root user. To do so, the system administrator must run the script

```
$ACTIVATOR_BIN\AssignNonRoot
```

Notice that the execution of that script will also affect Service Activator and will enable it to be started up as a non-root user as well. See *Service Activator Installation Guide* for further details.

2.4 Accessing the Solution Container

To start the Solution Container, start Service Activator, then open a supported browser and go to the following URL:

```
http://<machine_name>:8080/ep/jsp/future-gui/hpac.jsp
```

NOTE: The Solution Container does not support Single Sign On, so it is not required the usage of the full qualified domain name of your Service Activator server even though you have configured Service Activator to run with Single Sign On.

In the login screen, enter the user/password of the user authorized to log into Service Activator. Remember that the Solution Container requires the configuration of an authentication module, otherwise no user will be allowed to log in to the system. Refer to HP Service Activator—Workflows and the Workflow Manager for additional information about authentication.

Go to the logs screen to view the various log files and verify that everything is working as expected.

For more information about the Operator UI, see the “User’s Guide” and “Developer’s Guide”.

2.5 Removing the installation

The Extension Pack for Service Activator product should be removed only by using the remove program.

Use the following instructions to remove Service Activator:

- Make sure that Service Activator is stopped.
- Log in to the system as an Administrator user, and then insert the Extension Pack installation compact disc.
- Browse to the `/Binaries` directory and locate the zipped file called `HPSAEP61.zip`.
- Unzip the file `HPSAEP61.zip` in a temporary directory in your hard disk. In Windows, you must copy it to drive C. Five directories will be created: `bin`, `data`, `dist`, etc and `lib`. To unzip the file the following ways are possible:
 - Windows: Download and use one of the available free tools Internet, like e.g. 7zip (<http://www.7-zip.org>)
 - HP-UX and Linux: Type the next command in a command line console:


```
jar xvf HPSAEP61.zip
```
- In a command line console browse to the `bin` directory (this directory must have been created after unzipping the file in the previous step). Type the name of the script designed for working on your operating system to start the installation of Extension Pack:
 - `install.bat`: Script for Windows environments.
 - `install`: Script for HP-UX and Linux environments.
- Different options will be offered. Chose the one called `uninstall` by typing `install` and pressing `Intro`.
- Type `Yes` when asked for confirmation.
- Type the database user name and password when that information is requested. The database host name, port and instance name will be automatically obtained from the Service Activator configuration.
- Type `Yes` when asked to clear the JBoss cache directories.

