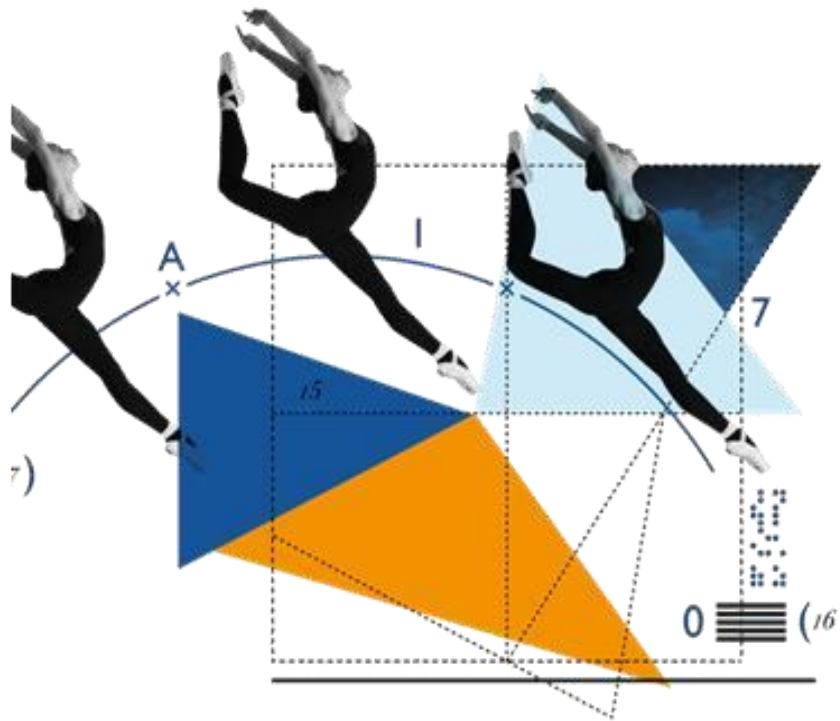




# Stack 7 R18 Azure-JBoss

**Customer Runbook for standalone installations 2.0 | June 2018**

All 18.x releases up to and including R18AMR





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## About this Guide

This **Stack 7 R18 Azure - JBoss** shows how to configure TAFJ-T24 on JBoss application server. It also shows you how to deploy BrowserWeb, UXP Browser and access T24 using those browsers.

This runbook does not provide instructions for installing third-party software such as JBoss application server or Microsoft Azure SQL Database. For more information, see the relevant vendor's documentation.

### 1.1 Scope

This Guide covers:

- Installing TAFJ
- Installing T24
- Loading the TAFJ SQL server assembly and the CSharpload functions into the Azure SQL database
- Installing and Configuring JBoss 7EAP
- Deploying the artefacts and a detailed focus on configuring and deploying the UXP browser

This Guide does **not** cover:

- IIB

### 1.2 Audience

This document is aimed at those who are interested and involved in upgrading the TAFJ/T24 systems.

#### 1.2.1 Skills

- T24
- TAFJ
- JBOSS
- MS SQL Server and Transact-SQL

#### 1.2.2 Knowledge

Readers with a basic understanding of the above listed skills will find the steps contained in this Guide much easier to follow.

### 1.3 Other stack Guides

All stack guides are available on the [Stack Verification](#) Jumpstart page.



## 1.4 Legal

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**Please note:**

1. The information in this guide relates to information, products and services. It also includes information, data and keys developed by other parties.
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## 1.5 History

Version	Date	Change	Author
1.0	September 2017	Initial release	Kaydee Dzvuke
2.0	June 2018	Added Modifications for R18AMR	Suvalakshmi V



## 2 Introduction

This runbook shows how to configure a single-tier environment on the Windows stack. It includes configuration information for a single-tier architecture. Multi-tier installations will be covered in *Stack 7 Windows - JBoss runbook for multi-tier installations*.

**Note:** This document does not have any environment specific values such as exact paths, but instead focuses on configuration steps so that setup can be completed in any environment which matches this stack.



## 3 Assumptions and Prerequisites

The following chapter describes the technical assumptions and prerequisites for installing and configuring the Stack 7.

### 3.1 Assumptions

At the time of writing this guide, R18 was not available yet from distribution, so in this exercise, we first upgraded an existing R17 to R18 using the T24 TEMP.RELEASE from distribution. So therefore, our T24 and TAFJ installation artefacts in this case are not straight from distribution.

### 3.2 Hardware Prerequisites

Item	Details
Storage	30 GB
RAM	Minimum: 8 GB Preferred: 16 GB

### 3.3 Software Prerequisites

#### 3.3.1 Third party software

Component	Version
Windows Server	2016
Java JDK	1.8
JBoss EAP	7.x
Azure SQL DB	Latest by default
SQL Server Management Studio	
File archiver (7zip suggested)	
Text Editor(Notepad++ suggested)	





### 3.3.2 Temenos software

To get the Temenos software installers, you need to request them from the Temenos Distribution team ([distribution@temenos.com](mailto:distribution@temenos.com)).

Product	Version	Function / description
MSSQL bak		T24 dump file
T24	201705	T24
TAFJ	201705	TAFJ
UXP Browser	201705	New Browser
Generated.zip	201705	For New Browser
Browser-iris.war	201705	For New Browser



## 4 Before you start

Before you start installing and configuring the stack, you need to check that your technical infrastructure has been set up properly.

### 4.1 Supporting documentation

The TAFJ runtime contains a doc folder with various documents on TAFJ utilities. It also contains installation guides for a variety of databases and application servers.

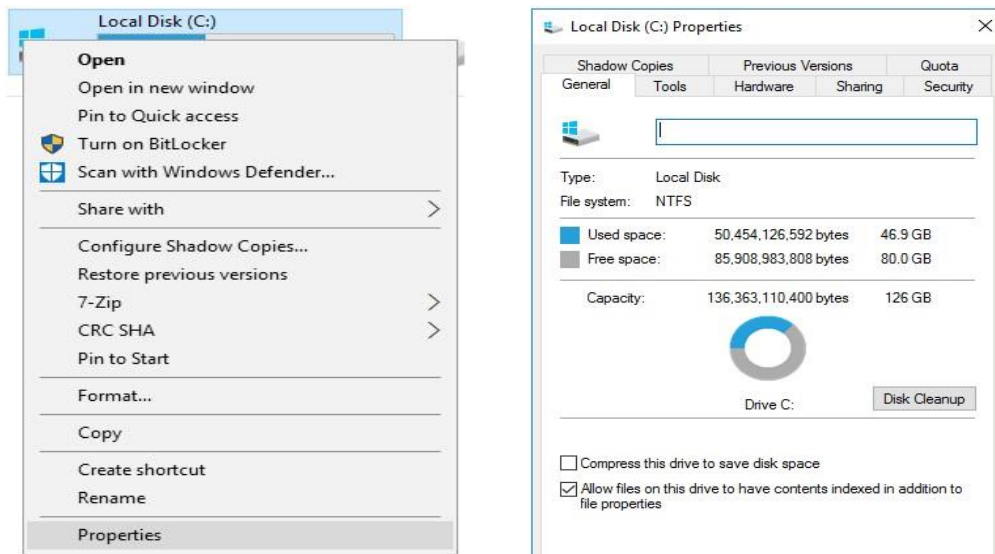
Look inside this folder for more details.

