

Telelogic D00RS Web Access

Installing Telelogic D00RS Web Access



Telelogic DOORS Web Access

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Release 1.1.0.0

Before using this information, be sure to read the general information under the "Notices" chapter on page 33.

This edition applies to **VERSION 1.1.0.0, Telelogic DOORS Web Access** and to all subsequent releases and modifications until otherwise indicated in new editions.

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1

Introduction

Welcome to Telelogic® DOORS Web Access™.

This document contains information on installing and setting up your DOORS Web Access system.

- What is DOORS Web Access?
- What are the licensing options?
- The DWA components
- What next?

What is DOORS Web Access?

DOORS Web Access (DWA) is a member of the Telelogic® DOORS® product family, which is a package of requirements management tools designed to help enterprises take control of and effectively manage projects from the concepts phase right through to completion.

DWA is a web-based front-end that allows you to access modules held on your DOORS Database.

What are the licensing options?

You must have either a software or hardware license to run DWA.

Licenses are acquired for each user session, but are managed on the server side rather than in the client process. The server acquires licenses from the license server when users connect and releases them when the users log off.

This means that users don't need direct access to the license server through any firewalls that may be deployed.

For more information on licensing, see the *Telelogic Lifecycle Solutions Licensing Guide*, which is available from the **Telelogic Lifecycle Solutions DVD**, and from our web site at <https://support.telelogic.com>.

The DWA components

Installing DWA involves the installation of a number of discrete components. These components are supplied by Telelogic. The components you need to install are:

- The DWA Server
- The DWA Broker
- DOORS Database Server
- Interoperation Server
- Telelogic License Server and DWA license file

The DWA Server

The DWA Server is an adaptation of Apache Tomcat. Tomcat is an application server that executes Java® servlets and renders web pages that include Java Server Page code.

You need to run the adapted version of Tomcat that is supplied by Telelogic as one of the DWA bundled components.

The DWA Broker

The DWA Broker is an adaptation of Apache ActiveMQ. ActiveMQ is an open source message broker that implements the Java Message Service (JMS).

The DWA Broker is supplied by Telelogic as one of the DWA bundled components.

DOORS Database Server

The data you will be accessing is stored in your DOORS Database Server. This needs to be v9.1, and is supplied separately on Windows. A DOORS Database Server installer for Solaris is supplied as one of the DWA bundled components.

Interoperation Server

The Interoperation Server is the DOORS client running the interoperation parameter.

For Windows, the Interoperation Server is available on the DOORS Web Access Support web site.

For Solaris, an Interoperation Server installer is supplied as one of the DWA bundled components.

Telelogic License Server and DWA license file

The Telelogic License Server is a computer on which the licenses to use Telelogic products are enabled. The Telelogic License Server uses FLEXnet®, a third party licensing system, to license your Telelogic products.

The license server needs to be v1.4, and is available from the Telelogic Support site.

A DWA license file needs to be requested through the normal licensing channels.

What next?

The following table describes the different DWA installation options that are covered in this manual.

If you are	See this chapter
Installing DWA in a Windows environment	Installing DWA on Windows
Installing DWA in a Solaris environment	Installing DWA on Solaris
Configuring DWA	Configuring DWA

2

Installing DWA on Windows

This chapter is a guide to the system requirements and the different components that are needed to run DWA. It also shows you how to install DWA in a Windows environment.

A later chapter gives you advice on how to configure DWA to get the most out of your installation.

- System requirements on Windows
- Installing the components
- Setting up component communication
- Starting the system
- Accessing DWA
- Running multiple Interoperation Servers
- Shutting down the system
- Uninstalling DWA

System requirements on Windows

The DWA server

The Windows platform that Telelogic supports to run the DWA server is the 32-bit Windows 2003 Server (Enterprise Edition).

The DWA client

The DWA client is supported on the following browser and Windows operating system combinations:

- Internet Explorer 6 on Windows XP (SP2 or SP3)
- Internet Explorer 7 on Windows XP (SP2 or SP3) and Windows Vista (Business Edition)
- Firefox (v2 or v3) on Windows XP (SP2 or SP3) and Windows Vista (Business Edition)

Installing the components

This section is a step-by-step guide to installing and configuring the components you need to run DWA in a Windows environment.

For more information on the components, see “The DWA components”, on page 1.

To install and configure the DWA components:

1. Check that you meet the system requirements for installing and running DWA.
2. Shut down all other applications.
3. If you are installing DWA for the first time, go to Step 4.

