



**ARCWAY**  
BRIDGING THE GAP

ARCWAY AG

# Server Installation



**English**

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# 1 INTRODUCTION

This document describes the installation of the Cockpit server. The server provides the central storage for projects. The following prerequisites are required for installing a Cockpit server:

- [ARCWAY Cockpit](#) server und [ARCWAY Cockpit](#) license web application archives
- Java Servlet-Container (according to Servlet specifications 3.0 or 3.1 or 4.0)
- A storage location for the data maintained by the [ARCWAY Cockpit](#) Server

The server bases like the client on Java. For operating the Cockpit server Java and a Servlet Container are required. Recommended are the provided versions of the Java Software Development Kit (Oracle JDK 8) and of the Apache Tomcat 9.0 Servlet Container.

*If you are working with the Professional Edition of Cockpit, you do not need a server. The descriptions in this document cover only the Enterprise Edition.*

This document is organised as follows: The [System requirements](#) (S. 3) section contains a description of the system environment required for operating the server. In the [ARCWAY Cockpit Software](#) (S. 5) section, you can find the information on where to specify the [ARCWAY Cockpit](#) software can be downloaded. Afterwards, the sections [Default Installation - Windows](#) (S. 7) and [Standardinstallation - Linux/Unix](#) (S. 17) follow, in which the necessary steps for the installation of a Cockpit Server with reference to the respective platform are described. The section [Backup & Restore](#) (S. 25) deals with the possibilities to backup and restore the data managed by a Cockpit Server. The section **!!! VERWEIS (ANKER) NICHT GEFUNDEN !!!** contains further information about configuration options and shortly afterwards it is explained where the managed data is stored in the file system. At the end there is a small compilation of typical problems and suitable solutions.





## 2 SYSTEM REQUIREMENTS

### Systemvoraussetzungen ARCWAY Cockpit Enterprise Server

| Systemvoraussetzungen ARCWAY Cockpit Enterprise Server |  |
|--|--|
| <b>Prozessor</b>                                       | x86-Prozessor mit 2 GHz Takt empfohlen   |
| <b>Arbeitsspeicher</b>                                 | Mindestens 1 GB<br>(empfohlen $\geq$ 2 GB für bis zu 10 gleichzeitige Nutzer)  |
| <b>Festplattenplatz</b>                                | Mindestens 1 GB<br>(typischer Wert. Tatsächlicher Wert nutzungsabhängig bis 10 GB)   |
| <b>Plattform</b>                                       | Unterstützt werden Windows 8.1, Windows 10, Windows 11, Windows Server 2012, Windows Server 2016, Windows Server 2019, macOS Server und Linux.<br>Prinzipiell auch andere Java-unterstützte Plattformen. |
| <b>Software</b>  | JDK 8 oder höher, Java-Servlet-Container<br>(beides im Installationsprogramm enthalten)  |

Figure 1: Systemvoraussetzungen ARCWAY Cockpit Enterprise Server

Zum Betrieb des ARCWAY Cockpit Servers wird ein Java Servlet-Container benötigt.

Als Basis für den ARCWAY Cockpit Server ist eine Java-Installation sowie ein Servlet-Container (gemäß Servlet Spezifikation 3.0, 3.1 oder 4.0) erforderlich. Empfohlen werden die mitgelieferten Versionen des Java Development Kits (JDK 8) und des Apache Tomcat 9 Servlet- Containers.

Getestet wurde der ARCWAY Cockpit Server in dieser Konfiguration auf folgenden Plattformen:

- Windows 8.1, 10, 11
- Windows 2012 Server
- Windows 2016 Server

Prinzipiell ist der Server auf allen Plattformen einsetzbar, für die Tomcat 9 oder eine äquivalente Servlet-Container-Implementierung verfügbar ist.

Datenspeicherung:

Eine typische ARCWAY Cockpit Server-Installation nutzt das Dateisystem des Servers als Ablageort für die verwalteten Daten. Zur Verwaltung *fein granularer Daten* kommt dabei ein in den Server integriertes Datenbanksystem zum Einsatz.

Dieses integrierte Datenbanksystem erzeugt keinerlei Administrationsaufwand und weist eine für diesen Einsatzzweck kaum zu übertreffende Performance auf. Dennoch besteht die Möglichkeit dieses integrierte Datenbanksystem abzuschalten und stattdessen eine externe Datenbank zu verwenden. Bitte kontaktieren Sie hierzu bei Bedarf ihren Vertriebsansprechpartner, um nähere Information zur Unterstützung des Datenbanksystems ihrer Wahl zu erhalten.

## 2.1 Standard installation

In the standard installation (simplest variant), the supplied versions of the Java Development Kit (JDK 8) and the Apache Tomcat 9 Servlet Container are used as the carrier system for operating the cockpit web applications. The managed data is stored in the form of files on the hard disk of the server. The server can be backed up using the supplied command line tool from any system for which a Java runtime environment version 8 or higher is available.

### 3 ARCWAY COCKPIT SOFTWARE

Up-to-date installation material for the **ARCWAY Cockpit 3.8 Enterprise Edition** product can be found on the products download site:

[http://download.arcway.net/COCKPIT-Client/v380/index\\_de.html](http://download.arcway.net/COCKPIT-Client/v380/index_de.html)

The information located on this site includes the installation archives as well as accompanying information such as the current version of this document.



## 4 DEFAULT INSTALLATION - WINDOWS

This section describes the installation of an **ARCWAY Cockpit** Server that uses HSQL as database and runs in a Tomcat on a Microsoft Windows system. The installation takes place in 7 steps:

[Step 1 – Installing Java SDK](#) (S. 17)

[Step 2 – Installing Tomcat](#) (S. 8)

[Step 3 – Configuring the Tomcat Properties](#) (S. 10)

[Step 4 – Installing the ARCWAY License Server and the ARCWAY Cockpit Server](#) (S. 11)

[Step 5 - Installing the licenses](#) (S. 13)

[Step 6 – Verifying Installation](#) (S. 13)

### 4.1 Step 1 – Installing Java SDK

For the standard Installation the Java Development Kit (JDK) in version 8 or higher is required. For installation on a 64-bit Operating System a 64-bit JDK is required while a 32-bit Java SDK is required for installation on a 32-bit Operating System. This step can be skipped if a suitable JDK is already installed.

Suitable JDK installation archives can be found on the **ARCWAY Cockpit** download site:

[http://download.arcway.net/COCKPIT-Client/v380/index\\_de.html](http://download.arcway.net/COCKPIT-Client/v380/index_de.html) .

You can perform a Standard install using the provided Java SDK Installers.

Please go to this site for installation instructions:

<https://adoptopenjdk.net/>

## 4.2 Step 2 – Installing Tomcat

Now it is time to install Tomcat, the Servlet container that will later run the **ARCWAY Cockpit Server**. Please proceed to the next step if a suitable Tomcat Version is already installed on your system.

The required installation file is also located on the **ARCWAY Cockpit** download site:

[http://download.arcway.net/COCKPIT-Client/v380/index\\_de.html](http://download.arcway.net/COCKPIT-Client/v380/index_de.html)

Please click on the *Tomcat Installation* link to download and start the Apache Tomcat installation program. Click on Tomcat Installer to download and launch the Tomcat installer.