%TAFJ\_HOME%\doc

### 4.2 Check disk drive space

To check if you're using the required disk drive capacity:

1. Go to **This PC**.
2. Right click and then click **Properties**.

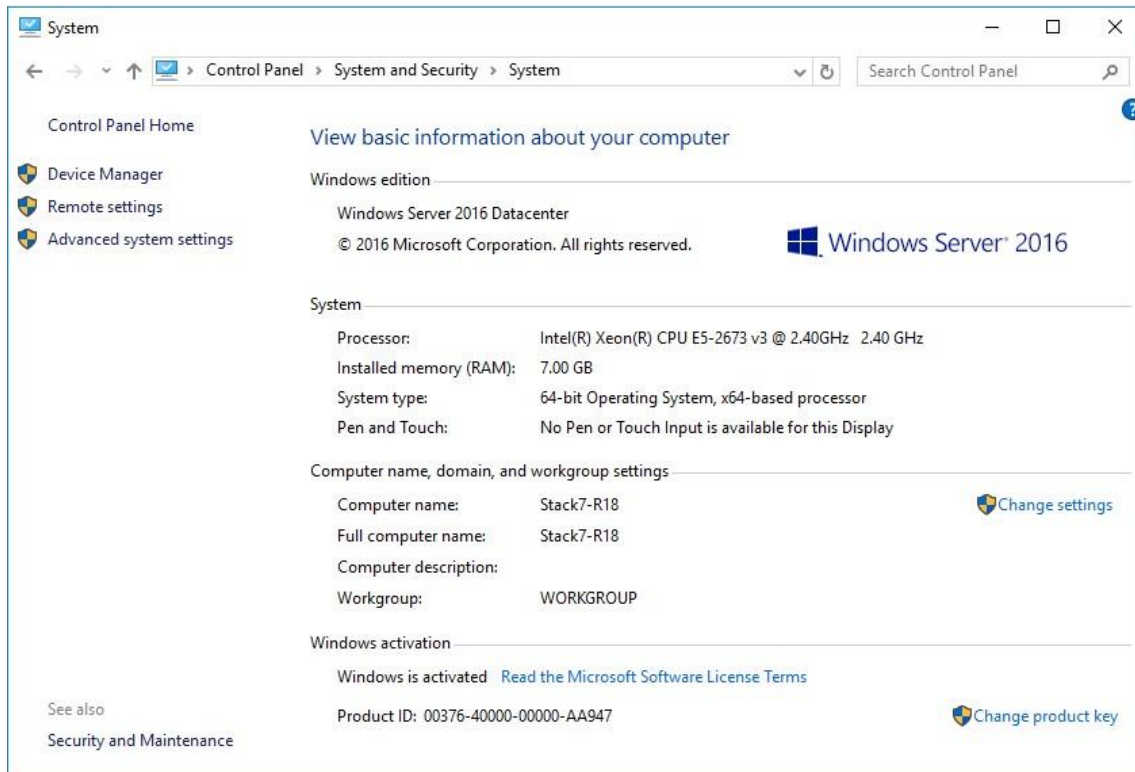


## 4.2.1 Check your OS details

To check if you're using the required OS version:

1. Control Panel\System and Security\System

Basic information about your computer is displayed, including details of the OS:

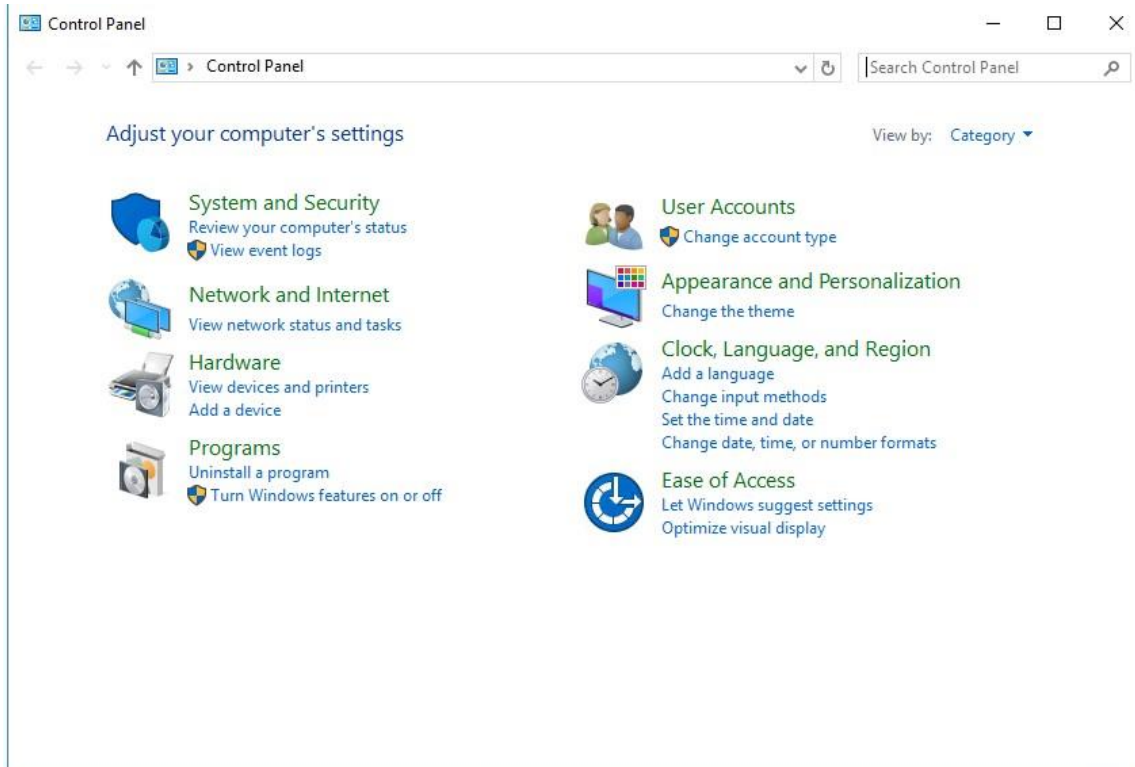




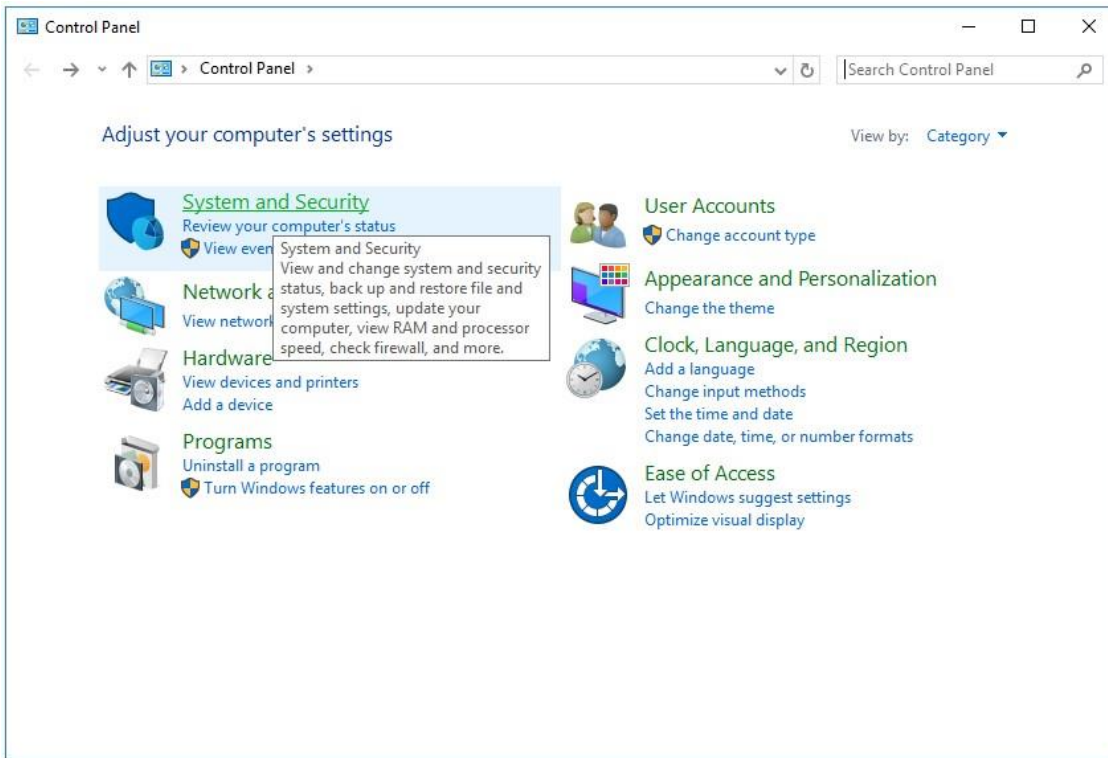
## 4.3 Check your firewall

Ensure the firewall is turned off - you will not be able to access BrowserWeb outside the host if it is not. Follow the below steps to turn off the firewall.

