

HP Operations Orchestration Software

Software Version: 7.20

*Upgrading HP Software Operations Orchestration to 7.20
Windows and Linux Operating Systems*

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Documentation Updates

The title page of this document contains the following identifying information:

- Software Version number, which indicates the software version.
 - The number before the period identifies the major release number.
 - The first number after the period identifies the minor release number.
 - The second number after the period represents the minor-minor release number.
- Document Release Date, which changes each time the document is updated.
- Software Release Date, which indicates the release date of this version of the software."

You will also receive updated or new editions if you subscribe to the appropriate product support service. If you have additional questions, contact your HP Sales Representative.

Updating documentation

Documentation enhancements are a continual project at Hewlett-Packard Software. You can update the documentation set at any time using the following procedure (which is also available in the HP OO readme file).

To obtain HP OO documentation

1. On The Web site <https://support1.opsware.com/support/index.php>, log in with account name and password that you received when you purchased HP OO.
2. On the **Support** tab, click the **Product Docs** subtab.
3. Under **Quick Jump**, click **Operations Orchestration** (or **Process Automation System**).
4. Under **Operations Orchestration**, click **ZIP** beside **HP OO 7.20 Full Documentation Set**.
5. Extract the files in the .zip file to the appropriate locations on your system:
 - For the tutorials to run, you must store the .swf file and the .html file in the same directory.
 - To obtain the repository that reflects the state of the flow at the start of the tutorial, unzip the file Exportof<preceding_tutorial_name>.zip.
 - To obtain the scriptlet for the tutorial that includes using scriptlets, click the scriptlet .txt file name.
 - To update your Central or Studio Help:
 - a. Under **Help Files**, and then click **Studio Help File Bundle** or **Central Help File Bundle**.
 - b. In the **File Download** box appears, click either **Open** or **Save**.
 - c. Extract the files to the Hewlett-Packard Software\HP OO home directory, in either the **\Central\docs\help\Central** or **\Studio\docs\help\Studio** subdirectory, overwriting the existing file.

Support

For support information, including patches, troubleshooting aids, support contract management, product manuals and more, visit one of the two following sites:

- <https://support1.opsware.com/support/index.php>
- http://www.hp.com/go/hpsoftware/DCA_support

Your configuration and this document

This document covers several different upgrade scenarios, for both Linux and Windows installations:

- [Upgrading an existing standalone installation of Scheduler](#)
- [Upgrading HP OO to 7.20 on a Windows operating system](#)
- [Upgrading HP OO to 7.20 on a Linux operating system](#)
- [Upgrading Studio to 7.20](#)
- [Upgrading HP OO Central clusters](#)

In any case, make sure that you are upgrading only from version 7.0 or 7.10. To upgrade from an earlier version, take the upgrade path described in [the following section](#).

Upgrade path

If you are upgrading from a version of Operations Orchestration (HP OO, known as "Process Automation System," "OpsForce," or "Repair System" in earlier versions) earlier than version 2.2, you must upgrade one release at a time. The upgrade path is:

- 1.0 →
- 1.1 →
- 2.0 →
- 2.1 →
- 2.2 From version 2.2, you can upgrade to either version 7.0 or 7.10.
- 7.0 From version 7.0, you can upgrade to either version 7.10 or 7.20.
- 7.10 →
- 7.20

Scheduler and Central installation programs merged

Note that the Scheduler for HP OO Central is now an integrated part of Central. Installation of Scheduler is part of the installation of Central.

Upgrading an existing standalone installation of Scheduler

If in your earlier installation, Scheduler is installed on its own machine, you need to uninstall Scheduler. If the installation of Scheduler that you are upgrading accessed

a different database from Central's, either copy the scheduling information from the separate Scheduler database to the Central database or recreate the schedules after upgrading.

To upgrade a standalone installation of Scheduler

1. If Scheduler accessed its own database (that is, a different one from the Central database), then before upgrading, back up the Scheduler database.
OR
If Scheduler accessed the Central database, skip to step 2.
2. Uninstall the standalone Scheduler.
3. Upgrade HP OO, as described in one of the two following sections:
 - [Upgrading HP OO to 7.20 on a Windows operating system](#)
 - [Upgrading HP OO to 7.20 on a Linux operating system](#)
4. If the standalone Scheduler accessed its own database, do one of the following:
 - Import the scheduling data from the Scheduler database into the 7.20 Central database.
OR
 - Manually recreate your schedules in Central.