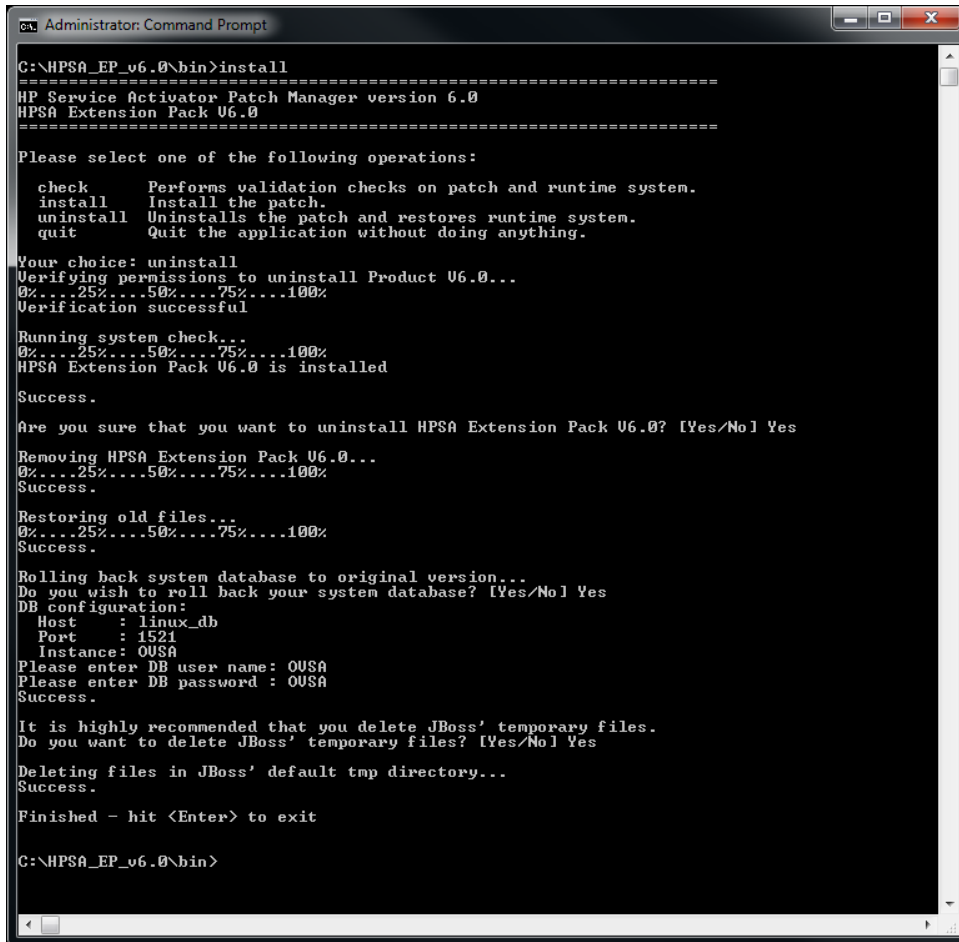
2.5.1 Uninstallation example

For this example it will be assumed that the file `HPSAEP61.zip` described in the installation process has been unzipped into `C:\HPSA_EP_v6.1`.

First, from a command line call the script `install.bat` to start up the installation process for Extension Pack:

```
C:\HPSA_EP_v6.1\bin>install.bat uninstall
```

You will be asked to confirm the uninstallation (you must answer `Yes` to proceed). You will also be asked for the database user name and password.



```
Administrator: Command Prompt
C:\HPSA_EP_v6.0\bin>install
=====
HP Service Activator Patch Manager version 6.0
HPSA Extension Pack 06.0
=====
Please select one of the following operations:
  check    Performs validation checks on patch and runtime system.
  install   Install the patch.
  uninstall Uninstalls the patch and restores runtime system.
  quit     Quit the application without doing anything.

Your choice: uninstall
Verifying permissions to uninstall Product 06.0...
0%...25%...50%...75%...100%
Verification successful

Running system check...
0%...25%...50%...75%...100%
HPSA Extension Pack 06.0 is installed

Success.

Are you sure that you want to uninstall HPSA Extension Pack 06.0? [Yes/No] Yes

Removing HPSA Extension Pack 06.0...
0%...25%...50%...75%...100%
Success.

Restoring old files...
0%...25%...50%...75%...100%
Success.

Rolling back system database to original version...
Do you wish to roll back your system database? [Yes/No] Yes
DB configuration:
Host      : linux_db
Port      : 1521
Instance : OUSA
Please enter DB user name: OUSA
Please enter DB password : OUSA
Success.

It is highly recommended that you delete JBoss' temporary files.
Do you want to delete JBoss' temporary files? [Yes/No] Yes

Deleting files in JBoss' default tmp directory...
Success.

Finished - hit <Enter> to exit

C:\HPSA_EP_v6.0\bin>
```

2.6 Internet Protocol versions IPv4 and IPv6

Extension Pack supports both IPv4 and IPv6. The user should decide which protocol to use. Refer to Service Activator *Installation Guide* for further information. Notice that, if using IPv6, Extension Pack configuration parameters must follow the next convention:

- If the parameter specifies an IP or host name then the configured value should be a pure IPv6 (if an IP is to be configured)
- If the parameter specifies an URL, then the URL specification is followed, that is, IPv6 IPs should be between square brackets.

2.7 Oracle Real Application Cluster (RAC)

Extension Pack supports Oracle RAC. The installer will pick up the database configuration from Service Activator so, just by configuring Oracle RAC for Service Activator through `ActivatorConfig` (as a comma separated host list), Extension Pack will be configured to use Oracle RAC. See *Service Activator Installation Guide* for further details.

2.8 Using Extension Pack in a Cluster Environment

The only component that supports clustering is the ECP. Neither the Lock manager nor SOSA do support that feature.

Refer to ECP documentation for more detailed information about clustering environment configuration.