### Choose Components

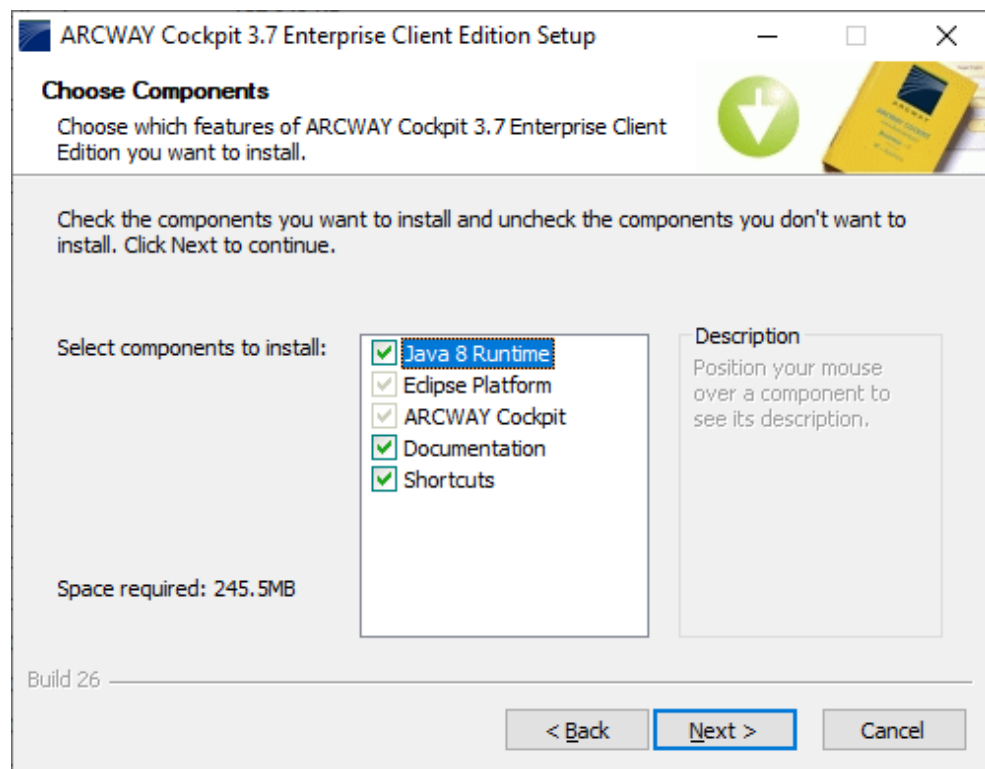


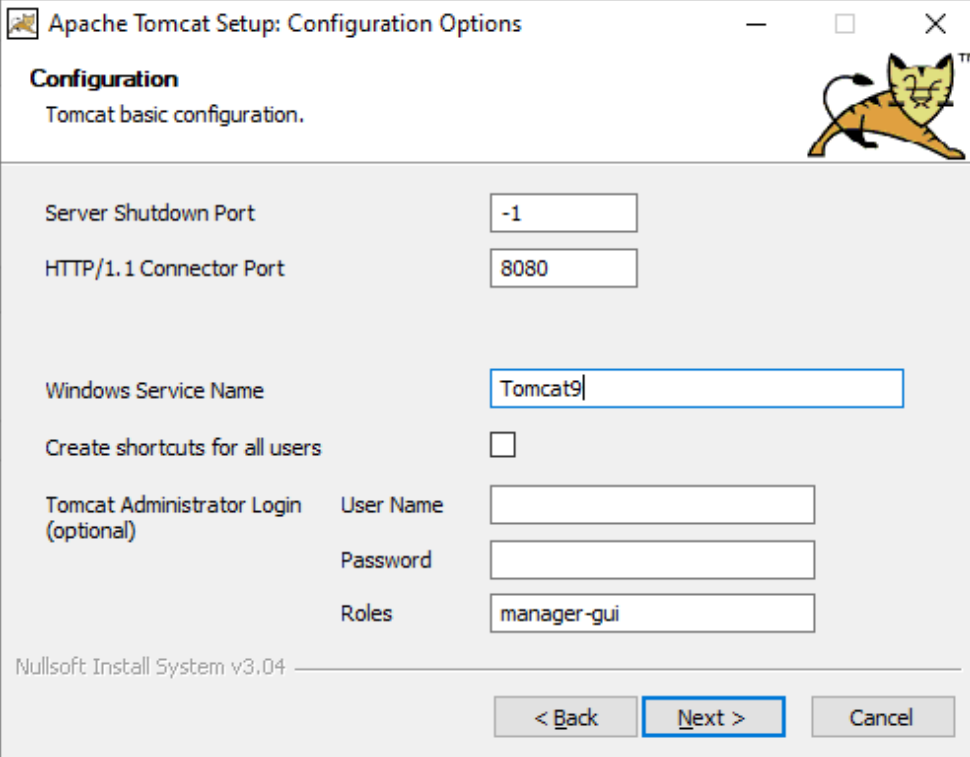
Figure 2: Choose Components

Tomcat will look for the installed JDKs. It will first search in the location specified in JAVA\_HOME and will prompt you for some installation options:

Please check the field labeled *Service Startup*. This will install Tomcat as a service. As a service it will automatically be started when Windows starts.

Next you will be asked for a destination directory and, shortly after that, for a port, user name and password:

## Configuration



Apache Tomcat Setup: Configuration Options

**Configuration**  
Tomcat basic configuration.

Server Shutdown Port: -1

HTTP/1.1 Connector Port: 8080

Windows Service Name: Tomcat9

Create shortcuts for all users:

Tomcat Administrator Login (optional):

User Name:

Password:

Roles: manager-gui

Nullsoft Install System v3.04

< Back Next > Cancel

Figure 3: Configuration

The user name and password are needed for the administrator login to Tomcat. Do not skip this step and remember the chosen user name and password carefully. The *Connector Port* will be the port at which Tomcat and the *ARCWAY Cockpit* server can be reached.

*Do not modify this port number in the default installation. If you change the port number, you may continue with this installation procedure, but you will need to configure the ARCWAY Cockpit Server manually after the deployment and before the verification. In particular, you need to configure the URL of the ARCWAY Cockpit License Server and the database. Please refer to the respective section Server Administration.*