Upgrading HP OO to 7.20 on a Windows operating system

Note: The following procedure for upgrading Operations Orchestration (HP OO) Central assumes that your Central server runs a Windows operating system and either the MySQL or the Microsoft SQL Server database management system.

If your Central server is running Linux and either Oracle or MySQL, use the upgrade procedure in [Upgrading HP OO to 7.20 on a Linux operating system](#).

HP OO system configurations that are carried over from versions 7.0 and 7.10 are those that were specified on the **Administration\System Configuration** tab of the Central Web application. These include the following:

- Active Directory (AD), Lightweight Directory Access Protocol (LDAP), or Kerberos authentication enablement and settings
- HP OO users, groups, and capabilities
- How Scheduler functions
- A few general settings for Central

Other system configurations you must reapply manually. Preserving the settings and configuration files for those configurations is covered in step 2 of the following procedure.

Important: In the following procedure, references to your current version or installation of HP OO refer only to 7.0 or 7.10. If you are upgrading from an earlier version of PAS or Repair System, see [Upgrade Path](#) for the upgrade path to follow.

To upgrade Central from your current version of HP OO to version 7.20

1. Make sure that:

- The machines on which you upgrade HP OO meet the requirements for version 7.20, as described in *System Requirements for Hewlett-Packard Software™ Operations Orchestration* (SysReqs.pdf).
 - You have applied all hot fixes for your current version.
2. Make backups of the relevant files for the following system configurations, which you must manually reapply after upgrading:
 - applicationContext.xml
Manually merge your current version of this file with the 7.20 version.
 - jaasLogin.conf
Copy over your current version of this file with the 7.20 version of it and ensure that your 7.20 HP OO system properly references it.
 - wrapper.conf settings such as wrapper.java.maxmemory
 - Any changes made in the Central.properties file regarding system tuning.
 - Any custom iActions that have been written for either NRAS or JRAS.
Back up the iActions that you wrote or generated from a WSDL, and then place them in the 7.20 installation location of the JRAS or NRAS.
 3. If you use a krb5.conf file for Kerberos authentication, copy that file so that your Central configuration can find it.
 4. In Studio, export the public repository and any local repositories for a Studio installation each to a new repository, storing each export in a safe place.
When you export, be sure:
 - Not to export any of the default content in the system
 - Export only flows and operations that have been created in your organization.
 You will import these repositories later. When you do, these two measures will make the importing of these repositories into the 7.20 system much easier.
 5. If Studio is installed on the same machine as the copy of Central that you are installing, uninstall Studio (using the Add/Remove Programs in Control Panel).
 6. On each of the staging and production Central servers, back up the Central database and store the backup in a secure location.
Dashboard charts are stored in the Central database, so the database backup includes Dashboard charts.
Note: If the production Central server is clustered, back up the database in accordance with best practices for your clustering solution.
 7. Close all windows to the HP OO home directory and any of its subdirectories.
The upgrade application cannot write into these directories if they are open.
 8. On the Central server, close Central and stop the RSCentral, RSScheduler, RSJRAS, RSNRAS, and RSSKAD services and, if you have installed the OO Load Balancer, the RSCLUSTER service.
 9. On your installation source, navigate to and double-click CentralInstaller-7.20.exe.
 10. In the prompt that appears, to permit upgrading Central, click **Yes**.
If the installation of Studio that you are upgrading is installed on the same machine as your current installation of Central and you have not uninstalled Studio, you are prompted to backup Studio's repository and uninstall Studio, then

restart the installation. Click **OK**, uninstall Studio, and then restart the installation.

11. On the **License Agreement** page, accept the End User License Agreement, and then click **Next**.

In the **Network Settings** page, the default settings match those of your current installation.

12. Either accept the settings or change them to fit your current needs, and then click **Next**.

13. In the **Ready to Install** page, click **Install**.

The Upgrading page appears, displaying a progress bar.

14. When the installation has completed, click **Finish**.

15. Manually reapply any changes you made in the following files:

- applicationContext.xml
Manually merge your current version of this file with the 7.20 version.
- jaasLogin.conf
Copy over this file and ensure that your 7.20 HP OO system properly references it.
- wrapper.conf settings such as wrapper.java.maxmemory
- Any changes made in the Central.properties file regarding system tuning.
- Any custom iActions that have been written for either NRAS or JRAS.
Back up the iActions that you wrote or generated from a WSDL, and then place them in the 7.20 installation location of the JRAS or NRAS.