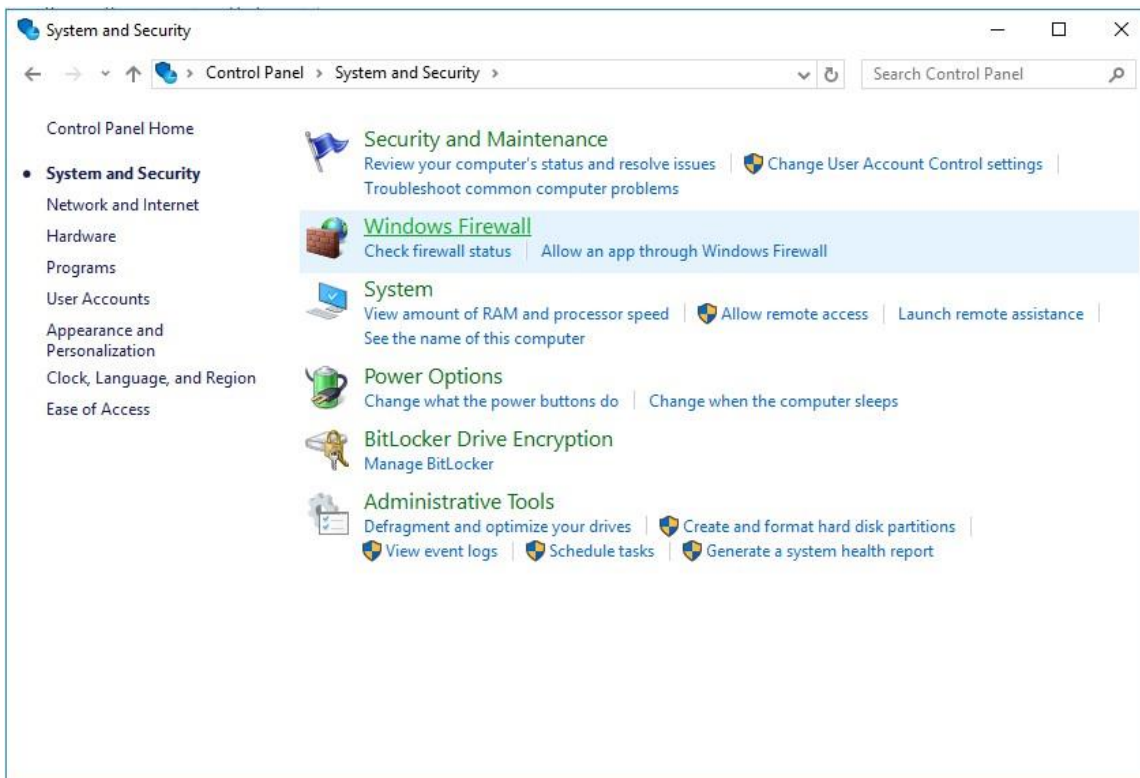
1. Click the **Windows** tile icon on the bottom left of the screen and then click **Control Panel** menu.



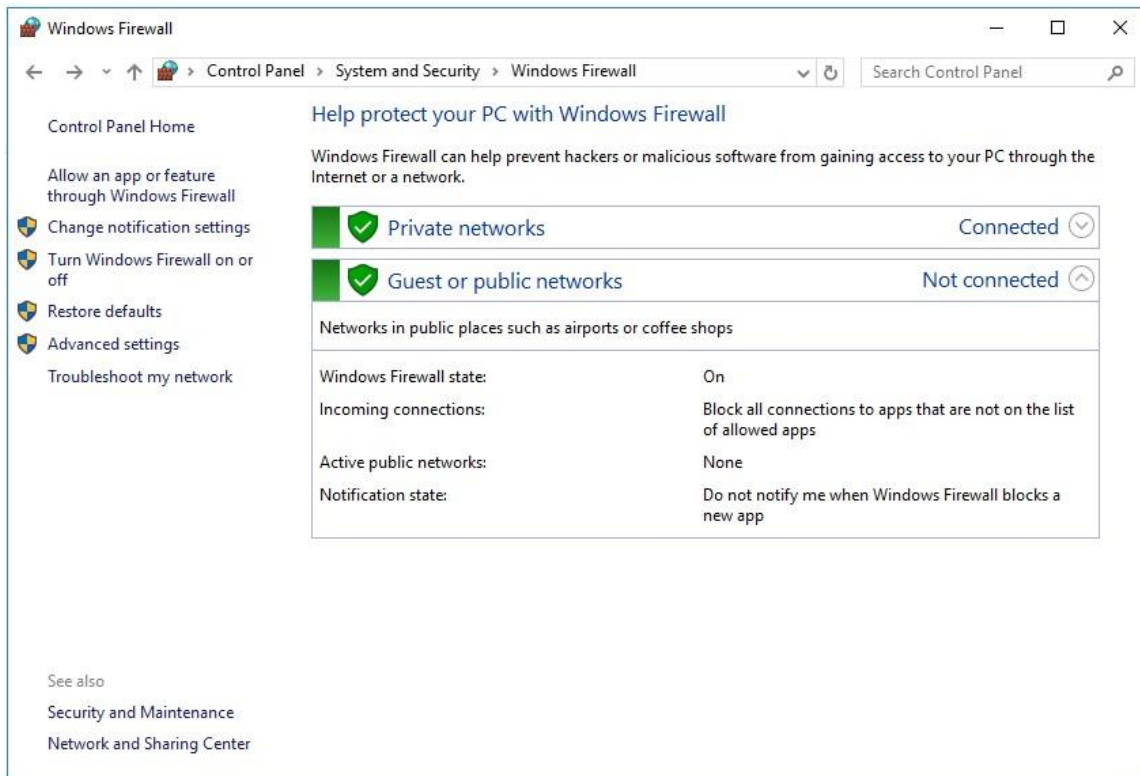
2. Click **System** and select the **Security** option.