If you are upgrading from version 1.0, shut down the components before you continue:

- Stop the DWA Server.

Stop this process using the “close window” option in Windows.

Alternatively, there is a shutdown script in the `bin` directory called `shutdown.bat`.

The process may take some time to end (15-30 seconds), and may report a number of socket warnings while shutting down.

- Stop the Interoperation Server.

Stop this process using the “close window” option in Windows.

- Stop the DOORS Database Server.

Stop this process using the Windows Control Panel.

- Stop the DWA Broker.

Stop this process using the “close window” option in Windows.

The process may take some time to end (15-30 seconds), and may report a number of socket warnings while shutting down.

4. Download the DWA files from the DOORS Web Access Support web site.
There is one zip file, **dwa.zip**, which contains the DWA Server components and the DWA Broker components
Copy it to the appropriate machine. It will be used later in the procedure.
5. Download the Interoperation Server installer from the DOORS Support web site.

The Interoperation Server is a DOORS client. Download **Telelogic_DOORS_9_1.msi**.

Copy it to the appropriate machine. It will be used later in the procedure.

6. Install the DOORS Database Server.
 - a. Choose the machine you want to run the DOORS Database Server on.
 - b. Run the DOORS Server installer as normal. For information on installing a DOORS server, see the DOORS Installation Guide.
 - c. Install the software. The default port is 36677.

Take a note of the port and machine name for use later in the procedure.
7. Install the Interoperation Server.
 - a. Choose the machine you want to run the Interoperation Server on.
 - b. Install the Interoperation Server by running the **Telelogic_DOORS_9_1.msi** file.

The installation procedure is the same as a normal DOORS Client installation. For information on installing a DOORS client, see the DOORS Installation Guide.
8. Install the DWA Broker.
 - a. Choose the machine that you want to run the DWA Broker on.
 - b. The DWA Broker components are in **dwa.zip**. Decide which directory you want to install the DWA Broker on, and unzip the file.
9. Install the DWA Server.
 - a. Choose the machine that you want to run the DWA Server on.
 - b. The DWA Server components are in **dwa.zip**. Decide which directory you want to install the DWA Server on, and unzip the file.
10. Install the Telelogic® License Server™.
 - a. Download the Telelogic License Server from the Telelogic Support web site:
<https://support.telelogic.com/download/download.cfm?VID=238>
 - b. Run the Telelogic License Server installer as normal.

For more information on licensing, see the *Telelogic Lifecycle Solutions Licensing Guide*, which is available from the **Telelogic Lifecycle Solutions DVD**, and from our web site at <https://support.telelogic.com>.

Follow the installation instruction, ensuring you point to the license file that has your DWA features.

11. Configure your licenses as normal.

For more information on licensing, see the *Telelogic Lifecycle Solutions Licensing Guide*, which is available from the **Telelogic Lifecycle Solutions DVD**, and from our web site at <https://support.telelogic.com>.

12. Identify the database Universal Resource Name (URN).

The database URN is used once you start up DWA. You need to locate it now, and make a note of it for later use.

- a. If it isn't already running, start the DOORS Database Server.
- b. Start the DOORS client and log on to the database.
- c. Run a DXL script to locate the database URN:
 - i. In either the DOORS Explorer or a module window, click **Tools > Edit DXL**.
 - ii. Type the DXL script into the DXL input pane:

```
print getDatabaseIdentifier()
```
 - iii. Click **Run** to run the program.
- d. There will be a result similar to the following:

```
38f5c98719f27b6d
```
- e. This forms part of the database URN.

In this example, the database URN is:

```
urn:telelogic:ers-38f5c98719f27b6d:
```
- f. Make a note of this for later use.

You are now ready to set up the components to communicate with one another.

Setting up component communication

Once the different components have been installed, you need to enable them to communicate correctly with one another.

You need to set up:

- The DWA Server to communicate with the DWA Broker, the license server and the appropriate DOORS database repository
- The DOORS Database Server to communicate with the DWA Broker

- The Interoperation Server to communicate with the DOORS Database Server and the DWA Broker

The DWA Broker does not need to know the location of any of the other components.

Setting up the DWA Server

You need to set up the DWA Server to communicate with the DWA Broker, the license server and the appropriate DOORS database repository.