16. Upgrade Studio.

You must upgrade Studio before you import the public repository that you exported earlier in the procedure. To upgrade Studio, see the section below, [Upgrading Studio to 7.20](#).

If Studio is on the same machine as Central, make sure that the directory to which Studio is installed is the same as that of the Central install. By default the Studio installation program tries to install in C:\Program Files\Hewlett-Packard\Operations Orchestration.

Upgrading HP OO to 7.20 on a Linux operating system

HP OO system configurations that are carried over from versions 7.0 and 7.10 are those that were specified on the **Administration\System Configuration** tab of the Central Web application. These include the following:

- Active Directory (AD), Lightweight Directory Access Protocol (LDAP), or Kerberos authentication enablement and settings
- HP OO users, groups, and capabilities
- How Scheduler functions
- A few general settings for Central

Other system configurations you must reapply manually. Preserving the settings and configuration files for those configurations is covered in step 3 of the following procedure.

Important: In the following procedure, references to your current version or installation of HP OO refer only to 7.0 OR 7.10. If you are upgrading from an earlier version of HP OO, PAS, or Repair System, see [Upgrade Path](#) for the upgrade path to follow.

To upgrade Central from your current version of HP OO to version 7.20 on a Linux operating system

1. Make sure that:
 - The machines on which you upgrade HP OO meet the requirements for version 7.20, as described in *System Requirements for Hewlett-Packard Software™ Operations Orchestration* (SysReqs.pdf).
 - You have applied all hot fixes for your current version.
 - The current versions of the Central, Scheduler, and JRAS services are stopped.
2. In Studio, export the public repository (and local repositories for any installation of Studio) each to a new repository, and store each export in a safe place. When you export, be sure:
 - Not to export any of the default content in the system
 - Export only flows and operations that have been created in your organization.You will import these repositories later. When you do, these two measures will make the importing of these repositories into the 7.20 system much easier.
3. Make backups of the relevant files for the following system configurations, which you must manually reapply after upgrading:
 - applicationContext.xml
Manually merge your current version of this file with the 7.20 version.
 - jaasLogin.conf
Copy over this file and ensure that your 7.20 HP OO system properly references it.
 - wrapper.conf settings such as wrapper.java.maxmemory
 - Any changes made in the Central.properties file regarding system tuning.
 - Any custom iActions that have been written for either NRAS or JRAS.
Back up the iActions that you wrote or generated from a WSDL, and then place them in the 7.20 installation location of the JRAS or NRAS.
4. If you use a krb5.conf file for Kerberos authentication, copy that file so that your Central configuration can find it.
5. On each of the staging and production Central servers, back up the Central database and store the backup in a secure location.
Dashboard charts are stored in the Central database, so the database backup includes Dashboard charts.

Note: If the production Central server is clustered, back up the database in accordance with best practices for your clustering solution.

Next, you upgrade Central and any standalone installations of RAS.

6. Make sure that the services for your current installations of Central, Scheduler, and JRAS are stopped.
7. Unzip the file Central-7.20-linux-<database_type>.zip.
To unzip to a different location, add -d and an existing directory name to the unzip command.
8. Edit the install.config file and change parameters to fit your environment.
Comments before each parameter explain what the parameter does.
 - If you are upgrading from PAS 7.0, find the line `UPGRADE_7_0="false"`, and change `"false"` to `"true"`.
OR
If you are upgrading from OO 7.10, find the line `UPGRADE_7_10="false"`, and change `"false"` to `"true"`.
 - If you are upgrading from PAS 7.0, find the line `ICONCLUDE_HOME_7_0=""`, and provide the location of the PAS 7.0 installation from which you are upgrading.
OR
If you are upgrading from OO 7.10, find the line `ICONCLUDE_HOME_7_10=""`, and provide the location of the OO 7.10 installation from which you are upgrading.

If you do not set `UPGRADE_7_0` or `UPGRADE_7_10` to "true", but an environment variable `ICONCLUDE_HOME` is found to point to a folder different from the current one, the configuration script asks whether you want to upgrade. If you type "y" at the prompt, the upgrade starts, using the database settings found in the current installation; otherwise, the install uses the settings found in the 7.20 install.config file.

