



# Opsware™ Process Automation System, Version 7.0

*Upgrading Opsware Process Automation System from  
Version 2.2 to 7.0*

*Windows and Linux Operating Systems*

For Process Automation System Administrators

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## Updating documentation

Documentation enhancements are a continual project at Opsware. You can update the documentation set at any time using the following procedure (which is also available in the PAS readme file).

### To obtain PAS documentation

1. On The Opsware Network Web site (<https://support1.opsware.com/support/index.php>), log in with the Opsware Network account name and password that you received when you purchased PAS.
2. On the **Support** tab, click the **Product Docs** subtab.
3. Under **Quick Jump**, click **Process Automation System**.
4. Under **Process Automation System**, click **ZIP** beside **PAS 7.0 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 Opsware\PAS home directory, in either the **\Central\docs\help\Central** or **\Studio\docs\help\Studio** subdirectory, overwriting the existing file.

## Upgrade path

If you are upgrading from a version of PAS (OpsForce or Repair System in earlier versions), you must upgrade one release at a time. The upgrade path is:

- 1.0 →

- 1.1 →
- 2.0 →
- 2.1 →
- 2.2 →
- 7.0

## Upgrading Process Automation System from version 2.2 to 7.0 on a Windows operating system

**Note:** The following procedure for upgrading Process Automation System (PAS) Central assumes that your Central server runs a Windows operating system and either the MySQL or the Microsoft SQL Server or database management system. If your Central server is running Linux and Oracle, use the upgrade procedures described in the Linux-platform PAS installation documents.

### To upgrade Central and Scheduler from PAS 2.2 to 7.0

1. Make sure that:
  - The machines on which you upgrade PAS the requirements for version 7.0, as described in *System Requirements for Opware™ Process Automation System* (PAS\_SystemReqs.pdf).
  - You have applied all hot fixes for version 2.2.
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 7.0 system much easier.
3. 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.
4. Close all windows to the PAS home directory and any of its subdirectories.  
The upgrade application cannot write into these directories if they are open.
5. On the Central server, close Central and Scheduler and stop the RSCentral, RSJRAS, RSNRAS, RSScheduler, and RSKAD services.
6. On your installation source, navigate to and double-click PASCentralInstaller-sqlserver.exe.  
Be sure to upgrade Central before upgrading Scheduler, because the Scheduler upgrade queries a database table that Central creates and owns.  
If Studio 2.2 is installed on the same machine as Central 2.2, you are prompted to backup Studio's repository and uninstall Studio.

7. In the message that appears, prompting you to confirm that you want to upgrade your existing installation of PAS Central, click **Yes**.

8. If you used a krb5.conf file for Kerberos authentication, copy that file so that your Central configuration can find it.

Other configurations that are carried over from 2.2 are those that were specified on the **Administration\System Configuration** tab of the PAS Central Web application. These include the following:

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

9. If you changed any of the following in your 2.2 PAS system, you need to make the changes again manually after installing 7.0:

Note: These changes are exclusive of those that you made on the on the **Administration\System Configuration** tab in Central (listed in step 8).

- applicationContext.xml

Manually merge your 2.2 version of this file with the 7.0 version.

- jaasLogin.conf

Copy over this file and ensure that your 7.0 PAS 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 7.0 installation location of the JRAS, or NRAS.

10. To run the Scheduler installer, in the Scheduler folder, double-click PASSchedulerInstaller-sqlserver.exe.

The Scheduler installer detects the previous version.

11. In the message that appears, prompting you to confirm that you want to upgrade your existing installation of Scheduler, click **Yes**.

If the Central service is stopped, installing Scheduler automatically starts Central.

**Note:** PAS Scheduler depends on the Central service, so always make sure the Central service is up and properly running before starting Scheduler.

12. Upgrade Studio.

You must upgrade Studio in order to import the public repository that you exported earlier in the procedure. To upgrade Studio, see the section below, Upgrading Studio from PAS 2.2 to 7.0.

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\Opware\PAS.

# Upgrading PAS from version 2.2 to 7.0 on a Linux operating system

1. Make sure that:

- The machines on which you upgrade PAS meet the requirements for version 7.0, as described in *System Requirements for Opware™ Process Automation System* (PAS\_SystemReqs.pdf).
- You have applied all hot fixes for version 2.2.

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 7.0 system much easier.

3. 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 then (if you are using them) Scheduler and JRAS. Be sure to upgrade Central before upgrading Scheduler, because the Scheduler upgrade queries a database table that Central creates and owns.

4. Make sure that the 2.2 versions of Central, Scheduler, and JRAS are stopped.

5. Unzip the file PASCentral-7.0-linux-`<database_type>`.zip.

To unzip to a different location, add `-d` and an existing directory name to the unzip command.

6. If you are installing with MySQL, obtain `mysql-connector-java-<versionnumber>.jar` and copy it to the directory to which you unzipped PASCentral-7.0-linux-oracle.zip.

7. Edit the `Install.config` file and change parameters to fit your environment.

Comments before each parameter explain what the parameter does.