### Java Virtual Machine

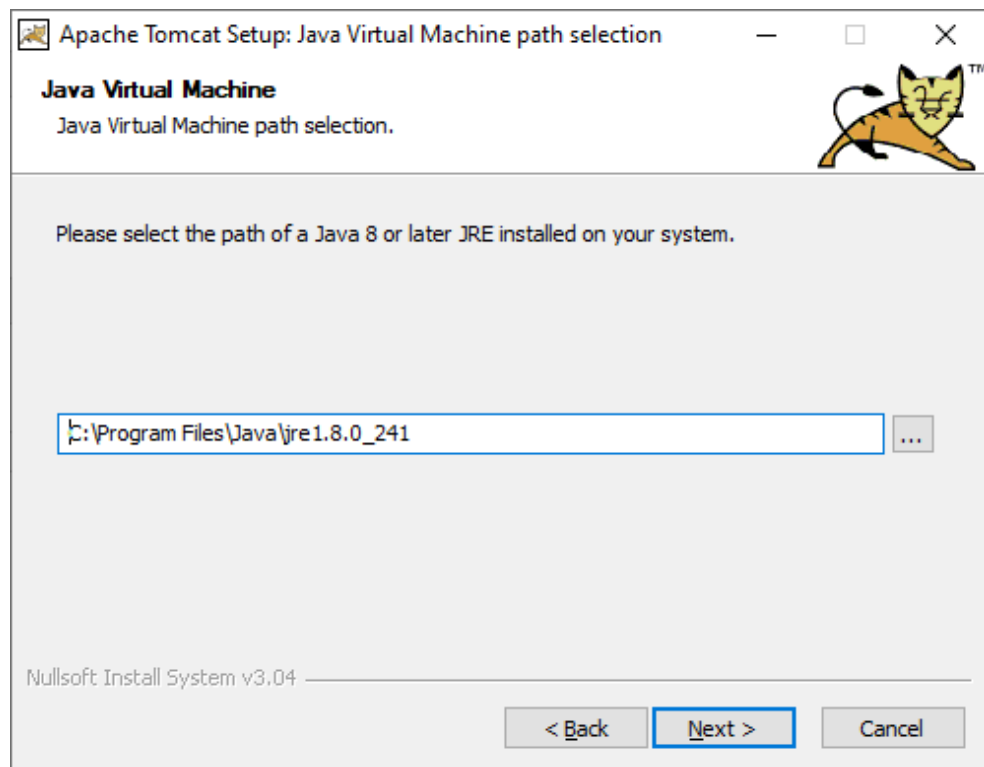


Figure 4: Java Virtual Machine

### 4.3 Step 3 – Configuring the Tomcat Properties

Now you have to configure the memory parameters within the Tomcat properties. You will find a Tomcat icon in the system tray when Tomcat is running. Open the context menu via clicking the icon with the right mouse button and select **Configure...**. This opens the dialog for configuring the Tomcat properties. Activate the tab Java and enter a value for Maximum memory pool that is suitable for your computer or at least 1024 MB. The recommended minimum of 1024 MB refers to a 32-bit installation. Installations on 64-bit machines do typically require more



RAM to perform similar operations. Hence, at least 2048 MB should be configured for 64-bit installations.

If the computer is a dedicated Cockpit Server it is recommended to increase the value further such that Tomcat is able to use half of the installed RAM.

### Java Properties

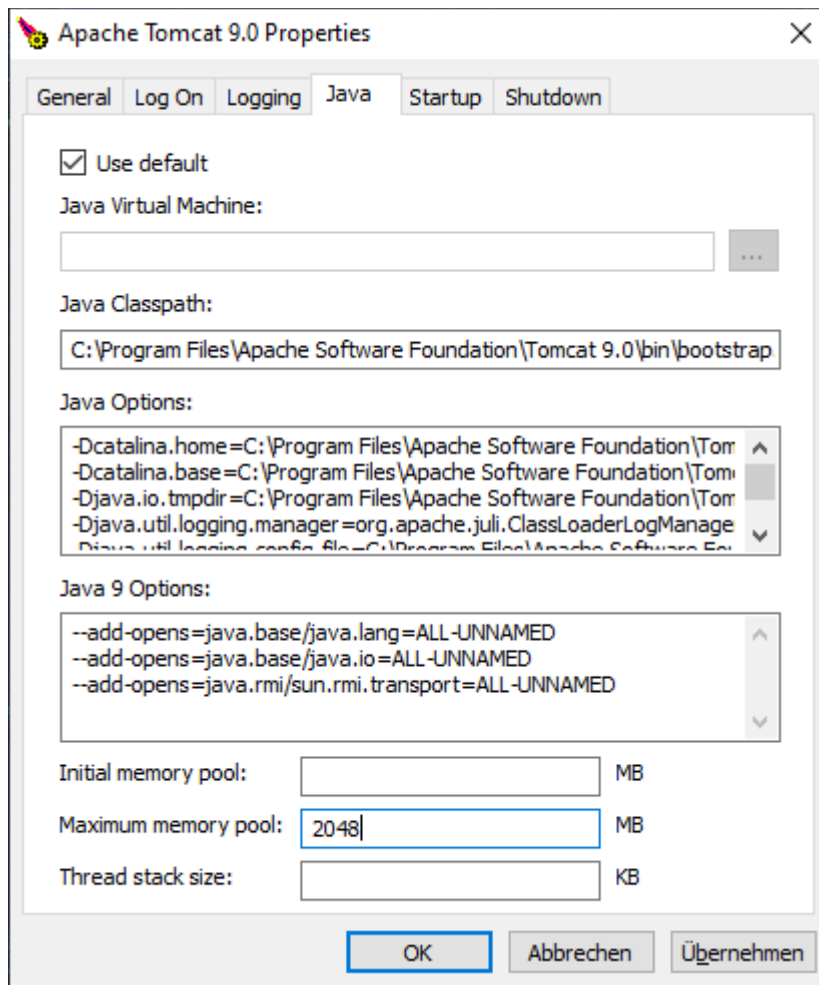


Figure 5: Java Properties

## 4.4 Step 4 – Installing the ARCWAY License Server and the ARCWAY Cockpit Server

The last step is deploying the ARCWAY License Server and ARCWAY Cockpit Server.

Click on the Server Package link that can be found in the Default Installation section of the [http://download.arcway.net/COCKPIT-Client/v380/index\\_de.html](http://download.arcway.net/COCKPIT-Client/v380/index_de.html) download site. Download the two .war files and copy them to the directory **[Tomcat Home]\webapps**.

*Do NOT copy the files into [Tomcat Home]\server\webapps*

The .war's provided on the download site are already preconfigured to work out-of-the-box.

The insertion of the WebApplication archive (.war files) into the directory **[Tomcat Home] » webapps** disposes Tomcat to unpack its content into the accordantly named directory. Afterwards the directory should have this content:

### Web-Applikations-Archive

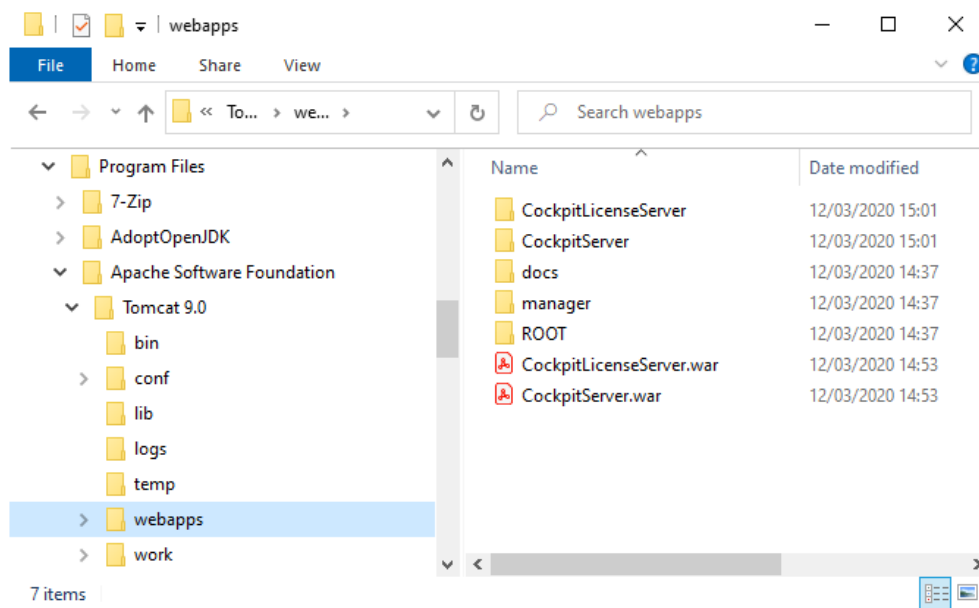


Figure 6: Web-Applikations-Archive

Attention

*If you download the web application archives (.war Files) using a web browser the browser will potentially modify the file extension of these files into .zip. In this case you need to change the file extension manually back into .war. If you miss this step Tomcat will not recognize the archives as web application archives and will not unpack/deploy the Cockpit web applications.*