The DWA Server is configured using a directory called `festival` within the DWA Server directory structure. The `festival` directory contains three sub-directories:

- `config`

This directory contains **festival.xml**, the core configuration file within DWA. The `festival.xml` file:

- Makes sure the DWA Server communicates with the DWA Broker and the license server
- Contains the URN of the Repository, which must match the URN you identified in step 12 above.

Note The `config` directory contains other files that you shouldn't modify unless you receive the guidance of Telelogic support.

- `logs`

This directory contains **festival-log4j.xml**, which is used to configure the logging within the DWA Server tier of DWA.

Note Usually this file is only modified with the guidance of Telelogic support. If you want to find out about the possibilities offered by this file, search online for **log4j**.

- `custom`

This directory contains a sub-directory containing a file called `readme.htm`, which you can use to configure the Welcome Screen.

Example of festival.xml

```
<!-- Brokers we know about -->
  <f:endpoints>
    <f:broker
      name="GENERALESERVICES"
```

```
        url="tcp://127.0.0.1:61616?wireFormat.tcpNoDelayEnabled=true"
        username=""
        password="" />

    <f:broker
        name="DCSERVICES"
        url="tcp://127.0.0.1:61616?wireFormat.tcpNoDelayEnabled=true"
        username=""
        password="" />

    <f:broker
        name="RMSERVICES"
        url="tcp://127.0.0.1:61616?wireFormat.tcpNoDelayEnabled=true"
        username=""
        password="" />
</f:endpoints>

<!-- Mapping from Repository IDs to the broker we use to reach the repository
-->
    <f:mappings>
        <f:repository-mapping
            enabled="true"
            endpoint="RMSERVICES"
            name="DOORS ERS Repository"
            repositoryUrn="urn:telelogic:ers-46dd5d7806b96973:" />
    </f:mappings>

    <!-- Configurable system properties -->
    <f:properties>
        <f:property name="licence.server.location" value="19353@localhost" />
    </f:properties>

    </f:lsc>
</f:configuration>
```

Modifying festival.xml

The festival.xml file is the core configuration file within DWA. You need to modify entries for the following:

- `f:broker`
In the example, there are three entries that describe where the DWA Broker is. Edit these entries to point to the url of the machine where you installed the DWA Broker with the default port (61616).
- `f:repository-mapping`
This is the URN of the repository.

The `name` attribute is the name displayed on the DWA logon page. You can change this attribute. The default is `DOORS ERS Repository`.

The `repositoryUrn` attribute needs to match the URN of the DOORS Database Server you identified in step 12 of “Installing the components”, on page 6. You must change this attribute.

- `f:properties`

This is the location of the license server.

The `property name` attribute is `licence.server.location` with the value `19353@localhost`, which is the port number and machine name of the license server. Edit this to point to the location of your license server.

This location is added to the list of license locations held on your system.

Setting up the DOORS Database Server

You need to set up the DOORS Database Server to communicate with the DWA Broker.

You set up the communication by adding Data Change Notifications (DCN) parameters to the command line. DCNs are messages that contain information about changes made to DOORS data.

To set up the DOORS Database Server you need to run `dbadmin`, located in the `DOORS_9_1\bin` directory on the DOORS client machine, in a command line made up of the following parameters:

- Parameters that identify the DOORS Database Server, for example:

```
-data 36677@myserver
```

- The parameter to enable the DCNs:

```
-dcnEnable
```

- The parameter to locate the DWA Broker

```
-dcnBrokerUri
```

The value of `-dcnBrokerUri` parameter is made up of the protocol, the `brokerHost` (the machine hosting the DWA Broker) and the `brokerPort` (the port it listens on) separated by a colon (:), for example `tcp://myBroker:61616`.

- The parameter to set up a DCN channel.

```
-dcnChannelName
```

The value of `-dcnChannelName` is always `dcn`.

This gives a command line in the following format:

```
dbadmin -data 36677@myserver -dcnEnable -dcnBrokerUri  
"tcp://myBroker:61616" -dcnChannelName "dcn"
```

Useful DCN commands

- You can check the DCN service status using the `-dcnInfo` parameter:

```
dbadmin -data 36677@myserver -dcnInfo
```
- You can turn the DCN service off using `-dcnDisable` and turn it on using `-dcnEnable`:

```
dbadmin -data 36677@myserver -dcnDisable  
dbadmin -data 36677@myserver -dcnEnable
```

You need to restart the DOORS Database Server for these to take effect.