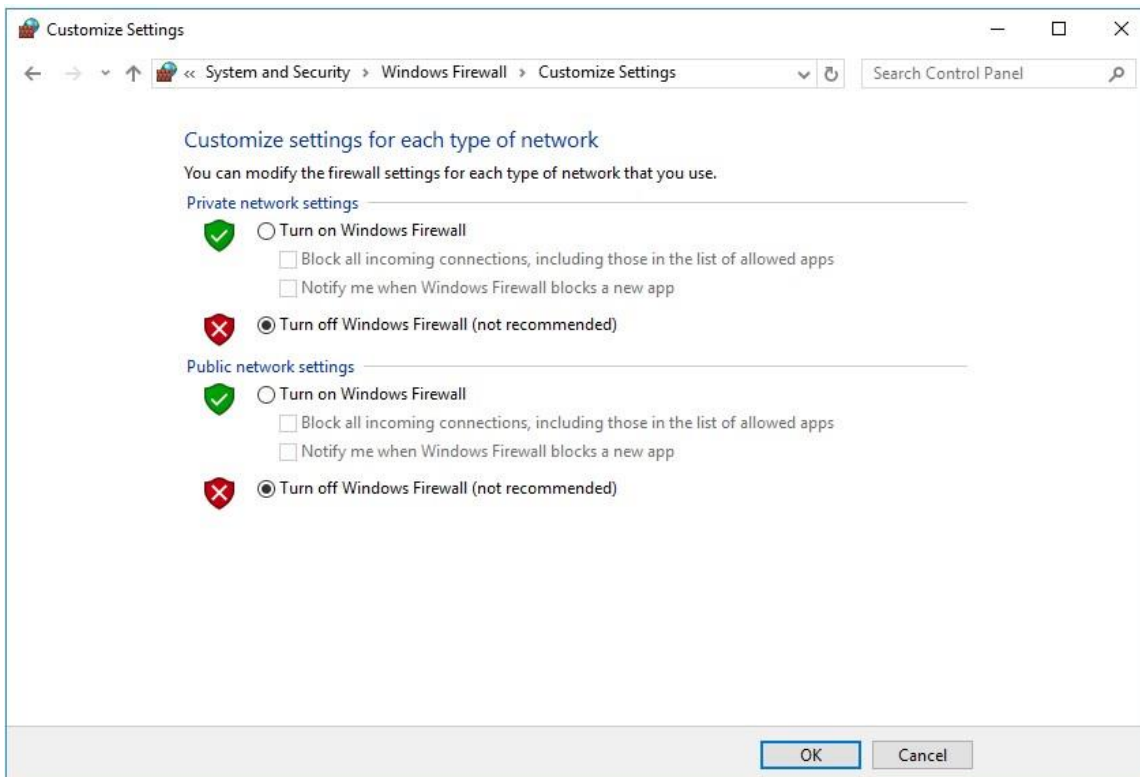
### 3. Click **Windows Firewall**.



4. In the left corner, click **Turn Windows Firewall on or off**. The **green** colour associated with **Private networks** and **Guest or public networks** shows that the firewall is turned on.

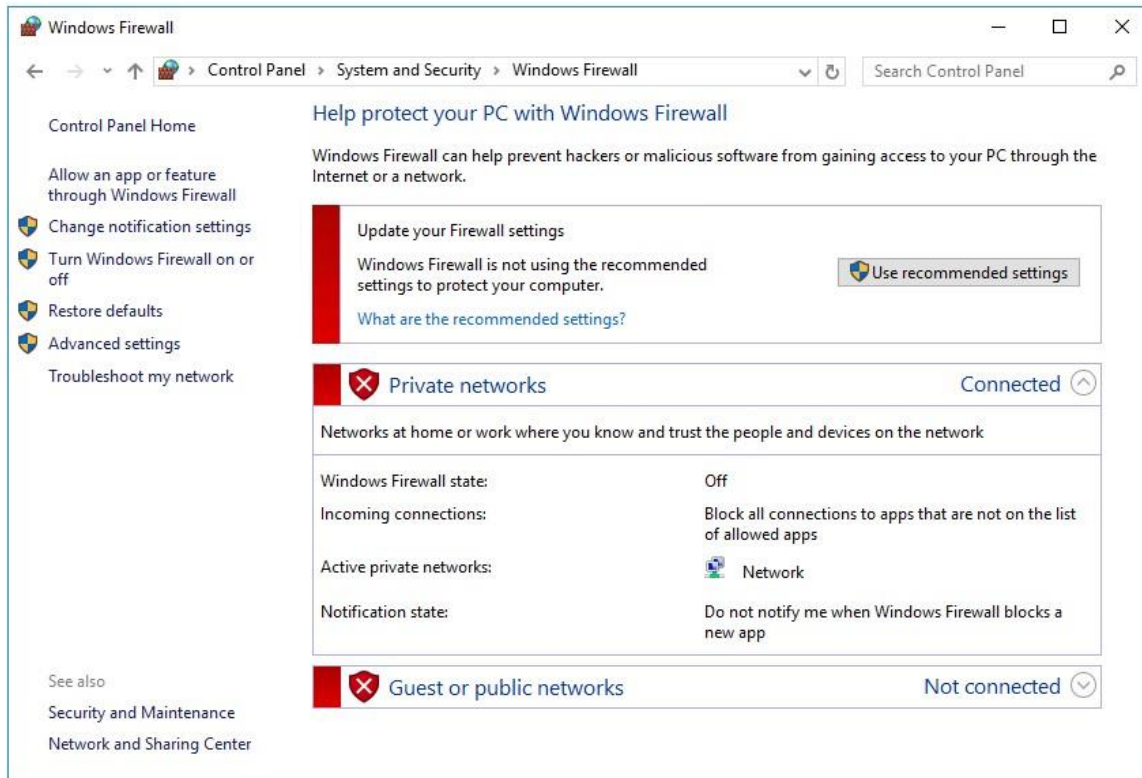


5. To turn off the firewall, select **Turn off Windows Firewall** for both private and public networks. Click **OK**.





- The firewall is now turned off. The **red** colour associated with both the public and private network shows that the firewall is turned off.



## 4.4 Folder Structure

Temenos recommends the following folder layout for your T24 environment.

```
C:\Temenos>TREE
Folder PATH listing
Volume serial number is 44EB-5425

|__3rdParty
|   |__As
|   |   |__JBoss
|   |   |__WAS
|   |   |__WebLogic
|   |__Java
|   |__Jms
|__Install
|   |__t24inst
|   |__tafjinst
|__T24
|__TAFJ
```

Once you have checked your disk space, go ahead and create a parent Temenos folder and its subfolders as shown in the image above.

Folder	Description
--------	-------------



Install	t24inst	The <b>Install</b> folder contains all installers to setup TAFJ-T24.  T24inst is a subfolder is where you will unpack T24 installation files  Tafjinst is a subfolder where you unpack your tafj installation files
	Tafjinst	
3rdParty		3rdParty folder contains all installed 3rdParty software, such as JDK 1.7, JBoss and so on.
TAFJ		The TAFJ contains TAFJ runtime libraries.
T24		The T24 contains all T24 related libraries.
UXPBrowser	Manual	The UXPBrowser folder contains is the parent folder for the XP browser artefacts manual is a subfolder  generated is a subfolder
	generated	

Copy all the downloaded files from distribution to the C:\Temenos\Install directory.

## 4.5 Setting the Environment variables

Once you have created the environment installation folders, you need to set the following variables.

For example

- TEMENOS\_HOME = C:\Temenos
- TAFJ\_HOME = %TEMENOS\_HOME%\TAFJ
- T24\_HOME = %TEMENOS\_HOME%\T24
- UXP\_BROWSER\_HOME=%TEMENOS\_HOME%\UXP\_BROWSER





## 4.6 Installing Java Development Kit (JDK)

Download the Java JDK installer for Windows from the following web site:

[http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-](http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html)

[2133151.html](http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html) 1. Upload the installer with your ftp client to the following directory

on your target server: %TEMENOS\_HOME%\Install

2. Create the installation directory for the Java Development Kit:

%TEMENOS\_HOME%\3rdParty\Java

3. Run the installer executable file and provide the path to your Java installation directory. The folder jdk1.8.0\_112 is created.

4. Set the environment variable JAVA\_HOME with the path %TEMENOS\_HOME%\3rdParty\Java\jdk1.8.0\_112. Append %JAVA\_HOME%\bin to the environment variable PATH.