## 4.5 Step 5 - Installing the licenses

If you have bought a license, which is designed for administration by the license server, you should copy this license file into the directory

**[Tomcat Home]\webapps\CockpitLicenseServer\Licenses**

## 4.6 Step 6 – Verifying Installation

So far you have installed the **ARCWAY Cockpit** server and the licence server. The servers can be reached via the following URLs:

**http://[IP]:[Tomcat port]/CockpitServer/**

e.g.: **http://localhost:8080/CockpitServer/**

**http://[IP]:[Tomcat port]/CockpitLicenseServer/**

e.g.: **http://localhost:8080/CockpitLicenseServer/**

To check the installation, you can now perform a first simple test by entering the server URLs given above into a browser. If you see an error page for one of the servers, the installation of the server has failed.

### 4.6.1 Voreingestellter Administrator-Account

During the first start-up, the **ARCWAY Cockpit** server will automatically create the data storage required for operation. During this process, the following administrator user is also created:

|              |               |
|--------------|---------------|
| Benutzername | Administrator |
| Passwort     | PSC           |

It is recommended to install the client and to connect to the server using this administrator account. Once connected, you should use the user management to change the password. You can also create further user accounts here.

For creating a connection to the just installed server select

**Server » Add**

from the main menu. A dialog opens (see below). You can choose any server name. The URL should be the URL where the Cockpit Server is located.

If you have successfully registered the server, a corresponding entry for this server appears in the project navigator. After this, you should be able to connect to the server. To do this, right-click on the **Server entry** and select **Connect**.

**New Serverconnection**

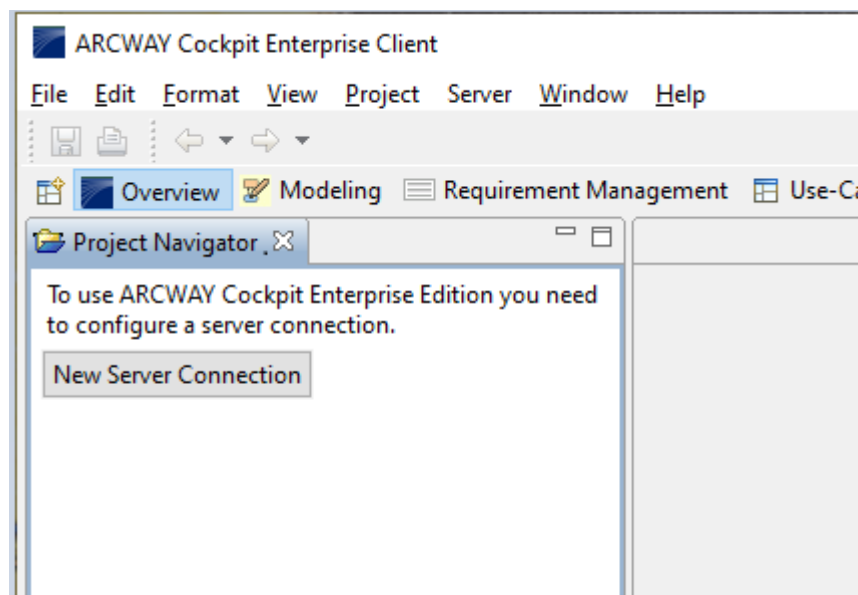
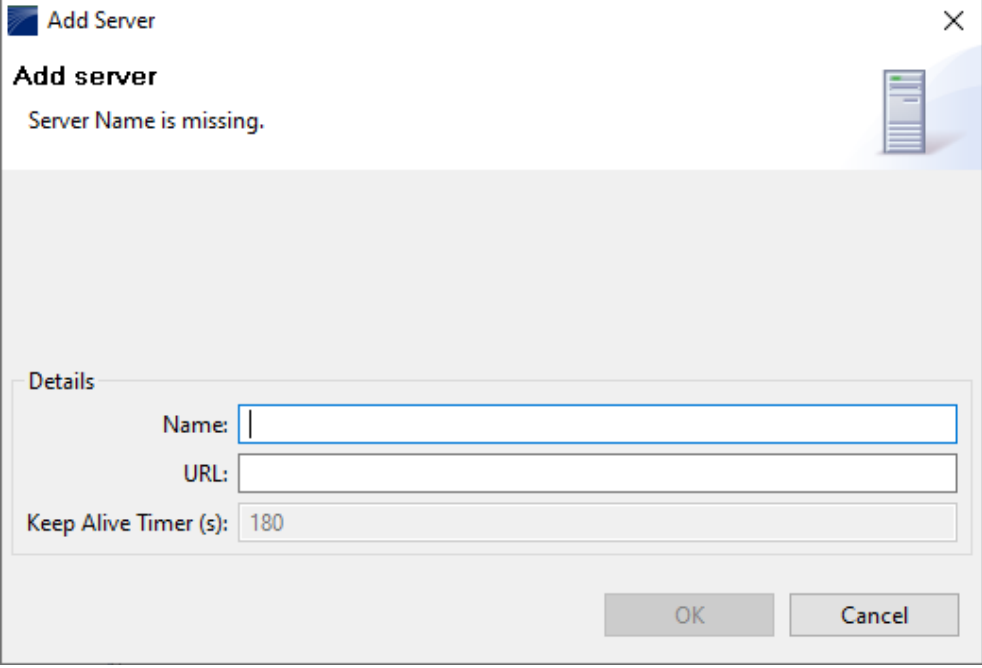


Figure 7: New Serverconnection

## Add Server



**Add Server**

**Add server**

Server Name is missing.

Details

Name:

URL:

Keep Alive Timer (s):

OK Cancel

Figure 8: Add Server

The user management can be accessed using the main menu entry **Server > User Management**.

### 4.6.2 Check – Create a new Project

For this test you need an **ARCWAY Cockpit Client**, which is properly licensed. First you have to configure the server connection for this client and connect to the server. A detailed description of the necessary steps can be found in the section above “Default Administrator Account”.

After that you should be able to create a new project on the server.

*If you use ARCWAY Cockpit for the first time, it is advisable to create a new sample project using one of the sample project templates available from*

*<http://www.arcway.com/downloads> . Downlaod the project template file to your local file system with the help of your browser. Now you can install the sample project*

*using drag&drop. Simply drop the \*.act file on the server entry in the Project Navigator.*

## 5 STANDARDINSTALLATION - LINUX/UNIX

This section describes the installation of an **ARCWAY Cockpit** Server based on Linux or Unix Systems.

