



Installing OPLE on a stand-alone Windows PC¹

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There are four key components in an OPLE installation: the Oracle Java Development Kit, the Apache Tomcat server platform, the OPLE application and the eXist XML database package. Java and Tomcat are freely available for download from their respective websites. The OPLE application (which incorporates Orbeon Forms, another freely-available open-source package) and the eXist application are downloadable as ZIP packages from the EDItEUR website, as are these guidelines.

To install OPLE, you must be logged on to your PC with 'administrator' privileges. 'Administrator' status is also required in order to start the Tomcat service before an OPLE session².

The following steps should be followed exactly. If you fail to complete any step, this may indicate that your system configuration conflicts in some way with a normal installation of the OPLE components, and you should seek technical assistance.

1. Download and install the Oracle Java Platform Standard Edition (Java SE) JDK (Java Development Kit) version 8³, update 91 or later, which is available from the Oracle Java website. The correct file for download of version 8 can be found as follows:
 - 1.1 Go to the page [Java SE Downloads](#), which lists a number of download packages associated with current Java releases. The detailed layout and wording of this webpage varies from time to time; the description here is correct as of May 2016. The important thing is to ensure you select the correct package (step 1.3) and platform (step 1.4).
 - 1.2 Find **Java SE 8unn** (*nn* is the update number).
 - 1.3 Click the 'Download' button for the **JDK** (Java Development Kit) package.
 - 1.4 After accepting the JAVA license agreement, select the correct platform from the list of available downloads. This will probably be either 'Windows x86' for a stand-alone PC running a 32-bit version of Windows, or 'Windows x64' for a stand-alone PC running a 64-bit version of Windows. It is vital to download the correct version for your specific PC. If in doubt, you should seek technical

¹ OPLE can also be successfully run on a PC running Linux or on a Mac running OS X. If you wish to do so and need technical assistance, please contact EDItEUR, as the installation process has some differences compared to that on a PC running Windows.

² Users of Microsoft Windows Vista, Windows 7 or later should note that, to obtain 'administrator privileges' to run some programs, it may be necessary to explicitly select the option to 'Run as administrator' when running the program. This can typically be done by clicking on the program to be run, right-clicking and selecting the 'Run as administrator' option from the pop-up menu.

³ Version 8 is one of several supported versions (May 2016) of the Oracle JDK. If you already have version 5, 6 or 7 installed, it will work perfectly well as part of OPLE, and there is no necessity to upgrade it, unless you have a specific reason for wishing to do so that relates to your PC or network setup and is probably unrelated to your OPLE installation. The Oracle JDK can be upgraded independently of other OPLE components – see the *OPLE Upgrade Guide* on the [OPLE Software](#) page for further information.

assistance. Follow any further instructions that take you to the point of downloading.

- 1.5 Click on the download link. The download size for Windows is around 125 Mbytes.
 - 1.6 Run the downloaded executable file and follow on-screen instructions. If the following options appear, change the install selection so that you don't install 'Source Code', 'Public JRE' or 'Java DB' unless you have other reasons for doing so – they are not needed by OPLE. You don't need to register your copy of the JDK.
2. Download, install and configure the Apache Tomcat version 7.0 Java servlet application. The correct version of Tomcat to download is **version 7.0.nn** (where **nn** is the number of the latest update)
 - 2.1 Go to the page [Apache Tomcat – Tomcat 7 Downloads](#).
 - 2.2 Find the section on this page headed '7.0.nn', followed by the sub-heading 'Binary Distributions', and look for the bulleted list item headed 'Core'.
 - 2.3 Click on '32-bit/64-bit Windows Service Installer', to download the installer file named **apache-tomcat-7.0.nn.exe** (where **nn** is the number of the latest update). Choose to Save rather than Open the file, and save it to a convenient location such as the Desktop.
 - 2.4 Run the downloaded executable file and follow the series of on-screen instructions. When asked to choose the components to install, leave the selection as 'Normal' unless you have good reason to change it. We recommend that you take the default option and load Apache Tomcat into the folder suggested⁴. Make sure you keep a note of the folder path for use in steps 6.4 and 7.3 below. You should leave the port number as '8080' unless you have a good reason to change it⁵. Do not choose an administrator username and password at this stage. If you wish to do so, this must be done at step 3 below. Click on the 'Next' button.
 - 2.5 Make sure that the 'Java Virtual Machine' path is the path to the JDK, not to any other version of Java that may be installed on your PC. The correct path on a Windows PC will normally be

```
C:\Program Files\Java\jdk1.8.0_nn\jre
```

where **nn** is the update number⁶. If this is not set correctly at this stage, the correct path can also be configured in the Apache Tomcat Monitor after Tomcat installation is completed (see step 6.3 below). Click on the 'Next' button and then click on the 'Install' button.
 - 2.6 Make sure that Tomcat is *not* running. You need to do this because in some environments Tomcat starts automatically on successful installation. First, activate the program 'Monitor Tomcat'. (If you are using Windows Vista, Windows 7 or later, you may need to right click and 'Run as administrator', and/or click 'OK' or 'Yes' in a security window to allow Tomcat to run with the

⁴ The folder name may vary slightly on your system according to installation conditions. By default the folder path will take the form

```
C:\Program Files\Apache Software Foundation\Tomcat_version,
```

where '*Tomcat_version*' will vary but will normally start with '*Tomcat*'.

⁵ If you change the port number to any value other than '8080' – for example, because you are already running a web server on your PC that uses this port number – you will need to use the port number you have chosen to access all Apache Tomcat applications, including OPLE. All 'localhost' URLs quoted in these guidelines will have to be modified accordingly.