5. Check the required JDK is installed by typing java -version in the command prompt. Ensure that the same JDK has been added to the JAVA\_HOME environment variable.

```
Administrator: Command Prompt

C:\Temenos>echo %JAVA_HOME%
C:\Temenos\3rdParty\Java\jdk1.8.0_112

C:\Temenos>java -version
java version "1.8.0_112"
Java(TM) SE Runtime Environment (build 1.8.0_112-b15)
Java HotSpot(TM) 64-Bit Server VM (build 25.112-b15, mixed mode)

C:\Temenos>
```



## 5 Installing T24 and TAFJ artefacts

The following chapter describes how to install T24 and TAFJ.

### 5.1 Preparing the installation files

1. Unpack your T24 artefacts from distribution to %TEMENOS\_HOME%\Install\t24inst
2. Unpack your TAFJ artefacts from distribution to %TEMENOS\_HOME%\Install\tafjinst

### 5.2 Installing T24

#### Procedure

1. Go into the %TEMENOS\_HOME%\Install\t24inst folder.
2. Extract the tar file to %T24\_HOME%

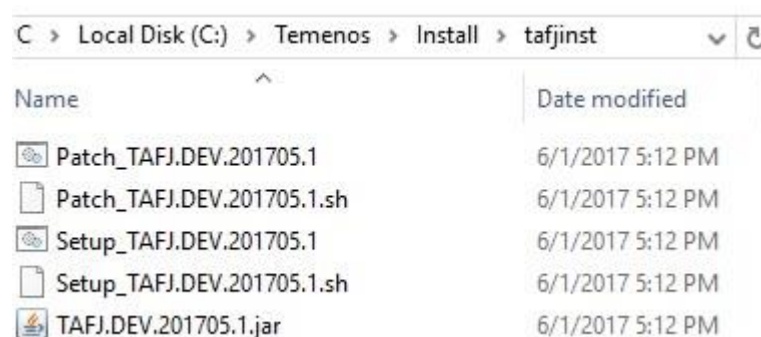
You have now installed T24.

Later, we will be pointing the location of the T24 libraries in the **tafj.properties** configuration file.

### 5.3 Installing TAFJ

#### Procedure

1. Go into the %TEMENOS\_HOME%\Install\tafjinst folder.



Name	Date modified
Patch_TAFJ.DEV.201705.1	6/1/2017 5:12 PM
Patch_TAFJ.DEV.201705.1.sh	6/1/2017 5:12 PM
Setup_TAFJ.DEV.201705.1	6/1/2017 5:12 PM
Setup_TAFJ.DEV.201705.1.sh	6/1/2017 5:12 PM
TAFJ.DEV.201705.1.jar	6/1/2017 5:12 PM



2. Set or ensure that both **Setup\_TAFJ.DEV{release\_date}.bat** and **TAFJ.DEV.{release\_date}.jar** are execute permissions.

*Make sure that you have installed jdk 1.8 and your JAVA\_HOME is pointing to it.*



```
C:\Temenos\TAFJ\bin>echo %JAVA_HOME%  
C:\Temenos\3rdParty\Java\jdk1.8.0_112  
  
C:\Temenos\TAFJ\bin>_
```

3. Open the command prompt and go into the tafjinst folder
4. Execute Setup\_TAFJ.DEV{release\_date}.bat

```
C:\Temenos\Install\tafjinst>Patch_TAFJ.DEV.201705.1.bat  
=====
```

```
.  Welcome to the Installation program of TAFJ  
.  This setup will deploy a patch, on an existing  
.  installation without creating backup files.  
  
.  This cannot be reverted take your own backup if you  
.  need to.  
.  Following folder are going to be updated:  
.  TAFJ_HOME/bin  
.  TAFJ_HOME/dbdrivers  
.  TAFJ_HOME/dbscripts  
.  TAFJ_HOME/lib  
.  TAFJ_HOME/ext  
.  TAFJ_HOME/appserver  
.  TAFJ_HOME/JMSInjector  
.  TAFJ_HOME/TAFJSessionMonitor  
.  TAFJ_HOME/eclipse  
  
.  Note that nothing will be modified outside of the  
.  directories you specify for the installation.  
  
.  To update your application server deployment you  
.  will need to redeploy the new ear file after merging  
.  the change related to your current deployment and  
.  add new libs to application server classpath  
=====
```

```
Continue setup (y/n) ?  
y
```

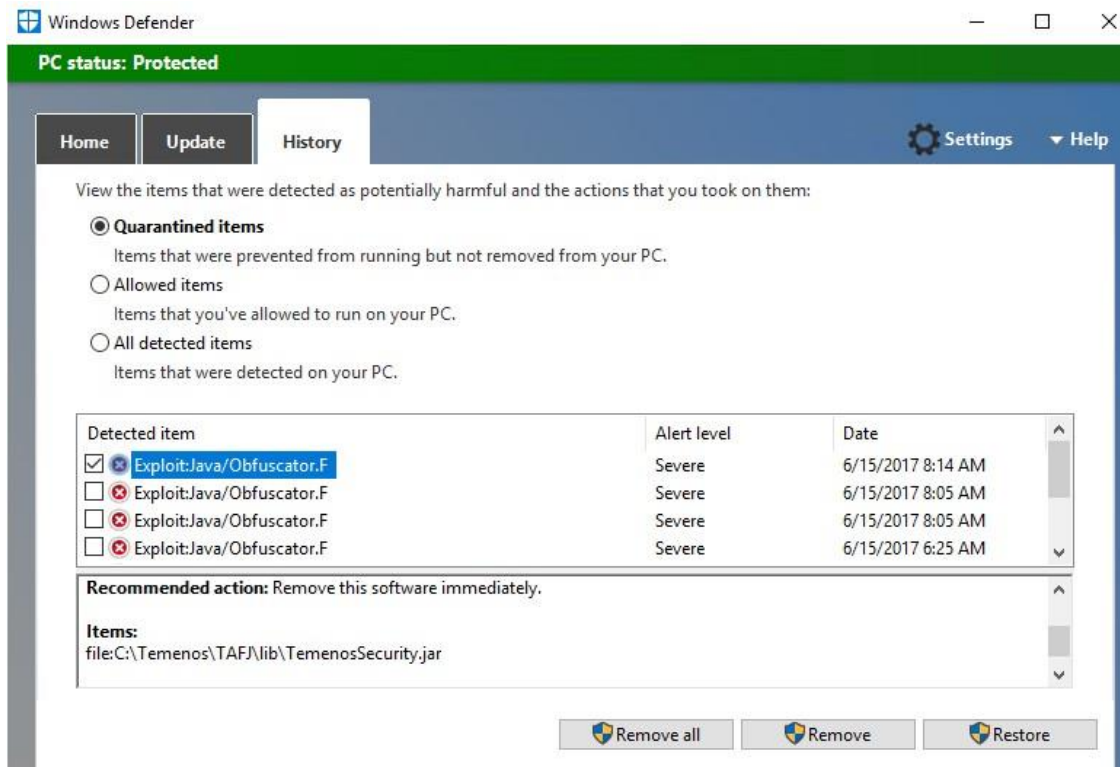
5. Enter the %TAFJ\_HOME% path where you would like to install TAFJ.
6. The next step is not related to the environment setup, so use the default setting.
7. If the conf directory does not exist, enter y to create it.



```
Please enter the install Directory.
C:\Temenos\TAFJ
Updating TAFJ in C:\Temenos\TAFJ
Extracting lib/ (dir)
lib/TAFJCache.jar (bin)
lib/TAFJClient.jar (bin)
lib/TAFJCommon.jar (bin)
lib/TAFJCompiler.jar (bin)
```

*Machines with security policy enabled under Windows Defender or Norton antivirus might face some issues due to TemenosSecurity.jar available as part of TAFJ release. During the patching, you will see a “Malware Detected” message.*

Restore the quarantined **TemenosSecurity.jar** in Windows Defender as shown below:



### 5.3.1 Deploying the database driver

In order for TAFJ to be able to connect to the database it must have the relevant database driver in the TAFJ/Ext directory. sqljdbc4.0 is recommended because it is the most recent JDBC driver for SQL. The SQL driver is located in the TAFJ/dbdrivers/sqljdbc\_6.0/enu/jre8 directory.