Due to the differences between the different systems of Linux or Unix no detailed install-process can be indicated. These steps just stand here to illustrate the main character and is based on the install-process for Windows Systems.

Because of the differences of these systems, the first and the second install-step were worked automatically, if you start with **!!! VERWEIS (ANKER) NICHT GEFUNDEN !!!** . Maybe you can ignore Step 1 and Step 3 if you have installed the correct versions of Java and Tomcat.

### 5.1 Step 1 – Installing Java SDK

For the standard Installation the Java Development Kit (JDK) in version 8 or higher is required. For installation on a 64-bit Operating System, a 64-bit JDK is required while a 32-bit JDK is required for installation on a 32-bit Operating System. Supported VM's are Java 6 of Oracle and IBM. **ARCWAY Cockpit** doesn't support GCC-Java/GCJ. You can also use "JRockit VM (BEA)" or the VM of the "OpenSDK", but there are no values of experiences. Actually, we don't know of any problems and try to develop **ARCWAY Cockpit** in this way, that these two are supported. This step can be skipped if a suitable JDK is already installed.

Suitable JDK installation archives can be found on the **ARCWAY Cockpit** download site. You can perform a Standard install using the provided Java SDK Installers.

Please go to this site for installation instructions:

<http://www.oracle.com/technetwork/java/javase/downloads/index.html>

### 5.2 Setting JAVA\_HOME Environment Variable

Normally one of the installed Java VM's is select in the system as the default VM.

Which of the VM's is select you can detect with the normal Command:

```
java -version
```

If the Command offers the wrong Java VM you need to look into the Manual of this system. Normally there is a Command to configure the right Java VM on the system:

```
alternatives -config java
update-alternatives -config java
ln -s /usr/java /usr/jdk/<java-version>
```

### 5.3 Step 3 – Installing Tomcat

Tomcat is the servlet container that runs the [ARCWAY Cockpit](#) server. To run [ARCWAY Cockpit](#) it is recommended to use a current build of Tomcat 9.0 is used.

Here also recommended that the use of their system-specific software management tool to install an appropriate Tomcat version. Depending on your distribution, a Tomcat installation also consists of components which are spread over several installation packages. If you are unsure which components are needed our support will help you, if you submit the names of all packages to choose from Tomcat to the cockpit support.

After installing Tomcat on your system, there is a **Tomcat Home** directory. This directory is im-portant for the installation process. It typically has a name as *tomcat*, *tomcat9* and usually has the following content:

#### Tomcat Home Directory

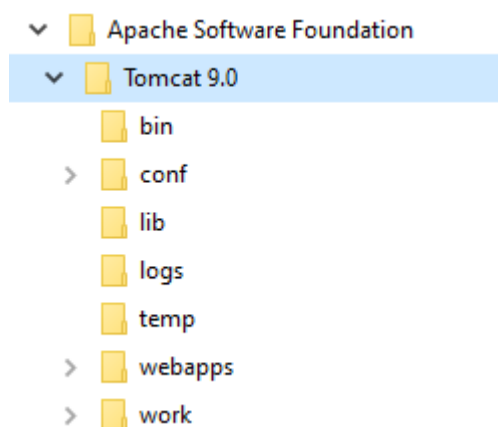


Figure 9: Tomcat Home Directory



Depending on the system, the directory entries "logs" and "temp" shown may also be missing. The concrete storage location of the **Tomcat Home** directory is also system-dependent. directory is also system-dependent. A typical location is:

**`/usr/share/tomcat9`**

Furthermore, when Tomcat is installed, a Tomcat Init Script with a name like "tomcat" or "catalina" is usually installed as well, which will be referred to several times in the following. This Tomcat Init Script, which is used to start/stop Tomcat, is usually installed in the **`/etc/init.d`** directory on System V-oriented operating systems.

*This manual assumes that Tomcat is preconfigured to offer its services on port 8080. If this is not the case, you can continue with the rest of these installation instructions, but you will then have to adjust the configuration of the ARCWAY Cockpit Cockpit server. In particular, you must correct the port number in the URL of the ARCWAY Cockpit licence server. More detailed instructions for this can be found in the section Fehler! Reference source could not be found...*

*The port number is set in the following configuration file of the Tomcat server:*

***[Tomcat Home]/conf/server.xml***

*In it there should be an entry of the following form, from which you can take the port number:*

```
<!-- Define a non-SSL HTTP/1.1 Connector on port 8080 -->
<Connector port="8080"
maxHttpHeaderSize="8192"
maxThreads="150"
minSpareThreads="25"
maxSpareThreads="75"
enableLookups=false"
redirectPort="8443"
acceptCount="100"
connectionTimeout="20000"
disableUploadTimeout="true" />
```

## 5.4 Step 4 – Configuring the Tomcat Properties

When Tomcat is started using the Tomcat Init Script, this script determines some basic operating parameters. These include the parameters for the JAVA VM, which is used as the carrier system for Tomcat. The parameter values are often not directly written down in the Tomcat Init Script, but can also be found in files that are evaluated by the Tomcat Init Script (such as `/etc/tomcat9/tomcat9.conf`).

### Configure the main memory value

Usually, the default for the maximum will not be used for the operation of Tomcat amount of memory reconfigured to operate as a cockpit server and must not suitable. This is the maximum amount of memory to be used actually a parameter of Tomcat itself, but a parameter for the operation of Tomcat used Java VM. Such Java VM parameters are usually in a Tomcat Init Script in a shell variable called "JAVA\_OPTS" accumulated and incorporated into the sequence in the Java VM startup command. To operate as a cockpit server should the Java VM 512 MB is provided. These specified minimum quantity of 512 MB refers to the case where a 32-bit Java runtime environment is used. 64-bit Java runtime environments need to perform the same tasks in general much more memory. Therefore, when using a 64-bit runtime environment, a higher value of at least 768 MB set. This would be the "JAVA\_OPTS" a "-Xmx" parameter immediately followed by a corresponding amount of expression such as "768m" for 768MB of memory to add:

```
JAVA_OPTS="$ JAVA_OPTS -Xmx1024m"
```

If you are undecided is whether the setting is working, you can try to set a high value as nonsensical "Xmx76800m. In this case, the value of the Java VM will be recognized as nonsensical and a corresponding entry in the log file-s in the [\[Tomcat Home\]/logs](#) the result.

## 5.5 Step 5 – Installing the ARCWAY License Server and the ARCWAY Cockpit Server

The last step is deploying the ARCWAY License Server and ARCWAY Cockpit Server.

Click on the Server Package link that can be found in the Default Installation section of the [ARCWAY Cockpit](#) download site. Copy the contents of this folder into the directory **Tomcat Home]\webapps**.

*Note: do NOT copy the files into **Tomcat Home]\server\webapps!***

The .war's provided on the download site are already preconfigured to work out-of-the-box.

The insertion of the WebApplication archive (“\*.war” files) into the directory **Tomcat Home]\webapps** disposes Tomcat to unpack its content into the accordantly named directory. Afterwards the directory should have this content:

Web-Applikations-Archive → [Details](#) (S. 12)

*Attention: If you download the web application archives (.war files) using a browser, it may happen that the browser changes the file extension of the downloaded files to .zip. In this case, you must change the file extension back to .war, otherwise the files will not be recognised by Tomcat as web application archives.*

## 5.6 Step 6 – Installing the licenses

If you have received concurrent licences from ARCWAY that are intended to be managed by the licence server, copy the corresponding licence files to the directory

[Tomcat Home]\webapps\CockpitLicenseServer\Licenses.