Setting up the Interoperation Server

You need to set up the Interoperation Server to communicate with the DOORS Database Server and DWA Broker.

The Interoperation Server is a DOORS client, and you set up the communication by adding parameters to the command line.

To set up the Interoperation Server you need to run `doors.exe`, which is located in `DOORS_9_1\bin`, in a command line made up of the following parameters:

- The parameter that identifies this DOORS client as an Interoperation Server:

```
-interop
```

- Parameters to communicate with the DOORS Database Server, for example:

```
-data 36677@myserver
```

- Parameters to communicate with DWA Broker.

```
-brokerHost BrokerMachine
```

```
-brokerPort PortNumber
```

This gives a command line in the following format:

```
doors.exe -interop -data 36677@myserver -brokerHost myBroker  
-brokerPort 61616
```

Once you have set up the components to communicate with one another you will be ready to start the system.

Starting the system

To start the system, you must start the processes in the following order:

1. The DWA Broker

The following file is in the `dwaBroker` directory on the machine hosting the DWA Broker:

```
dwaBroker.start.bat.
```

Run it.

2. The DOORS Database Server

You need to start the DOORS Database Server as a service on the machine hosting the DOORS database.

3. The Interoperation Server

Run the Interoperation Server on the machine hosting it with its command line attributes in the following format:

```
doors.exe -interop -data 36677@myserver -brokerHost myBroker  
-brokerPort 61616
```

4. The DWA Server

The following file is in the `dwaServer` directory on the machine hosting the DWA Server:

```
dwaServer.start.bat.
```

Run it. It may be slow to start the first time it's run because it has to unpack some files.

When you run 1, 3 and 4, there will be a “dos box” console for each process. Don't close these windows.

Accessing DWA

To access DWA:

When you have started all the above processes, and the DWA Server has started without errors, navigate to the following URL:

```
http://dwaServerMachine:8080/dwa
```

DWA will start.

Note When you access DWA for the first time, it will be slow to load into the browser. This is normal.

Running multiple Interoperation Servers

Setting up your system to run multiple Interoperation Servers can improve performance and increase the availability of the system.

Performance is improved because more DOORS modules can be cached, allowing quicker access to your DOORS data. DWA has routing logic to perform basic load balancing across the Interoperation Servers.

Availability is improved because the system can continue to work if one of the Interoperation Servers fails. While one Interoperation Server is down, users can continue to access the DOORS Database Server using the others.

Running multiple Interoperation Servers is straightforward. Simply start up multiple instances of the Interoperation Server.

All the Interoperation Servers must:

- Connect to the same DWA Broker
- Use same DOORS Database Server

The Interoperation Servers can be on different machines. For information, see step 3 in “Starting the system”, on page 12.

Shutting down the system

This section is a step-by-step guide to shutting down the system.

To shut down the system:

- Stop the DWA Server.

The following file is in the directory where you extracted `dwa.zip` on the machine hosting the DWA Server:

```
dwaServer.shutdown.bat.
```

Run it.

The process may take some time to end (15-30 seconds), and may report a number of socket warnings while shutting down.

- Stop the Interoperation Server.

Stop this process using the “close window” option in Windows.

- Stop the DOORS Database Server.

Stop this process using the Windows Control Panel.

- Stop the DWA Broker.

The following file is in the directory where you extracted `dwa.zip` on the machine hosting the DWA Server:

```
dwaBroker.shutdown.bat.
```

Run it.

The process may take some time to end (15-30 seconds), and may report a number of socket warnings while shutting down.

Uninstalling DWA

To remove DWA from your system:

- Uninstall the DWA Server by deleting the `dwaServer` directory.
- Uninstall the DWA Broker by deleting the `dwaBroker` directory.
- Uninstall the Interoperation Server, the DOORS Database Server, and the Telelogic License Server using **Add/Remove Programs**.

Note Currently, the Interoperation Server program is called **Telelogic DOORS 9.1**.

3

Installing DWA on Solaris

This chapter is a guide to the system requirements and the different components that are needed to run DWA. It also shows you how to install DWA in a Solaris environment.

A later chapter gives you advice on how to configure DWA to get the most out of your installation.

- System requirements on Solaris
- Installing the components
- Setting up component communication
- Starting the system
- Accessing DWA
- Running multiple Interoperation Servers
- Shutting down the system
- Uninstalling DWA

System requirements on Solaris

The DWA server

The DWA server is supported on Solaris 10 64-bit SPARC Architecture and VMWARE Workstation v5.0.2 running Solaris 10.