## Procedure

1. Navigate to the TAFJ\_dir/dbdrivers/sqljdbc\_6.0/enu/jre8 directory.
2. Copy the sqljdbc4.0 database driver to the TAFJ/Ext directory.

.jazzignore	27/01/2017 13:46	JAZZIGNORE File	1 KB
DBTools	27/01/2017 13:46	Executable Jar File	5 KB
javaee	27/01/2017 13:46	Executable Jar File	1,028 KB
javassist	27/01/2017 13:46	Executable Jar File	633 KB
JBC.h	27/01/2017 13:46	H File	30 KB
jimiB.h	27/01/2017 13:46	H File	5 KB
jms	27/01/2017 13:46	Executable Jar File	26 KB
jportB.h	27/01/2017 13:46	H File	2 KB
README	27/01/2017 13:46	File	1 KB
sqljdbc4	27/01/2017 13:46	Executable Jar File	571 KB
TAFJBASIC	27/01/2017 13:46	Executable Jar File	59 KB
tattletale	27/01/2017 13:46	Executable Jar File	355 KB
tComponentFramework	27/01/2017 13:46	Executable Jar File	76 KB

### 5.3.2 Verifying TAFJ Version

1. Open the command prompt and navigate to TAFJ/bin.
2. Enter the following command: `tversion`  
TAFJ version is displayed.

```
<ivy-module version="1.0">
<info organisation="Temenos" module="TAFJ" branch="R18_ALL"/>
  <dependencies>
    <dependency org="Temenos" branch="DEV_201705" name="FJ_TAFJCache" rev="1" />
    <dependency org="Temenos" branch="DEV_201705" name="FJ_TAFJClient" rev="1" />
    <dependency org="Temenos" branch="DEV_201705" name="FJ_TAFJCommon" rev="1" />
    <dependency org="Temenos" branch="DEV_201705" name="FJ_TAFJCompiler" rev="1" />
    <dependency org="Temenos" branch="DEV_201705" name="FJ_TAFJCore" rev="1" />
    <dependency org="Temenos" branch="DEV_201705" name="FJ_TAFJDBImport" rev="1" />
    <dependency org="Temenos" branch="DEV_201705" name="FJ_TAFJLocking" rev="1" />
    <dependency org="Temenos" branch="DEV_201705" name="FJ_TAFJLogging" rev="1" />
    <dependency org="Temenos" branch="DEV_201705" name="FJ_TAFJPackager" rev="1" />
    <dependency org="Temenos" branch="DEV_201612" name="FJ_TAFJTelnetD" rev="0" />
    <dependency org="Temenos" branch="DEV_201705" name="FJ_TAFJVersion" rev="1" />
    <dependency org="Temenos" branch="DEV_201705" name="FJ_TAFJBASIC" rev="1" />
    <dependency org="Temenos" branch="DEV_201705" name="FJ_tComponentFramework" rev="1" />
  </dependencies>
</ivy-module>C:\Temenos\TAFJ\bin>
```



## 6 Configuring the T24 database

This chapter covers steps involved to setup the T24 database on Azure SQL DB in separate sections. You are required to use SQL Server Management Studio (SSMS) to complete the next tasks.

### Prerequisites

You need to have created your SQL database on Azure to complete the next steps and have the following details on hand:

1. connection URL
2. username
3. password
4. the whitelisted TAFJ SQL CLR script



It very important to be aware that, loading of the TAFJ SQL Server assembly on Azure DB is done very differently from the doing it on a standalone SQL Server Host. This is because, there are some SQL commands which cannot be run on the SQL cloud database.



Remember: You need to arrange with Microsoft to whitelist your TAFJSQLServer assembly. Microsoft will provide you with a script to run to install/create the TAFJSQL CLR on the SQL DB.

Your Azure portal administrator will provide you with login details and the database hostname to use.

### 6.1 Loading the TAFJ functions

#### Procedure

1. Once you have the connection details, login to the Azure database server from SQL Server Management Studio (SSMS).
2. In the Object Explorer, right click and select “New Database”
3. Run `CREATE DATABASE R18MB COLLATE Latin1_General_BIN2;`





4. Run the whitelisted CLR script by running create assembly SQL you received from Microsoft.
5. Move to %TAFJ\_HOME%\dbscripts\ms-sql folder
6. Open csharploadfunctions file in notepad++
7. Update the first line with your database name (R18MB)
8. Comment out all the DROP statements.
9. Search the CREATE ASSEMBLY statement. It will look similar to the one pasted below.

```
CREATE ASSEMBLY TAFJSQLError from '<<full path to TAFJSQLError.dll including TAFJSQLError.dll in name>>' WITH PERMISSION_SET = SAFE
```

10. Comment out all the CTREATE ASSEMBLY statement. The assembly has already been applied during step 1
11. Open a new query window in SSMS
12. Select all the “CREATE FUNCTION” statements from the edited csharploadfunctions.sql file and paste into the query window
13. Execute

```
SQLQuery4.sql - yy...@yy25474vtp (116))* x SQLQuery3.sql - yy...@yy25474vtp (110))*
CREATE FUNCTION extractValueJB(@str varbinary(max),@fm INT, @vm INT) RETURNS NVARCHAR(max) AS EXT
GO
CREATE FUNCTION extractValueJS(@str nvarchar(4000),@fm INT, @vm INT) RETURNS NVARCHAR(max) AS EXT
GO
CREATE FUNCTION FM() RETURNS NVARCHAR(1) AS EXTERNAL NAME TAFJSQLError.UserDefinedFunctions.FM
GO
CREATE FUNCTION SM() RETURNS NVARCHAR(1) AS EXTERNAL NAME TAFJSQLError.UserDefinedFunctions.SM
GO
CREATE FUNCTION VM() RETURNS NVARCHAR(1) AS EXTERNAL NAME TAFJSQLError.UserDefinedFunctions.VM
GO
CREATE FUNCTION tafjcat(@sVal1 nvarchar(4000),@sVal2 nvarchar(4000)) RETURNS NVARCHAR(max) AS EXT
GO
CREATE FUNCTION tafjcats(@sVal1 nvarchar(4000),@sVal2 nvarchar(4000)) RETURNS NVARCHAR(max) AS EXT
GO
CREATE FUNCTION tafjchar(@nVal1 nvarchar(4000)) RETURNS NVARCHAR(4000) AS EXTERNAL NAME TAFJSQLError
GO
CREATE FUNCTION tafjconvert(@sFrom nvarchar(4000),@sTo nvarchar(4000),@sVar nvarchar(4000)) RETURN
GO
CREATE FUNCTION tafjcount(@sVal1 nvarchar(4000),@sVal2 nvarchar(4000)) RETURNS NVARCHAR(max) AS EV
GO
100 %
Messages
Command(s) completed successfully.
```

14. View the created functions by using the following select statement:

```
SELECT ROUTINE_NAME FROM INFORMATION_SCHEMA.ROUTINES WHERE ROUTINE_TYPE = 'FUNCTION' ORDER BY ROUTINE_NAME
```

GO



SQLQuery5.sql - yy...s@yy25474vtp (93))\* x SQLQuery4.sql - yy...@yy25474vtp (116))\*