*Attention: If you have received named user licences, you must not store them in the server, but in the ARCWAY Cockpit client of the respective user. You will find detailed instructions for this in the installation instructions for the Cockpit Client.*

## 5.7 Step 7 – Verifying Installation

So far you have installed the ARCWAY Cockpit server and the licence server. The servers can be reached via the following URLs:

**http://[IP]:[Tomcat port]/CockpitServer/**

e.g.: **http://localhost:8080/CockpitServer**

**http://[IP]:[Tomcat port]/CockpitLicenseServer/**

e.g.: **http://localhost:8080/CockpitLicenseServer/**

To check the installation, you can now carry out a first simple test by entering the above server URLs into a browser. If you see an error page for one of the servers, the installation of the server has failed.

Translated with [www.DeepL.com/Translator](http://www.DeepL.com/Translator) (free version)

### 5.7.1 Default Administrator Account

During the first start-up, the ARCWAY Cockpit server will automatically create the data storage required for operation. During this process, the following administrator user is also created:

It is recommended to install the client and to connect to the server using this administrator account. Once connected, you should use the user management to change the password. You can also create further user accounts here.

For creating a connection to the just installed server select

**Server » Add**

from the main menu. A dialog opens (see below). You can choose any server name. The URL should be the URL where the Cockpit Server is located.

New Serverconnection → [Details](#) (S. 14)

Add Server → [Details](#) (S. 15)

If you have successfully registered the server, an accordant entry appears in the Project Navigator. After this it should be possible to connect to the server. Right click on the server entry and select Connect from the context menu.

The user management can be accessed using the main menu **Server » Benutzerverwaltung**.

### 5.7.2 Check – Create a new Project

For this test you need an **ARCWAY Cockpit Client**, which is properly licensed. First you have to con-figure the server connection for this client and connect to the server. A detailed description of the necessary steps can be found in the section above “Default Administrator Account”.

After that you should be able to create a new project on the server.

*If you use ARWAY Cockpit for the first time, it is advisable to create a new sample project using one of the sample project templates available from*

*<http://www.arcway.com/downloads>. Downlaod the project template file to your local file system with the help of your browser. Now you can install the sample project*

*Using drag&drop. Simply drop the **.act** file on the server entry in the Project Navigator.*



## 6 BACKUP & RESTORE

This section describes how to create backups of the entire server database or individual Cockpit projects and restore them later.

### 6.1 Server Backup

#### 6.1.1 Using the Cockpit Client to dump the Server

To create a server backup with the help of a Cockpit Client, select the item **Server » Archivieren...** in the client main menu. The following dialog gives an overview of all servers that can be archived. Select the desired server and enter a destination for storing the archive. Confirm your input with **OK**. Now all projects will be downloaded from the server and put into a zip file at the desired destination.

#### 6.1.2 Using the Command Line Tool to dump the Server

Alternatively, the server data can also be backed up with the help of a command line tool.

*This tool is intended in particular for regular, automated backups.*

Since the command line tool is completely implemented in Java, it can be executed on any platform on which a Java runtime environment (JRE 6 or higher) is installed.

Overview:

**serverurl**

-s

The URL of the **ARCWAY Cockpit** Server to be archived

e.g.: **http://localhost:8080/CockpitServer/**

**Backup file**

-f

The name of the backup file in which the "server archive" is to be stored.

for example: **CockpitServerDump-20080509.zip**

**-o y|n**

A switch to control overwriting an existing backup file with the same name.

y: allow overwrite

n: prohibit overwriting, cancel backup if file exists

The default setting is "n"

**-u username**

The name of the [ARCWAY Cockpit](#) Server user to be used to log on to the Cockpit server. This user must be authorised to create server archives. That means: he must be the user 'Administrator', be a member of the group 'Administrators' or he must have been assigned one of the basic server permissions 'Operator' or 'System Administration'.

This parameter must not be specified if the server is configured for Single Sign-On.

**-p Password**

The password of the [ARCWAY Cockpit](#) Server user specified using the "-u" option.

This parameter must also not be specified if the server is configured for single sign-on.

### 6.1.3 Restoring the Server

To restore a backup of a server, select the entry **Server » Restore...** in the main menu of the Cockpit Client. In the following dialogue, select the server to be overwritten and the zip file that was created when the server was backed up. Confirm your entries with  to restore the server using the backup.



## 6.2 Project Backup

### 6.2.1 Using the Cockpit Client to dump a project

To create a server backup with the help of a Cockpit Client, select the item **Server » Archivieren...** in the client main menu. The following dialog gives an overview of all servers that can be archived. Select the desired server and enter a destination for storing the archive. Confirm your input with . Now all projects will be downloaded from the server and put into a zip file at the desired destination.

### 6.2.2 Restoring Projects

To restore a project backup, select **Projekt » Restore...** from the Cockpit Client main menu and select the zip file that contains the project archive in the following dialog.

It is possible to restore the archive as a new project or as stored within the file. Note that existing projects of the same name will be overwritten when selecting the option “as dumped”. When selecting the option “as new project” a name for the project has to be entered.

Confirm your input with  to restore the project with the help of the backup.



## 7 CUSTOMISE SERVER CONFIGURATION

*After a standard installation, the respective ARCWAY Cockpit server can already be used without further changes of the parameter values. Therefore, only change the configuration parameters if you want to deviate from the standard installation.*

### 7.1 Adjusting configuration parameters of the Cockpit Server web application

Within the administration of the Cockpit Server it may be necessary to change the configuration parameters of the Server Web Application. It is recommended to make the configuration settings directly by modifying the **web.xml** file of the Cockpit Server web application. Before you start making changes to the file, you should make a backup copy of this file.

This file is an XML file. In a standard installation, the **web.xml** file of the Cockpit Server web application is located in the following location in the file system:

**[Tomcat Home]\CockpitServer\WEB-INF\web.xml**

For each of the parameters of the **ARCWAY Cockpit** server, this file already contains an `env_entry` entry of the following form:

```
<env-entry>
  <description>URL of the License Server</description>
  <env-entry-name>
    AC1/ServerParameter/FloatingLicenseManager/licenseServerAddress
  </env-entry-name>
  <env-entry-value>
    http://localhost:8080/CockpitLicenseServer/
  </env-entry-value>
  <env-entry-type>java.lang.String</env-entry-type>
</env-entry>
```

The name of the parameter is represented by the character string enclosed by the tags `<env-entry-name>` and `</env-entry-name>`. The section of the "web.xml" file shown here is therefore the **env\_entry** for the parameter with the name

**AC1/ServerParameter/FloatingLicenseManager/licenseServerAddress.**

The value configured for the parameter is represented by the string enclosed by the tags `<env-entry-value>` and `</env-entry-value>`.