Installing the components

This section is a step-by-step guide to installing and configuring the components you need to run DWA in a Solaris environment.

For more information on the components, see “The DWA components”, on page 1.

To install and configure the DWA components:

1. Check that you meet the system requirements for installing and running DWA.
2. Shut down all other applications.
3. Download the DWA files from the DOORS Web Access Support web site.

There are two archive files:

- **dwa.zip**, containing the DWA Server and DWA Broker components
- **solaris.zip**, containing an Interoperation Server installer and a DOORS Database Server installer

Copy the archive files to the appropriate machines. They will be used later in the procedure.

4. Install the Interoperation Server.
 - a. Choose the machine you want to run the Interoperation Server on and log in as root.
 - b. Create a home directory for the installation.
 - c. Create a non-privileged account to own the Interoperation Server files. Telelogic recommends you call this user `doors`.
 - d. Navigate to the directory containing `solaris.zip` and unzip it:
 - e. Navigate to the directory containing the installers and run the installers:

```
unzip solaris.zip
```

```
cd unix/bin
./instdoor.sh
```

You use this file to install both the Interoperation Server and the DOORS Database Server.

Note If you are installing the Interoperation Server and the DOORS Database Server on the same machine, you can install them at the same time. At Step ii below accept the installation of the Interoperation Server and the DOORS Database Server.

- f. Answer the prompts on the screen:
 - i. Enter path to CD-ROM device or DOORS distribution.
 - ii. Accept the installation of the Interoperation Server.
 - iii. Enter the path to the DOORS home directory you created in Step b.
 - iv. Enter the name of the DOORS owner you set up in Step c.
 - v. Confirm the type of installation. Select both the Common installation and the Solaris installation.
- f. The installation script then confirms all the installation options and installs the files.

Broker on different machines, you need to repeat the following instructions on each machine.

- a. Choose the machine that you want to run the DWA Server and/or the DWA Broker on.
- b. Decide which directory you want to install on, and unzip **dwa.zip** to install it.
- c. Set the appropriate permissions on the files in the directory structure and install the JRE by running the **configure-festival.sh** script.

Navigate to the `dwa` directory and run the script:

```
bash configurefestival.sh
```

Note The script reports that it is installing JRE. This is localized to the current directory and does not affect any other Java installations on the system.

7. Install the Telelogic License Server.

- a. Download the Telelogic License Server from the Telelogic Support web site:

<https://support.telelogic.com/download/download.cfm?VID=238>

- b. Run the Telelogic License Server installer as normal.

For more information on licensing, see the *Telelogic Lifecycle Solutions Licensing Guide*, which is available from the **Telelogic Lifecycle Solutions DVD**, and from our web site at <https://support.telelogic.com>.

Follow the installation instruction, ensuring you point to your license file.

8. Configure your licenses.

For more information on licensing, see the *Telelogic Lifecycle Solutions Licensing Guide*, which is available from the **Telelogic Lifecycle Solutions DVD**, and from our web site at <https://support.telelogic.com>.

9. Identify the database Universal Resource Name (URN)

The database URN is used once you start up DWA. You need to locate it now, and make a note of it for later use.

- a. If it isn't already running, start the DOORS Database Server.
- b. Start a DOORS Window client and log on to the database.

- c. Run a DXL script to locate the database URN:
 - i. In either the DOORS Explorer or a module window, click **Tools > Edit DXL**.
 - ii. Type the DXL script into the DXL input pane:

```
print getDatabaseIdentifier()
```
 - iii. Click **Run** to run the program in the DXL input pane.
- d. There will be a result similar to the following:

```
38f5c98719f27b6d
```
- e. This forms part of the database URN.

In this example, the database URN is:

```
urn:telelogic:ers-38f5c98719f27b6d:
```
- f. Make a note of this for later use.

You are now ready to set up the components to communicate with one another.

Setting up component communication

Once the different components have been installed, you need to enable them to communicate correctly with one another.

You need to set up:

- The DWA Server to communicate with the DWA Broker, the license server and the appropriate DOORS database repository
- The DOORS Database Server to communicate with the DWA Broker
- The Interoperation Server to communicate with the DOORS Database Server and the DWA Broker

The DWA Broker does not need to know the location of any of the other components.

Setting up the DWA Server

You need to set up the DWA Server to communicate with the DWA Broker, the license server and the appropriate DOORS database repository.