Important: When editing the install.config file, leave the value of `RECREATE_DB_SCHEMA` as "false".

9. Run the script `./configure.sh` in the current directory.
This script applies the configuration parameters to the appropriate files and upgrades the database schema. It also produces the `.iconcluderc` file in the current directory.

The following settings are carried over from the current version and have updated the 7.20 install.config file:

- `HTTP_PORT`
- `HTTPS_PORT`
- `MAX_HEAP_SIZE`
The upgrade obtains the `MAX_HEAP_SIZE` value from the current install.config file, rather than from `wrapper.conf`.
- `DB_HOST`
- `DB_PORT`
- `DB_NAME`
- `DB_USER`
- `CONFIGURE_JRAS`
- `JRAS_HOST`

- JRAS_PORT
- JRAS_MAX_HEAP_SIZE
- CENTRAL_BROADCAST
- STUDIO_BROADCAST
- SCHEDULER_ENABLED
- SCHEDULER_HOST
- SCHEDULER_PORT
- SCHEDULER_PROTO

The configure.sh file writes the following log files:

- ./configure.log
- ./recreate-db.log

10. Source the file .iconcluderc and verify that the environment variable \$ICONCLUDE_HOME is properly set.

11. Manually reapply any changes you made in the following files:

- applicationContext.xml
Manually merge your current version of this file with the 7.20 version.
- jaasLogin.conf
Copy over this file and ensure that your 7.20 HP OO system properly references it.
- wrapper.conf settings such as wrapper.java.maxmemory
- Any changes made in the Central.properties file regarding system tuning.
- Any custom iActions that have been written for either NRAS or JRAS.
Back up the iActions that you wrote or generated from a WSDL, and then place them in the 7.20 installation location of the JRAS or NRAS.

Useful log files to monitor:

- \$ICONCLUDE_HOME/Central/logs/Central_wrapper.log
- \$ICONCLUDE_HOME/RAS/Java/Default/webapp/logs/wrapper.log

Other useful locations:

- \$ICONCLUDE_HOME/bin has symbolic links to startup files for Central, Scheduler, and JRAS services.
- \$ICONCLUDE_HOME/conf has symbolic links to wrapper.conf files for the Central and JRAS.

System configuration notes:

- In order to scale up the system, the user under which Central runs should have the fd limit increased. For instance, if the user is named "user1", add these two lines to the file /etc/security/limits.conf:

```
user1 soft nofile 65536
user1 hard nofile 65536
```

Then log into the box as user1 and check the value by issuing the "ulimit -n" command.

12. To upgrade a standalone RAS installation, perform a normal standalone RAS installation, using the procedure in the RAS README.linux.txt.

Your current-version AD or Kerberos settings have migrated into 7.20.

13. To upgrade Studio, see the following section, [Upgrading Studio to 7.20](#).

Upgrading Studio to 7.20

Notes:

- If Studio is on the same machine as Central, upgrade your current Studio in the same directory in which you installed Central. By default, the Studio installation program tries to install in C:\Program Files\Hewlett-Packard\Operations Orchestration.
Note: If Studio is on the same machine as Central, you already uninstalled Studio in order to run the Central upgrade.
- To install Studio, you must be logged in with an account that is either a Power User or a local Administrator.
- **Important notes:**
 - The installation requires a port number for communications using the HTTPS protocol. This port number was specified during installation of the Central Web application. Before starting to install Studio, obtain this port number from the person who installed Central.
 - In the following procedure, references to your current version or installation of Studio refer only to Studio 7.0 or 7.10. If you are upgrading from an earlier version of PAS or Repair System, see [Upgrade Path](#) for the upgrade path to follow.

To upgrade Studio to 7.20

1. In your existing installation of Studio, if you have not already exported the public repository and any local repositories, and then stored each export in a safe place, then do so now.
You will import the repositories later.
2. If you are upgrading Studio on its own machine, uninstall your current installation of Studio.
3. Whether the installation of Studio that you are installing is on its own machine or is on the Central server, in the PAS or OO home directory, delete the contents of the Studio subdirectory.
4. To start the Studio Setup Wizard, on your installation source, navigate to and double-click StudioInstaller.exe.
5. On the **Welcome** page of the HP OO Studio Setup Wizard, click **Next**.
6. On the **License Agreement** page, accept the terms of the license agreement, and then click **Next**.
If the installation is not on the same machine as that of Central, the **Select Destination Location** page appears.
7. If the **Select Destination Location** page appears, type the location where you want the Studio files installed.
OR
Click **Browse**, specify the location where you want Studio installed, and then click **Next**.