- In the line `UPGRADE_2_2="false"`, change `"false"` to `"true"`.
- In the line `ICONCLUDE_HOME_2_2=""`, provide the location of the PAS 2.2 installation from which you are upgrading.

If you do not set `UPGRADE_2_2` 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 2.2 installation; otherwise, the install uses the settings found in the 7.0 `install.config` file.

8. 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 have been carried over from 2.2 and have updated the 7.0 `install.config` file:

- HTTP\_PORT
- HTTPS PORT
- MAX\_HEAP\_SIZE

The upgrade obtains the `MAX_HEAP_SIZE` value from the 2.2 `install.config` file, rather than from `wrapper.conf`.

- DB\_HOST
- DB\_PORT
- DB\_NAME
- DB\_USER

You will be prompted for this user's password.

- 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`

9. If you used a `krb5.conf` file for Kerberos authentication, copy that to a location where your Central configuration can find it.

Other configurations that are carried over from 2.2 are those that were specified on the **Administration\System Configuration** tab of the PAS Central Web application. These include the following:

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

10. If you changed any of the following in your 2.2 PAS system, you need to make the changes again manually after installing 7.0:

Note: These changes are exclusive of those that you made on the on the **Administration\System Configuration** tab in Central (listed in step 8).

- The location of the `krb5.conf` file, if you use it for user authentication

- Any custom iActions that have been written  
Back up the iActions that you wrote or generated from a WSDL, and then place them in the 7.0 installation location of the JRAS.
  - applicationContext.xml  
Manually merge your 2.2 version of this file with the 7.0 version.
  - jaasLogin.conf  
Copy over this file and ensure that your 7.0 PAS system properly references it.
  - Any changes made in the Central.properties file regarding system tuning
11. Source the file `.iconcluderc` and verify that the environment variable `$ICONCLUDE_HOME` is properly set.
  12. Start the Central service, using the following command:  
`$ICONCLUDE_HOME/bin/OpsForceCentral.sh start`  
NOTE: the options for all the startup scripts are:  
`console` - runs the program in console mode (non-daemon, has controlling tty)  
`start` - starts as daemon  
`stop` - stops program  
`restart` - stops, then starts as daemon  
`status` - shows status and PID  
`dump` - sends a SIGQUIT to the java process, forcing it to do a thread dump
  13. Start the JRAS service (optional):  
`$ICONCLUDE_HOME/bin/OpsForceJRAS.sh start`  
(the options for `OpsForceCentral.sh` apply here as well)  
Useful log files to monitor:
    - `$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 and JRAS.
    - `$ICONCLUDE_HOME/conf` has symbolic links to wrapper.conf files for 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.
  14. Make sure that the 2.2 versions of Central, Scheduler, and JRAS are stopped.

15. To upgrade Scheduler, perform a normal Scheduler installation, using the procedure in the Scheduler README.linux.txt.  
**Important:** When editing the install.config file:
  - Set the CENTRAL\_HOST and CENTRAL\_PORT parameters to point at your 7.0 Central.
  - Set the database parameters (DB\_LOCATION, DB\_PORT, DB\_NAME, DB\_USERNAME, DB\_PWD) with the values that they have in your 2.2 installation.
  - Leave the value of RECREATE\_DB\_SCHEMA as "false".
16. To upgrade a standalone JRAS installation, perform a normal standalone JRAS installation, using the procedure in the JRAS README.linux.txt.  
Your 2.2-version AD or Kerberos settings have migrated into 7.0.
17. To upgrade Studio, see the following section, [Upgrading Studio from version 2.2 to 7.0](#).

## Upgrading Studio from version 2.2 to 7.0

### Notes:

- If Studio must be on the same machine as Central, upgrade 2.2 Studio in the same directory in which you installed Central. By default, the Studio installation program tries to install in C:\Program Files\Opware\PAS.
- To install Studio, you must be logged in with an account that is either a Power User or a local Administrator.
- **Important:** 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 installation of Studio, obtain this port number from the person who installed Central.

### To upgrade Studio from version 2.2 to 7.0

1. In your existing installation of Studio, export the public repository and any local repositories, and then store each export in a safe place.  
You will import the repositories later.
2. To start the PAS Studio Setup Wizard, navigate to and double-click PASStudioInstaller.exe.
3. In the message that prompts you to confirm that you want to upgrade your existing installation of PAS Studio, click **Yes**.
4. On the **Welcome** page of the Opware Process Automation System Studio Setup Wizard, click **Next**.
5. On the **License Agreement** page, accept the terms of the license agreement, and then click **Next**.
6. On the **Select Destination Location** page, type the location where you want the Studio files installed.  
OR  
Click **Browse**, specify a different location where you want Studio installed, and then click **Next**.
7. In the message that prompts you to confirm that it is acceptable to overwrite files in the directory, click **Yes**.



8. To specify the server on which the Web application 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 the Web application is installed, leave **localhost** in the text box.

9. 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-change any JRAS or NRAS settings that were customized in 2.2.

For more information, see Studio Help, "Adding or configuring a new RAS."