The DWA Server is configured using a directory called `festival` within the DWA Server directory structure. The `festival` directory contains three sub-directories:

- `config`

This directory contains **festival.xml**, the core configuration file within DWA. The festival.xml file:

- Makes sure the DWA Server communicates with the DWA Broker and the license server
- Contains either the URN of the Repository, which must match the URN you identified in step 9 above, or the TDS Repository ID.

Note The config directory contains other files that you shouldn't modify unless you receive the guidance of Telelogic support.

- logs

This directory contains **festival-log4j.xml**, which is used to configure the logging within the DWA Server tier of DWA.

Note Usually this file is only modified with the guidance of Telelogic support. If you want to find out about the possibilities offered by this file, search online for **log4j**.

- custom

This directory contains a sub-directory containing a file called `readme.htm`, which you can use to configure the Welcome Screen.

Example of festival.xml

```
<!-- Brokers we know about -->
  <f:endpoints>
    <f:broker
      name="GENERSERVICES"
      url="tcp://127.0.0.1:61616?wireFormat.tcpNoDelayEnabled=true"
      username=""
      password="" />

    <f:broker
      name="DCSERVICES"
      url="tcp://127.0.0.1:61616?wireFormat.tcpNoDelayEnabled=true"
      username=""
      password="" />

    <f:broker
      name="RMSERVICES"
      url="tcp://127.0.0.1:61616?wireFormat.tcpNoDelayEnabled=true"
      username=""
      password="" />
  </f:endpoints>
```

```
<!-- Mapping from Repository IDs to the broker we use to reach the repository
-->
  <f:mappings>
    <f:repository-mapping
      enabled="true"
      endpoint="RMSERVICES"
      name="DOORS ERS Repository"
      repositoryUrn="urn:telelogic:ers-46dd5d7806b96973:" />
    </f:mappings>

    <!-- Configurable system properties -->
    <f:properties>
      <f:property name="licence.server.location" value="19353@localhost" />
    </f:properties>

  </f:lsc>
</f:configuration>
```

Modifying festival.xml

The festival.xml file is the core configuration file within DWA. You need to modify entries for the following:

- f:broker

In the example, there are three entries that describe where the DWA Broker is. Edit these entries to point to the url of the machine where you installed the DWA Broker with the default port (61616).

- f:repository-mapping

This is the URN of the repository.

The name attribute is the name displayed on the DWA logon page. You can change this attribute. The default is DOORS ERS Repository.

The repositoryUrn attribute needs to match the URN of the DOORS Database Server you identified in step 9 of “Installing the components”, on page 17. You must change this attribute.

- f:properties

This is the location of the license server.

The property name attribute is licence.server.location with the value 19353@localhost, which is the port number and machine name of the license server. Edit this to point to the location of your license server.

This location is added to the list of license locations held on your system.

Setting up the DOORS Database Server

You need to set up the DOORS Database Server to communicate with the DWA Broker.

You set up the communication by adding Data Change Notifications (DCN) parameters to the command line. DCNs are messages that contain information about changes made to DOORS data.

To set up the DOORS Database Server you need to run `dbadmin` (in `$DOORSHOME/bin`) with a command line made up of the following parameters:

- Parameters that identify the DOORS Database Server, for example:

```
-data 36677@myserver
```

- The parameter to enable the DCNs:

```
-dcnEnable
```

- The parameter to locate the DWA Broker

```
-dcnBrokerUri
```

The value of `-dcnBrokerUri` parameter is made up of the protocol, the `brokerHost` (the machine hosting the DWA Broker) and the `brokerPort` (the port it listens on) separated by a colon (:), for example `"tcp://myBroker:61616"`.

- The parameter to set up a DCN channel.

```
-dcnChannelName
```

The value of `-dcnChannelName` is always `dcn`.

This gives a command line in the following format:

```
dbadmin -data 36677@myserver -dcnEnable -dcnBrokerUri  
"tcp://myBroker:61616" -dcnChannelName "dcn"
```

Useful DCN commands

- You can check the DCN service status using the `-dcnInfo` parameter:

```
dbadmin -data 36677@myserver -dcnInfo
```

- you can turn the DCN service off and on using `-dcnDisable` and `-dcnEnable`:

```
dbadmin -data 36677@myserver -dcnDisable
```

```
dbadmin -data 36677@myserver -dcnEnable
```

You need to restart the DOORS Database Server for these to take effect.

