# Installing TomEE

## Downloading a Distribution Archive

Download a distribution archive of the latest TomEE release from the [Downloads](https://tomee.apache.org/tomee-9.0/docs/download-ng.html) page. If you are not sure which one to use, take apache-tomee-webprofile-x.y.z.zip.

If you want to try out the latest development snapshot (e.g. to test a bugfix which has not yet been released), then download an archive directly from the [Apache Maven Snapshots Repository](https://repository.apache.org/content/groups/snapshots/org/apache/tomee/apache-tomee) instead.

The instructions on this page work with the webprofile distribution but apply to all TomEE distributions (webprofile, jaxrs or plus). If you work with the jaxrs or plus distribution, simply replace the name where appropriate.

## Unpacking the Archive

Unpack the archive in any directory. The top-level directory of the unpacked archive is called apache-tomee-webprofile-x.y.z/. We refer to this directory as $CATALINA\_HOME in the following.

## Prerequisites for Running TomEE

* A Java 6 or 7 runtime environment is in your PATH.
* TCP ports 8080, 8005 and 8009 are free.

## Starting TomEE

To start TomEE as a background process, invoke

$CATALINA\_HOME/bin/startup.sh

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|  | On Windows, use startup.bat |

To start TomEE in foreground, invoke

$CATALINA\_HOME/bin/catalina.sh run

|  |  |
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|  | On Windows, use catalina.bat |

## Log Messages

When running TomEE in foreground, it will print all log messages to the console.

When running TomEE in background, it will only print a couple of environment variables. The log messages go to a file

$CATALINA\_HOME/logs/catalina.out

## Stopping TomEE

To stop TomEE, invoke

$CATALINA\_HOME/bin/shutdown.sh

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|  | On Windows, use shutdown.bat |

If you started TomEE in foreground via catalina.sh run or catalina.bat run, it is safe to simply type Ctrl-C.

# Linux Service

Depending on your flavour of Linux, there are likely a few different ways you can run TomEE as a service. This page demonstrates running as a service with systemd, and has been tested with RedHat Enterprise Linux.

Create a file /etc/systemd/system/tomee.service with the following content:

[Unit]

Description=Apache TomEE

After=network.target

[Service]

User=<user to run as>

Type=forking

Environment=JAVA\_HOME=/usr/lib/jvm/jre

Environment=CATALINA\_PID=/opt/tomee/temp/tomee.pid

Environment=CATALINA\_HOME=/opt/tomee

Environment=CATALINA\_BASE=/opt/tomee

Environment=CATALINA\_OPTS=**'-server'**

Environment=JAVA\_OPTS=**'-Djava.awt.headless=true'**

ExecStart=/opt/tomee/bin/startup.sh

ExecStop=/opt/tomee/bin/shutdown.sh

KillSignal=SIGCONT

[Install]

WantedBy=multi-user.target

The file above assumes TomEE is extracted to /opt/tomee, and that JAVA\_HOME is at /usr/lib/jvm/jre - adjust these to match your installation.

Once done, run sudo systemctl daemon-reload so systemd is aware of the new service.

You should now be able to use the following commands to control the TomEE service:

* sudo systemctl start tomee (to start TomEE)
* sudo systemctl stop tomee (to stop TomEE)
* sudo systemctl status tomee (to check the status of the TomEE service)

# Windows Service

It is possible to configure TomEE to run as Windows service, and batch files are provided in the bin folder to accomplish this. The key batch file is service.bat, and this provides commands to install and remove the service. Additionally two helper files are provided to simplify the installation and create a basic service setup.

* service.install.as.admin.bat
* service.remove.as.admin.bat

## Installation

These instructions assume you have already downloaded a TomEE zip file and extracted it to the desired location on the file system, and that you have a suitable Java installation on your machine.

Start by opening a Command Prompt as an Administrator user.

Ensure you have JAVA\_HOME set to the JDK you wish to use for the service. You can check this by running set JAVA\_HOME.