Please note that the following variables can be used in parameter values:

**Variables**

- `@(DocumentRoot)` Absolute path to the root directory of the web application (file system)
- `@(WebappDirName)` Name of the last directory contained in `@(DocumentRoot)` In the standard installation the value of this parameter is accordingly: `CockpitServer`

*For earlier releases it was recommended to configure the Cockpit Server using the "Tomcat administration tool". We have deviated from this, because the handling of the tool is not intuitive and the tool is not available on all platforms. If you have such an installation and have already changed configuration settings with this tool, the configuration settings of the Cockpit Server cannot be influenced by changes to the "web.xml" file of the Cockpit Server as described above. In this case you should continue using the "Tomcat administration tool" as usual. If it is installed, it is available at the following URL:*

***http://[IP]:[Tomcat Port]/admin***

*(e.g. http://localhost:8080/admin)*

*The individual parameters can be found there under the item "Environment Entries":*

## 7.2 Installing the ARCWAY License Server

The licence server to be used by the Cockpit Server is preset to the following value:

**http://localhost:8080/CockpitLicenseServer/**

To use a licence server that differs from this, the value of the parameter with the following name

**AC1/ServerParameter/FloatingLicenseManager/licenseServerAddress** must be set to the URL of the licence server to be used. Note that the URL of the licence

server must be specified including the "/" at the end. Otherwise, proper communication with the licence server is not guaranteed.

How to change this parameter is described in the section "Adjusting configuration parameters of the Cockpit Server Web Application".

AC1

```
/SERVERPARAMETER
  /FLOATINGLICENSEMANAGER
    /LICENSESERVERADDRESS
```

URL of the licence server

Description

string

type

**http://localhost:8080/CockpitLicenseServer/**

example

### 7.3 Datenbankkonfiguration (Supportoption erforderlich)

*The standard installation of an ARCWAY Cockpit Server uses the database system HSQLDB integrated into the server. This integrated database system does not require any administration effort and has a performance that can hardly be surpassed for this purpose. Nevertheless, it is possible to switch off this integrated database system and use an external database instead. The use of an external database requires a separate support agreement. Contact your Cockpit sales contact for more information on how to support the database system of your choice.*

To configure the database, you must specify the database used, the URL to connect to the database, and the user and password to connect to the database.

The ARCWAY Cockpit server stores UNICODE coded data in the configured database. Please take this into account when creating databases and activate UNICODE support of your database management system if necessary.

First configure the database used by setting the

**AC1/ServerParameter/Database/dbConnectionClass** parameter.

This parameter can currently contain the values

- „NativeDB2“ IBM DB2 Version 8.1

- „NativeHSQLDB“ <http://hsqldb.org>
- „NativeOracle“ Oracle 10g
- „NativeSQLServer“ Microsoft SQL Server 2000
- „NativeSQLServer2005“ Microsoft SQL Server 2005
- „NativeMYSQLCJ“ MySQL ab Version 4.1

(Note: upper and lower case are important)

Next, you must set the database URL and store the databasespecific JDBC driver files in a specific location.

- The database URL is set using the following parameter: AC1/ServerParameter/Database/dbName. This parameter uses a special format to specify the URL.
- The driver files must be placed in the "WEB-INF/lib" directory of the Cockpit Server web application (see screenshot below):

#### Configuration for HSQL DB

In the case of **NativeHSQLDB**, dbName is prefixed with the string **jdbc:hsqldb:** to form a valid HSQL DB URL.

#### HSQL DATABASE

|                  |                                    |
|------------------|------------------------------------|
| Example (dbName) | C:/Data/Cockpit/HsqlDB             |
| Resulting URL    | jdbc:hsqldb:C:/Data/Cockpit/HsqlDB |
| JDBC driver      | hsqldb.jar                         |

#### Configuration for MS SQL-Server 2000

In the case of **NativeSQLServer**, the database URL is constructed from dbName as follows: The string **jdbc:microsoft:sqlserver:** dbName is prefixed and the string **;SelectMethod=Cursor** is appended to form a valid database URL for the Microsoft JDBC driver.

#### SQL-SERVER DATABASE

|                  |   |
|------------------|---|
| Example (dbName) | //arcserv1:1433;DatabaseName=CockpitTest                                |
| Existing URL     | "jdbc:microsoft:sqlserver://arcserv1:1433;<br>DatabaseName=CockpitTest; |

SelectMethod=Cursor"

msbase.jar

JDBC driver

msutil.jar

mssqlserver.jar

### Configuration for MS SQL-Server 2005

In the case of **NativeSQLServer2005**, the database URL from dbName is constructed as follows: The string **jdbc:sqlserver:** is prepended to dbName to form a valid database URL for the Microsoft JDBC driver.

#### SQL-SERVER DATABASE

//arcserv1:1433;DatabaseName=CockpitTest

Example (dbName)

"jdbc:microsoft:sqlserver://arcserv1:1433;DatabaseName=CockpitTest"

Resulting URL

sqljdbc.jar

JDBC driver

### Configuration for IBM DB2

In the case of **NativeDB2**, the database URL is constructed from dbName as follows: The string **jdbc:db2:** is prepended to dbName to form a valid database URL for the IBM DB2 database.

#### DB2 DATABASE

//localhost:50000/Cockpit

Example (dbName)

jdbc:db2://localhost:50000/Cockpit

Resulting URL

JDBC type 4 driver from IBM "jcc-driver

JDBC driver

db2jcc.jar

db2\_license\_cu.jar

db2\_license\_cisuz.jar

*The default setting of the database parameter LOGFILSIZ, which determines the size of the transaction log, has turned out to be too low several times in the past. In these cases, the size of the transaction log was preset to 250 pages of 4kb each (i.e. 1MB). It is recommended to reserve about 100 MB memory for the transaction log.*

### Configuration for Oracle

In the case of **NativeOracle**, the database URL is constructed from dbName as follows: The string **jdbc:oracle:thin:** is prepended to dbName to form a valid database URL for the Oracle JDBC driver.

#### ORACLE DATABASE

|                  |   |
|------------------|---|
| Example (dbName) | @192.168.35.215:1521:TestCockpit                  |
| Resulting URL    | jdbc:oracle:thin:@192.168.35.215:1521:TestCockpit |
| JDBC Driver      | ojdbc14_g.jar                                     |

### Configuration for MySQL

In the case of the "**NativeMYSLCJ**", the database URL is constructed from dbName as follows: The string **jdbc:mysql:** is prefixed to dbName.

#### SQL-SERVER DATABASE

|                  |  |
|------------------|--|
| Example (dbName) | //192.168.35.208/CockpitDB   |
| Resulting URL    | jdbc:mysql://192.168.35.208/CockpitDB  |
| JDBC driver      | The actual driver is a Java archive file whose name begins with "mysql-connector-java" and ends with ".jar". |

Here are two examples:

- mysql-connector-java-3.1.6.jar or
- mysql-connector-java-3.1.12-bin.jar



## User and password

Last you have to specify the database user in the parameter **AC1/ServerParameter/Database/dbUser** and the password in the parameter **AC1/ServerParameter/Database/dbPassword**.

### Database configuration parameters

The database schema as well as the initial contents of the database are automatically created when the Cockpit server is started for the first time. Therefore, no additional preparation of the database is necessary.

The **ARCWAY Cockpit** server stores UNICODE coded data in the configured database. Please take this into account when creating databases and, if necessary, activate the UNICODE support of your database management system.

Support of your database management system.