Setting up the Interoperation Server

You need to set up the Interoperation Server to communicate with the DOORS Database Server and DWA Broker.

The Interoperation Server is a UNIX DOORS client that does not have a GUI, and you set up the communication by adding parameters to the command line.

To set up the Interoperation Server you need to run `doors9` in a command line from `$DOORSHOME/bin` made up of the following parameters:

- The parameter that identifies this DOORS client as a Interoperation Server:
`-interop`
- Parameters to communicate with the DOORS Database Server:
`-data 36677@myserver`
- Parameters to communicate with DWA Broker.
`-brokerHost BrokerMachine`
`-brokerPort PortNumber`

This gives a command line in the following format:

```
./doors -interop -data 36677@myserver -brokerHost myBroker  
-brokerPort 61616 &
```

Once you have set up the components to communicate with one another you will be ready to start the system.

Starting the system

To start the system, you must start the processes in the following order:

1. The DWA Broker

The following file is in the `dwa` directory on the machine hosting the DWA Broker:

```
./dwaBroker.start.sh
```

Run it.

2. The DOORS Database Server

- a. Set the following environment variables on the machine hosting the DOORS Database Server:

```
DOORSHOME=doors-home-path  
SERVERDATA=path_to_data_directory  
PATH=$DOORSHOME/bin:$PATH  
PORTNUMBER=database-server-port-number  
export DOORSHOME SERVERDATA PATH PORTNUMBER DOORSDATA
```

Note This DOORSHOME variable relates to where the DOORS Database Server is installed.

- b. Start the DOORS database server:
 - i. Log on as the user that owns the DOORS files.
 - ii. Change your working directory to `$DOORSHOME/bin`.
 - iii. Enter the following command:

```
./doorsd &
```

3. The Interoperation Server

- a. Set the following environment variables on the machine hosting the Interoperation Server:

```
DOORSHOME=doors-home-path
DOORSDATA=36677@myserver
PATH=$DOORSHOME/bin:$PATH
export DOORSHOME PATH DOORSDATA
```

Note This DOORSHOME variable relates to where the DOORS Interoperation Server is installed. This may be different from the DOORSHOME variable used in Step 2.

- b. Run the Interoperation Server with its command line attributes in the following format:

```
./doors -interop -data 36677@myserver -brokerHost
myBroker -brokerPort 61616 &
```

4. The DWA Server

The following file is in the `dwa` directory on the machine hosting the DWA Server:

```
./dwaServer.start.sh
```

Run it.

Accessing DWA

To access DWA:

When you have started all the above processes, and the DWA Server has started without errors, navigate to the following URL:

```
http://dwaServerMachine:8080/dwa
```

DWA will start.

Note When you run DWA for the first time, it will be slow to load into the browser. This is normal.

Running multiple Interoperation Servers

Setting up your system to run multiple Interoperation Servers can improve performance and increase the availability of the system.

Performance is improved because more DOORS modules can be cached, allowing quicker access to your DOORS data. DWA has routing logic to perform basic load balancing across the Interoperation Servers.

Availability is improved because the system can continue to work if one of the Interoperation Servers fails. While one Interoperation Server is down, users can continue to access the DOORS Database Server using the others.

Running multiple Interoperation Servers is straightforward. Simply start up multiple instances of the Interoperation Server.

All the Interoperation Servers must:

- Connect to the same DWA Broker
- Use same DOORS Database Server

The Interoperation Servers can be on different machines. For information, see step 3 in “Starting the system”, on page 25.

Shutting down the system

This section is a step-by-step guide to shutting down the system.

To shut down the system:

- Stop the DWA Server.

Stop this process using the `dwaServer.shutdown.sh` script in the `dwa` directory.

The process may take some time to end (15-30 seconds), and may report a number of socket warnings while shutting down.

- Stop the DOORS Database Server.

Stop this process using the following command from `$DOORSHOME/bin`:

```
dbadmin -data port@computer -killserver [-password password]
```

- Stop the DWA Broker.

Stop this process using the `dwaBroker.shutdown.sh` script in the `dwa` directory:

The process may take some time to end (15-30 seconds), and may report a number of socket warnings while shutting down.

- Stop the Interop Server by killing the process.