SELECT ROUTINE\_NAME FROM INFORMATION\_SCHEMA.ROUTINES WHERE ROUTINE\_TYPE = 'FUNCTION' ORDER BY ROUTINE\_NAME  
GO

100 % < >

Results Messages

	ROUTINE_NAME
1	extractValueJB
2	extractValueJS
3	FM
4	getVersion
5	SM
6	tafjadd
7	tafjand
8	tafjcase
9	tafjcat
10	tafjcats
11	tafjchar
12	tafjconvert
13	tafjcount
14	tafjdate
15	tafjdcount
16	tafjequal
17	tafjexistsCol
18	tafjexistsColClob





## 7 Configuring TAFJ

### 7.1 Configuring the tafj.properties

#### Procedure

1. Go to %TAFJ\_HOME% folder
2. Open the tafj.properties file in your text editor, for example Notepad++.
3. Ensure that tafj.home points to the correct directory.

```
# Directories
#
#*****
tafj.home                = C:\Temenos\TAFJ
temn.tafj.policy.file    = <tafj.home>/conf/TAFJ.policy
```

4. Set the temn.tafj.directory.precompile path to point to the T24 libraries.

```
# Specify the Precompile classes directories
# You can specify multiple directory, separated by
# ':' or ';' (eg /home/t24/lib;/home/t24/FT)
#
temn.tafj.directory.precompile = C:\Temenos\T24\lib\t24lib
```

5. Set up the database connection:
  - a. Find the section with the header Database Setup.
  - b. Copy the relevant example code from the commented out section.
  - c. Fill in the t24 database temn.tafj.jdbc.url, and set in the IntegratedSecurity to false
6. Provide the relevant driver information next to temn.tafj.jdbc.driver.

```
temn.tafj.jdbc.driver    = com.microsoft.sqlserver.jdbc.SQLServerDriver
```

7. Specify the database user name and password next to properties temn.tafj.jdbc.username and temn.tafj.jdbc.password.

```
temn.tafj.jdbc.username  = T24User
temn.tafj.jdbc.password  = T24User
```

8. Change the value of temn.tafj.runtime.new.process.params to the following values:

```
temn.tafj.runtime.new.process.params = -Xmx1024M -XX:MaxPermSize=256m
```



## 7.2 Importing T24 DB into the Azure SQL Database

We are going to assume that you already have local environment using the database restored from the bak file you received from distribution. This local environment will be used as a datasource to populate your T24 Azure SQL database.

You can use DBImport to copy the database over as usual.

### Procedure

1. From your local environment, move to the %TAFJ\_HOME%\conf folder
2. Edit the TAFJDBImport.default with the following details

```
importType      = DATABASE
URLSourceDB
=<jdbc:sqlserver://<url>:1433;databaseName=<db>;integratedSecurity=false
DriverSourceDB= com.microsoft.sqlserver.jdbc.SQLServerDriver
UserSourceDB= t24user
PasswordSourceDB= t24user
##### #
DB Params for RDBMS target
#####
Url= <jdbc:sqlserver://<url>:1433;databaseName=<db>;integratedSecurity=false
Driver          = com.microsoft.sqlserver.jdbc.SQLServerDriver
User            = t24user
Password        = t24user
InsertUDRecords = Yes

#####
CreateTables    = Yes
ClearTables     = No
InsertRecords   = Yes
CreateViews     = Yes
```

3. From the command prompt, run DBImport -GUI

*NOTE: due to the time it takes to do this process, time-outs are often experienced which stop the process.*

You can set DBImport to continue where it stopped by using the -startwithfile switch:

*ie. DBImport.bat -gui -startwithfile VOCLIB (which will start the DBImport process off from the VOCLB table).*



## 7.3 Verifying TAFJ installation

Execute **tDiag** to check the whole TAFJ environment settings and its configured project settings.

### tDiag

Below is a sample of the tDiag output.

```
Home                : 'C:\Temenos\TAFJ'
Conf directory      : 'C:\Temenos\TAFJ\conf'
Log directory       : 'C:\Temenos\TAFJ\log'
Log directory T24   : 'C:\Temenos\TAFJ\log_T24'
Logging implementation : LOG4J2
Version             : DEV_201705

-----

java.home           : C:\Temenos\3rdParty\Java\jdk1.8.0_112\jre
java.vendor         : Oracle Corporation
java.version        : 1.8.0_112
os.arch             : amd64
os.name             : Windows NT (unknown)
HostName            : Stack7-R18
IP Address          : 10.23.5.16
Runtime             : Double Byte SysSeparator

-----

Default Project     : 'tafj'

-----

Common validation:
Common validation completed - All fine

-----

- Project : 'tafj'
  Java src dir      : C:\Temenos\TAFJ\data\tafj\java
  Java classes dir  : C:\Temenos\TAFJ\data\tafj\classes
  Precompile        : C:\Temenos\T24\lib\t24lib
  Update dir        : C:\Temenos\TAFJ\updates
  -----
  Java default package : com.temenos.t24
  -----
  DataBase URL       : jdbc:sqlserver://stack-7db.database.windows.net
  DataBase user      : Temenos
  -----
  Locking mode       : JDBC
  Locking name       :
  -----
  Current dir        : C:\Temenos\TAFJ\UD
  Como dir           : C:\Temenos\TAFJ\UD/&COMO&
  Hold dir           : C:\Temenos\TAFJ\UD/&HOLD&
  UD encoding        : UTF-8
  -----
  Timezone           :
  Local              : en_US
  Debug enabled      : true
  -----
  JMS logger enabled : false
  Logger API enabled : true
  TEC disabled       : false
  -----
  Session monitor enabled : true
  Session monitor host   : localhost
  Session monitor port    : 8377

-----

Project validation:
TAFJ Java Functions Version in DB : 18.0.0
TAFJ Java Functions Version in File : 18.0.0
Java stored functions validated
```



## 8 Sanity Check

The following chapter describes how to check T24, after you've installed and configured it for standalone mode.

### 8.1 Access Classic

You have to be able to check T24 from classic mode.

1. Change to \$TAFJ\_HOME/bin.
2. Execute `tRun EX`.
3. Log into the application using a valid T24 username and password.

```
Model Bank R18      SELECT APPLICATION
-----
-- LAST SIGN.ON, DATE: 23 AUG 2017      TIME: 11:11      ATTEMPTS: 4
01 SEP 2017 14:17:53  USER (27 APR) INPUTTER      [23591,]
ACTION _
AWAITING APPLICATION
```

Once you log into classic, check SPF

**SPF S SYSTEM**

```
Model Bank R18      SPF SEE
-----
SYSTEM SPEC..... SYSTEM
-----
1 RUN.DATE..... 23 MAR 2016
2 SITE.NAME..... Model Bank R16
3 OP.MODE..... 0
5. 1 MAIN.ACCOUNT... ../bnk.data
8 CURRENT.RELEASE... 201705
9 HIST.LIFE..... 1
12 ENQ.PAGE.LIMIT... 200
14 SYS.BACKUP.MODE... TAPE
15 HOLD.BATCH.OUTPUT. Y
16 MICROFICHE.OUTPUT. N
17 REPORT.RETENTION.. 5
19 DATA.ACC.NAME.... ../bnk.data
20 RUN.ACC.NAME..... ../bnk.run
21 DICT.ACC.NAME..... ../bnk.dict
23 OPERATING.SYSTEM.. NT
24. 1. 1 UNIX.BACKUP.. ../backup.hd &M&
-----
01 SEP 2017 14:21:45  USER (27 APR) INPUTTER      [235
ACTION _
AWAITING PAGE INSTRUCTIONS
```



## 8.2 DBTools

To access DBTools, you need to create a user, using the `tUserMgmt` utility. You use the same username and password to log into DBTools.