AC1

```
/SERVERPARAMETER
  /DATABASE
    /DBCONECTIONCLASS
```

This parameter is used to select the database driver to connect to the database. [Description](#)

String

[Type](#)

"NativeHSQLDB" or "NativeSQLServer" or "NativeDB2" (case sensitive)

[example](#)

AC1

```
/SERVERPARAMETER
  /DATABASE
    /DBNAME
```

Part of the database URL

[Description](#)

string

[Type](#)

"//arcserv1:1433;DatabaseName=CockpitTest"

[example](#)

AC1

```
/SERVERPARAMETER
  /DATABASE
    /DBUSER
```

The database user that uses the application to connect to the database.

[Description](#)

|             |  |
|-------------|--|
| type        | String   |
| example     | "cockpituser"  |
|             | <pre>AC1   /SERVERPARAMETER     /DATABASE       /DBPASSWORD</pre>                      |
| Description | The password of the database user used by the applications to connect to the database. |
| type        | String   |
| example     | "45hj56"   |

## 7.4 Adjust the use of the file system

The Cockpit Server web application uses the server's file system to store data of various types:

- Managed "user data
- Temporary files
- Log files
- Client Updates

In a standard installation of the Cockpit Server, most of this data is stored in a directory structure below the following root directory:

**[Tomcat Home]\CockpitServer\Data**

The data produced by the Cockpit Server web application but not stored within the named directory structure:

- Temporary files: The Cockpit Server web application uses Java library functions that use the "java.io.tmpdir
- Log files written by Tomcat

The exact location where this data is stored may be changed by making appropriate changes to the Tomcat configuration and by changing the configuration of the Java VM used to operate Tomcat.

The storage location of the data that is stored within the directory structure with the above-mentioned root directory in a standard installation can be changed by adjusting the parameters listed below:

### 7.4.1 Datasystems

To configure the temporary folder, you must set the parameter `AC1/ServerParameter/tempFolder`.

#### **AC1/SERVERPARAMETER/TEMPFOLDER**

AC1

SERVERPARAMETER  
TEMPFOLDER

Name of the directory used to store temporary files. It is used to store temporary data during the creation and restoration of server backups. description

String

Type

"C:\Temp

example

### 7.4.2 File archive

A cockpit server is responsible for storing plans in different versions. In the standard configuration, the cockpit server uses the built-in archive implementation called "Simple File System Archive".

*It is important that support for exactly one archive is activated. This means that exactly one of the following parameters must be set to "true": (The other parameters must be set to "false" accordingly).*

#### **AC1/ServerParameter/simplefilesystemarchive/archiveEnabled**

To configure the archive folder, you must set the `SimpleFileSystemArchiv` **AC1/ServerParameter/simplefilesystemarchive/archiveRoot** parameter. This folder is used as the root of a directory hierarchy containing the files including the archive. e

AC1

/SERVERPARAMETER

```

/SIMPLEFILESYSSTEMARCHIVE
/ARCHIVEENABLED
    
```

|Description

Switch for activating the "SimpleFileSystem" archive. Default value: true

type Boolean

|Example

"true"

|AC1 code

```

/SERVERPARAMETER
/SIMPLEFILESYSSTEMARCHIVE
/ARCHIVEROOT
    
```

Description The root directory containing the archive of plan files.

Type string

example "C:\Archive"

### 7.4.3 Log

```

AC1
/SERVERPARAMETER
/LOGFILE
/LOGFILEPATH
    
```

Description Name of the log file

type string

Example "C:\Temp\Log\Cockpit.log"

```

AC1
/SERVERPARAMETER
/LOGFILE
/MAXFILELENGTH
    
```

Description Maximum size of a log file in bytes. When this size is reached, the system continues with a new log file. The log file used up to this point is given a new name, which is derived from the old name, to which the extension ".1" is added. Any existing file with the extension ".1" will be overwritten.

|             |         |
|-------------|---------|
| Int         | type    |
| "200000000" | Example |

#### 7.4.4 Client Update

AC1

```
/SERVERPARAMETER
  /ECLIPSECLIENTUPDATE
    /UPDATESITEREPOSITORYLOCATION
```

Location for client updates

Description

Client updates can be provided by the server. This parameter specifies the location of the updates to be provided by the Cockpit server. It is recommended to store these updates in the form of a directory structure in the file system of the server. In this, the parameter must be set to the value "dir:directory name" (see sample value). Alternatively, the storage location can also be specified by specifying a URL.

string

type

"dir:D:\cockpit\update-site"

examples

"url:http://update.arcway.net/updates/cockpit/3.8/"

AC1

```
/SERVERPARAMETER
  /ECLIPSECLIENTUPDATE
    /UPDATECONSTRAINTSREPOSITORYLOCATION
```

Location for update rules and notes

Description

Update rules for the client software and notes for the users of the client software can be stored on the server.

For this purpose, the following directories/files are to be created in the storage location specified by this parameter:

The files with the name "compatibilityconstraints.xml" contain update criteria while the "message.html" files contain information for the client users. If the "mandatory" update criteria are not fulfilled, the "mandatory" message is displayed on the client and the client in question can only use the server to update the client software. If the client meets the "mandatory"

update criteria but not the "recommended" criteria, the "recommended" notice is displayed. If a hint is stored in the root directory, a hint is also displayed on the client if the client fulfils both the "mandatory" and the "recommended" update criteria.

"compatibilityconstraints.xml" files can be obtained from the ARCWAY Cockpit Support Team if required.

A directory structure in the server's file system is recommended as storage location. In this, the parameter must be set to the value "dir:directory name" (see sample value). Alternatively, the storage location can also be specified by specifying a URL.

|         |                                     |
|---------|-------------------------------------|
| type    | string                              |
| example | "dir:D:\cockpit\update-constraints" |

## 7.5 User database / LDAP integration / SSO

*The standard installation of an ARCWAY Cockpit Server includes an integrated user database. In principle, it is possible to connect the Cockpit server to an existing LDAP directory.*

*If you wish to connect to an existing LDAP directory, please discuss this with your sales contact beforehand.*

AC1

```
/SERVERPARAMETER
  /USERREALMCONFIG/...
```

### Description

By changing these parameters it is possible to configure the Cockpit Server to use an external LDAP directory as Cockpit user database.

If you want to make use of this possibility, please contact the [ARCWAY Cockpit Support Team](#).

[support@arcway.com](mailto:support@arcway.com)

## 8 SUPPORT

### Problems in connection with Tomcat

#### I have forgotten the password for Tomcat

You can look up the password by opening the **[Tomcat Home]/conf/tomcat-users.xml** file.

#### I am not sure if Tomcat is running

You can check if Tomcat is running by going to `[[STYLE#EXAMPLE#http://[ip]:[Tomcat Port]/` (e.g. `http://localhost:8080/`) where a welcome page is displayed if Tomcat is running.

#### I get a message on the client that no licence is available.

You can check if the licence server is working by going to **http://[ip]:[Tomcat Port]/CockpitLicenseServer/** where a welcome page with the licence information is displayed when the licence server is running.

If the licence is invalid, please contact ARCWAY using the contact details given at the beginning to obtain a valid licence. Save this file in the directory

**[Tomcat directory]\webapps\CockpitLicenseServer\Licenses**

and restart the licence server. This can be done via the Tomcat Management Console or with the help of a general restart of Tomcat.

The client cannot connect to the server. The message "Problem with server connection" appears.

Check whether you have added the terminating character "/" in the server URL.