Uninstalling DWA

To remove DWA from your system:

- Uninstall the DWA Server and DWA Broker by deleting the `dwa` directory
- Uninstall the Interoperation Server and the DOORS Database Server by deleting `$(DOORSHOME)`
- Uninstall the Telelogic License Server by deleting the `license server` directory

4

Configuring DWA

This chapter contains the following sections:

- Configuring the DWA Server port
- Configuring the DWA Broker port
- Configuring HTTPS
- A note on information security

Configuring the DWA Server port

The main way of configuring the DWA Server is to edit the `server.xml` file in the `conf` subdirectory.

1. Open the file
2. Navigate to the following line:

```
<!-- Define a non-SSL HTTP/1.1 Connector on port 8080 -->
```

3. Change the port number in the line below:

```
<Connector port="8080"
```

This is the port that the DWA Server listens on for HTTP requests.

Once you've made the change, save the file and restart the DWA Server.

Note Take care when changing the `server.xml` file, as incorrect edits can lead to a complete loss of system functionality. Make a backup of the file before you edit it.

Configuring the DWA Broker port

You configure the DWA Broker by editing the `activemq.xml` file in the `conf` subdirectory of the machine hosting the DWA Broker and the `festival.xml` file on the machine hosting the DWA Server.

In the `activemq.xml` file there are entries for `<transportConnectors>` followed by multiple `<transportConnect ...` elements. Each defines a protocol and port that the DWA Broker listens on.

Open `activemq.xml` and change the URI attribute in the `openwire` element, which defaults to port 61616:

```
<transportConnector name="openwire" uri="tcp://  
localhost:61616"/>
```

Once you've made these changes, save the `activemq.xml` file.

Finally, on the machine hosting the DWA Server, open the `festival.xml` file and modify the three broker ports (in bold in the following example):

```
<!-- Brokers we know about -->
  <f:endpoints>
    <f:broker
      name="GENERSERVICES"
      url="tcp://127.0.0.1:61616?wireFormat.tcpNoDelayEnabled=true"
      username=""
      password="" />

    <f:broker
      name="DCSERVICES"
      url="tcp://127.0.0.1:61616?wireFormat.tcpNoDelayEnabled=true"
      username=""
      password="" />

    <f:broker
      name="RMSERVICES"
      url="tcp://127.0.0.1:61616?wireFormat.tcpNoDelayEnabled=true"
      username=""
      password="" />
  </f:endpoints>
```

Once you have made these changes, save the `festival.xml` file, and restart all the DWA components.

Note Take care when changing the `activemq.xml` file and the `festival.xml` file, as incorrect edits can lead to a complete loss of system functionality. Back up the files before you edit them.

Configuring HTTPS

DWA supports the use of HTTPS communication between the web browser and the DWA Server.

To configure HTTPS you need a certificate. You can make one manually for testing purposes or you can purchase one from a trusted certificate authority, for example Verisign, Thawte, and so on.

You also need to have keystore containing the server certificate. You can create and manage a keystore using the standard java keytool facilities as documented on the Sun web site.

You need to define a new connector to allow HTTPS. This is defined in the Connector element in the `server.xml` file in the DWA Server's `conf` subdirectory.

Open the file and make the changes in **bold**:

```
<!-- Delete this line from the file
<Connector port="8443" maxHttpHeaderSize="8192"
maxThreads="150" inSpareThreads="25"
MaxSpareThreads="75" enableLookups="false"
disableUploadTimeout="true" acceptCount="100"
scheme="https" secure="true" clientAuth="false"
sslProtocol="TLS"
keystoreFile="c:\dwaServer\keystore.ks"
keystorePass="password"
/>
--> Delete this line from the file
```

By default, this Connector element is commented out. Deleting the line immediately preceding it and immediately after it make the element active.

The changes to the file

- Set the server to use HTTPS on port 8443
- Use the keystore entries to identify the keystore that contains the server certificate.

Once you've made the change, save the file and restart the DWA Server.

Note Take care when changing the `server.xml` file, as incorrect edits can lead to a complete loss of system functionality. Make a backup of the file before you edit it.

For more information on configuring HTTPS and for other methods of configuration, see Tomcat's user documentation.

A note on information security

The default deployment of DWA uses insecure communication protocols throughout the stack.

Though the system supports the use of HTTPS to protect communications between the browser and the DWA Server, there is currently no support for secure communication between different server-side components.

Telelogic recommends you protect communications using recognized security strategies, such as firewalls. Users of DWA do not usually need to have direct access to any of the components other than the DWA Server port.

5

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