⁶ This is normally the correct path on a stand-alone PC, but would vary if Windows is installed on a drive other than 'C'.

necessary system privileges.) This will install an Apache Tomcat icon in the toolbar at the bottom right of your screen, showing a red dot in a white circle when Tomcat is stopped and a green triangle in a white circle when Tomcat is running. If Tomcat is running, right click on the icon, and select 'Stop service'. When the service is stopped, the icon changes to show the red dot. Tomcat *must* be stopped when you perform stage 3 below.

3. Download from the EDItEUR website the OPLE-specific Tomcat user configuration file `tomcat-users.zip`. To do this, go to the page [OPLE Software](#), and scroll down to the section 'Installing OPLE'. At the end of this section, right-click on the link for 'Download Tomcat users file (ZIP)'.

Next, extract the file `tomcat-users.xml` and install it so that it replaces the file of the same name that was installed with Tomcat. You should find the latter in the subfolder `conf` of the Tomcat installation folder noted in step 2.4⁷.

4. If not started automatically at the end of the installation procedure, start the Tomcat service by activating the program 'Monitor Tomcat'. (If you are using Windows Vista, Windows 7 or later, you may need to right click and 'Run as administrator' and/or click 'OK' or 'Yes' in a security window to allow Tomcat to run with the necessary system privileges.) This will install an Apache Tomcat icon in the toolbar at the bottom right of your screen, showing a red dot in a white circle when Tomcat is stopped and a green triangle in a white circle when Tomcat is running. If Tomcat is stopped, right click on the icon, and select 'Start service'. When the service is started, the icon changes to show the green triangle. The Tomcat service can be stopped by right clicking on the icon and selecting 'Stop service'.
5. Check that Tomcat is installed and running correctly by opening <http://localhost:8080/> in a web browser. Leave Tomcat running through stages 6 to 15.
6. Configure Tomcat:
 - 6.1 Right click on the Apache Tomcat icon and select the 'Configure' option. This will open a window headed 'Apache Tomcat Properties'. Select the 'Java' pane.
 - 6.2 Set both the Initial Memory Pool and the Maximum Memory Pool to 384 megabytes.
 - 6.3 Check the 'Java Virtual Machine' field (near the top of the pane) to ensure that the path is correct. The path should normally be `C:\Program Files\Java\jdk1.8.0_nn\jre\bin\server\jvm.dll`, where `nn` is the update number of the JDK that you downloaded at Step 1. In particular, the path should contain `jdk1.8.0_nn` and not `jre6` or similar, and should contain `server` and not `client`. If this is not the case, you should make a manual correction. It is not sufficient for the path to end with `jvm.dll`, as there is likely to be more than one version of this on your PC.
 - 6.4 If installing OPLE on a 64-bit version of Windows, select the 'Startup' pane and check that the 'Working Path' specifies the version of Tomcat that is stored at the location noted in step 2.4.
7. Download the eXist and OPLE web archive installation files from the EDItEUR website.

⁷ By default, the OPLE-specific Tomcat user file defines a username `oplemanager` and password `oplemanager`, with full Tomcat administrator privileges as well as access to all OPLE functions. Additional usernames, or a separate Tomcat administrator username and password, can be defined by editing the `tomcat-users.xml` file, but this is outside the scope of these installation instructions.

- 7.1 Go to the page '[OPLE Software](#)', and scroll down to the section 'Installing OPLE'. In this section, right-click on the link for '**Download eXist installation file (ZIP)**', and save the ZIP file to a suitable temporary location on your PC hard disc (eg on the Windows desktop).
- 7.2 Right-click on the link for '**Download OPLE 1.0 installation file (ZIP)**', and save the ZIP file to a suitable temporary location on your PC hard disc.
- 7.3 Next, extract the files '**exist.war**' and '**ople.war**' from the downloaded ZIP files, and move them to the Tomcat `\webapps` folder, ie the sub-folder **webapps** of the Tomcat installation folder noted in step 2.4. If Tomcat is running, the files **exist.war** and **ople.war** will install automatically. This will take only a few seconds.
8. Check that eXist is installed correctly by opening <http://localhost:8080/exist> in a web browser⁸.
9. Check that OPLE is installed correctly by opening <http://localhost:8080/ople> in a web browser. You should be presented with the OPLE login page.
10. Make sure that your browser content options are set to allow the server 'localhost' to open pop-up windows. This is to enable OPLE to determine which is the correct page to open after each action.
11. Login to OPLE with the username *oplemanager* and password *oplemanager*.
12. On the OPLE Main menu, you will see a red box with the legend 'Click here to complete schema and code lists installation before you start using OPLE'. Click on the link, and you will get a response page headed 'Schema and code lists installed' with a link back to the Main menu.
IMPORTANT: This step must be completed, so that the red box is no longer displayed on the Main menu. No further use of OPLE can be made until this step is satisfactorily completed.
13. If you have reached this stage, OPLE is successfully installed. The preset username and password will allow you to use OPLE with full 'manager' privileges. See separate documentation for details of how to add other users.
14. When you have finished exploring OPLE for the first time – indeed, whenever you have finished using OPLE – remember to select 'Log out' from the Main menu.
15. When you have logged out of OPLE, you can stop Tomcat by right-clicking on the Apache Tomcat icon and selecting 'Stop service'. Whether the Tomcat service will be stopped permanently when you close down your PC depends upon the version of Windows your PC is running, so it is always recommended to stop the service manually before closing down your PC, otherwise Tomcat may re-start automatically when you next start up your PC.

⁸ When adapting these installation guidelines to the installation of OPLE on a networked server, please bear in mind that, when testing or using the installation over a network, the user will need to know that the web addresses shown in Steps 8 and 10 must be adapted according to the network address of the server, eg <http://hostname.mydomain.com:8080/ople>.