Run service install. Optionally you can pass a service name, and credentials for a service user.

service install [/service-user <user>] [/service-password <password>] [service name]

For example:

C:\Java\apache-tomee-plus-8.0.0-SNAPSHOT\bin>service install TomEE-DEV

Installing the service **'TomEE-DEV'** ...

Using CATALINA\_HOME: **"C:\Java\apache-tomee-plus-8.0.0-SNAPSHOT"**

Using CATALINA\_BASE: **"C:\Java\apache-tomee-plus-8.0.0-SNAPSHOT"**

Using JAVA\_HOME: **"C:\Java\jdk-11.0.4+11**

**Using JRE\_HOME: "**C:\Java\jdk-11.0.4+11**"**

**Using JVM: "**C:\Java\jdk-11.0.4+11**"\bin\server\jvm.dll"**

Using Service User: **""**

Installed, will now configure TomEE

The service **'TomEE-DEV'** has been installed.

C:\Java\apache-tomee-plus-8.0.0-SNAPSHOT\bin>

## Removal

Removal is similar to installation. First, ensure the service is stopped. In an administrator Command Prompt, run:

service remove [service name]

For example:

C:\Java\apache-tomee-plus-8.0.0-SNAPSHOT\bin>service remove TomEE-DEV

The service **'TomEE-DEV'** has been removed

C:\Java\apache-tomee-plus-8.0.0-SNAPSHOT\bin>

## Service Accounts

By default, the service is installed to run at the user NT-Authority\Local Service, which is a very restricted account. If you wish to use LocalSystem, which has more privileges, use:

service install /service-user LocalSystem [service name]

For example:

C:\Java\apache-tomee-plus-8.0.0-SNAPSHOT\bin>service install /service-user LocalSystem TomEE-DEV

Installing the service **'TomEE-DEV'** ...

Using CATALINA\_HOME: **"C:\Java\apache-tomee-plus-8.0.0-SNAPSHOT"**

Using CATALINA\_BASE: **"C:\Java\apache-tomee-plus-8.0.0-SNAPSHOT"**

Using JAVA\_HOME: **"C:\Java\jdk-11.0.4+11"**

Using JRE\_HOME: **"C:\Java\jdk-11.0.4+11"**

Using JVM: **"C:\Java\jdk-11.0.4+11"**\bin\server\jvm.dll**"**

**Using Service User: "**LocalSystem**"**

**Installed, will now configure TomEE**

**The service 'TomEE-DEV' has been installed.**

**C:\Java\apache-tomee-plus-8.0.0-SNAPSHOT\bin>**

Alternatively, you may have a specific local or domain user you wish to use to run the service. You can specify the username and password for the service user with the /service-user and /service-password parameters.

## Making Changes

Once the service is installed, it is possible to make changes either using the Windows Service Control Manager (start, stop, change user) or by running the TomEE.exe executable in the bin directory which will allow you change more settings, such as the JVM the service uses.

|  |  |
| --- | --- |
|  | if you use a custom name for your service, rename (or copy) TomEE.exe to match it - e.g. TomEE-DEV.exe to match the examples above. |

## Using a 32 bit JVM on 64 bit Windows

The service script will install either TomEE.x86.exe or TomEE.amd64.exe as the service. The script uses the PROCESSOR\_ARCHITECTURE=AMD64 environment variable to determine which to use. The TomEE executable used needs to match the architecture of the JVM you wish to use.

If you wish to use a 32 bit JVM on 64 bit Windows, run

set PROCESSOR\_ARCHITECTURE=X86 prior to installing the service.

## Setting environment variables for the service

Setting custom environment variables for TomEE to use is a little tricky as it can’t be done through the UI, but can be accomplished via the command line.

After the service as been installed, at the Command Prompt, use the following syntax (use the right TomEE exe for your platform)

TomEE.amd64.exe //US//TomEE ++Environment "variable=value"

Replace TomEE after //US// with your service name if you are using a custom service name.