In the following step, the message that prompts you to confirm overwriting the files in the Studio directory appears only if you are installing to the location of the Studio installation that you are upgrading. If you are installing to a different location, skip the next step.

8. In the message that prompts you to confirm that it is acceptable to overwrite files in the directory, click **Yes**.
The **HP OO Information** page appears.
9. Either accept the default settings or specify those which are appropriate for those you specified in the Central 7.20 upgrade:
 - To specify the server on which Central is installed, type the server name in the text box beside **Host Name or IP Address**.
OR
If you are installing the Studio on the same machine on which Central is installed, leave **localhost** in the text box.
 - Make sure the HTTPS port number matches the HTTPS port number that the administrator specified when installing Central, and then click **Next**.The **Select Additional Tasks** page appears.
10. To create a desktop icon for Studio, select the **Create a desktop icon** checkbox, and then click **Next**.
The **Ready to Install** page appears, displaying the location where Studio will be installed and other information on the choices you have made.
11. To proceed, click **Install**.
The Setup Wizard tracks progress on the **Installing** page.
12. Open Studio and do the following, to complete the upgrade:
 - Import the public and local repositories that you exported before upgrading.
 - In Studio, manually re-apply any JRAS or NRAS settings that were customized in the installation from which you upgraded.For more information, see Studio Help, "Adding or configuring a new RAS."

Upgrading HP OO Central clusters

The procedure for upgrading Central clusters on Windows systems and on Linux systems are essentially the same.

To upgrade a Central cluster on a Windows system

1. In the PAS or OO home directory, back up the Clustering folder and store the backup in a safe place.
2. Stop the cluster service, RSCLUSTER.
3. If the Load Balancer is installed on the same machine as Central, also stop other Central-related services: RSCentral, RSJRAS, and RSScheduler.
4. Uninstall the old Cluster installation.
5. Install cluster 7.20 (on the HP OO installation CD, in the Clustering subdirectory, ClusterInstaller.exe), as described in the HP OO Installation Guide (InstallGuide.pdf).

6. In the HP OO home directory, do one of the following:
 - To configure the upgraded cluster, run `\Cluster-7.20\cluster-config.jar`.
 - To copy the configuration from the current version of the cluster to the upgraded cluster, copy the contents (which are the cluster configuration settings) from your backup of `\Cluster-7.0\apache\conf\pas.conf` or `\Cluster-7.10\apache\conf\pas.conf` to the new `\Cluster-7.20\apache\conf\pas.conf` file.
7. If you have used custom certificates, copy them from the backup of the `\Cluster-7.0\apache\conf\` or `\Cluster-7.10\apache\conf\` folder to the new `\Cluster-7.20\apache\conf\` folder.
8. Restart the cluster service (RSCLUSTER) and, if you stopped them, the other Central-related services: RSCentral, RSJRAS, RSScheduler.

To upgrade a Central cluster on a Linux system

1. In the HP OO home directory, back up the Clustering folder and store the backup in a safe place.
2. To stop the cluster service:
`PASLB.sh stop`
3. If the Load Balancer is installed on the same machine as Central, also stop other Central-related services: `Central.sh`, `JRAS.sh`, and `Scheduler.sh`.
4. Unzip the file `Cluster-7.20.zip` and follow as specified in `INSTALL.txt`.
5. In the HP OO home directory, do one of the following:
 - To configure the upgraded cluster, run `\Cluster-7.20\cluster-config.jar`.
 - To copy the configuration from the current version of the cluster to the upgraded cluster, copy the contents (which are the cluster configuration settings) from your backup of `\Cluster-7.0\apache\conf\pas.conf` or `\Cluster-7.10\apache\conf\pas.conf` to the new `\Cluster-7.20\apache\conf\pas.conf` file.
6. If you have used custom certificates, copy them from the backup of the `\Cluster-7.0\apache\conf\` or `\Cluster-7.10\apache\conf\` folder to the new `\Cluster-7.20\apache\conf\` folder.
7. Restart the cluster service (`PASLB.sh`) and, if you stopped them, the other Central-related services: `Central.sh`, `JRAS.sh`, and `Scheduler.sh`.