When you've accessed DBTools, you can verify:

- The database username.
- The database server IP. □ The database name. □ Go to

TAFJ\_HOME/bin

Create a tafjuser:

```
tUserMgmt --Add -u tafjuser -p Temeneos_123
```

```
C:\Temenos\TAFJ\bin>tUserMgmt --Add -u tafjuser -p Temeneos_123
```

```
USER CREATION SUCCESSFUL
```

```
C:\Temenos\TAFJ\bin>_
```

Log into DBTools with the tafj user

```
DBTools -u tafjuser -p Temeneos_123
```

```
C:\Temenos\TAFJ\bin>DBTools -u tafjuser -p Temeneos_123
```

You can verify the database you are connected in the bottom of the DBTools console as highlighted in the screenshot below.



```
-----
DBTools                HELP                                P1:3 C1:4
-----
NAVIGATION commands   |Type f to go forward to next page
                      |Type b to go backward to previous page
                      |Type sr to scroll right to next column
                      |Type sl to scroll left to previous column
                      |Type cm to disable\enable column mode
                      |Type hc to disable\enable first fixed res
                      |Type hl to disable\enable first fix resul
                      |Type x to exit
Logging to file        |type SPOOL to enable / disable logging. B
                      |enter the setup menu to provide a differe
SETUP commands         |Type setup to change console and session
SQL  commands are supported |type SQL to enter SQL mode, then type USA
JQL  commands are supported |type JQL to enter JQL mode, then type USA
DBCHECK commands are supported |type DBCHECK to enter DBCHECK mode, then
JQL to SQL command is supported |type JQL2SQL <<JQL command>> to see relat
OFS command is supported  |type OFS to enter OFS mode, then type <<R
-----DOWN
Temenos@stack-7db.database.windows.net:Stack-7DB_2017-06-12T21-09Z>
```



## 9 Installing and configuring JBoss EAP 7

This chapter describes how to configure the JBoss modules for TAFJ, T24 and the database.

1. Download the Red Hat JBoss Enterprise Application Platform from <https://developers.redhat.com/products/eap/download>

The file name is jboss-eap-7.0.0.zip.

2. Copy the JBoss zip file into %TEMENOS\_HOME%\Install folder.
3. Create folder %TEMENOS\_HOME%\3rdParty\As\JBoss to install JBoss.
4. Uncompress the installer files into the JBoss folder (JBoss installer is shipped as a compressed file).

JBoss EAP 7.0.0 installation is completed.

5. Set the new environment variable JBOSS\_HOME with the path  
%TEMENOS\_HOME%\3rdParty\As\JBoss\jboss-eap-7.0.0\jboss-eap-7.0
6. Add %JBOSS\_HOME%\bin to %PATH%

### 9.1 Configuring T24

#### 9.1.1 Setting up environment variables

The following settings need to be added to the standalone.conf.bat.

##### **TAFJ\_HOME definition**

-Dtafj.home=%TAFJ\_HOME%

##### **File encoding**

-Dfile.encoding=UTF-8

##### **Increase the JVM memory**

##### **Procedure**

1. Move to %JBOSS\_HOME%\bin
2. Open the standalone.conf.bat file in notepad++





```

rem # Prefer IPv4
set "JAVA_OPTS=%JAVA_OPTS% -Djava.net.preferIPv4Stack=true"

rem # Set the TAFJ_HOME and file encoding
set "JAVA_OPTS=%JAVA_OPTS% -Dtafj.home=%TAFJ_HOME% -Dfile.encoding=UTF-8"

rem # Make ByteMan classes visible in all module loaders
rem # This is necessary to inject ByteMan rules into AS7 deployments
set "JAVA_OPTS=%JAVA_OPTS% -Djboss.modules.system.pkgs=org.jboss.byteman"

REM set "JAVA_OPTS=-Xms1G -Xmx1G -XX:MetaspaceSize=96M -XX:MaxMetaspaceSize=256m"
set "JAVA_OPTS=-Xms2G -Xmx2G -XX:MetaspaceSize=96M -XX:MaxMetaspaceSize=512m -XX:-UseGCOverheadLimit"

```

## 9.2 Deploying the MSSQL database driver module

Create the same directory structure matching %TAFJ\_HOME%\appserver\jboss\jboss7eap/modules in the modules folder of %JBOSS\_HOME% for TAFJ, T24 and the Microsoft database.

### Procedure

1. Navigate to the modules directory in the JBoss file system: `cd %JBOSS_HOME%\modules`

2. Create the following directory in the JBoss file system: `mkdir`

`com\microsoft\sqlserver\main`

3. Copy the file module.xml and the corresponding drivers to the directory main:

`copy`

`%TAFJ_HOME%\appserver\jboss\jboss7eap\modules\com\microsoft\sqlserver\main\module.xml`

`%JBOSS_HOME%\modules\com\microsoft\sqlserver\main copy`

`%TAFJ_HOME%\dbdrivers\sqljdbc_4.jar\*`

`%JBOSS_HOME%\modules\com\microsoft\sqlserver\main`

Name	Date modified	Type
module	6/27/2017 12:36 PM	XML Document
sqljdbc4	3/8/2017 11:44 AM	Executable Jar File

4. Edit the module configuration with the correct jar name. Specify the jar name correctly in the module.xml.





```
<?xml version="1.0" encoding="UTF-8"?>

<module xmlns="urn:jboss:module:1.1" name="com.microsoft.sqlserver">

  <resources>
    <resource-root path="sqljdbc4.jar"/>
  </resources>
  <dependencies>
    <module name="javax.api"/>
    <module name="javax.transaction.api"/>
    <module name="javax.servlet.api" optional="true"/>
    <module name="javax.xml.bind.api"/>
  </dependencies>
</module>
```

## 9.3 Configuring the TAFJ modules

To configure the TAFJ modules:

1. Create a global module `com\temenos\tafj\main` under the `%JBOSS_HOME%\modules` folder.

```
cd
%JBOSS_HOME%\modules\com
mkdir temenos\tafj\main
```

2. Copy the Temenos module folder from `tafj` to `jboss` modules folder

```
copy %TAFJ_HOME%\appserver\jboss\jboss7eap\modules\com\temenos\temenos\tafj\main\module.xml
%JBOSS_HOME%\modules\com\temenos\tafj\main\
```

3. Go to `%JBOSS_HOME%\modules\com\temenos\tafj\main`

```
cd %JBOSS_HOME%\modules\com\temenos\tafj\main
```

4. Create a symbolic link to `%TAFJ_HOME%\lib`.

```
mklink /D lib %TAFJ_HOME%\lib
```

5. Create a symbolic link to `%TAFJ_HOME%\ext`.

```
mklink /D ext %TAFJ_HOME%\ext
```



The following screenshot shows the symbolic link that was created and the copied file `module.xml`.

`%JBOSS_HOME%\jboss-eap-7.0.0\modules\com\temenos\tafj\main`

Name	Date modified	Type
ext	6/27/2017 11:12 AM	File folder
lib	6/27/2017 11:11 AM	File folder
module	6/18/2017 7:50 AM	XML Document

6 Edit the file `module.xml` to add the SQL database dependency:

- Go to `%JBOSS_HOME%\modules\com\temenos\tafj\module.xml`.
- Open the file in an editor and add the database dependency.

```
<resource-root path="./ext/TAFJBASIC.jar"/>
<resource-root path="./ext/tComponentFramework.jar"/>
</resources>
<dependencies>
  <module name="com.temenos.t24"/>
  <module name="com.microsoft.sqlserver"/>
</dependencies>
```

Your `module.xml` file should now look like this:



```
<?xml version="1.0" encoding="UTF-8"?>
<module xmlns="urn:jboss:module:1.0" name="com.temenos.tafj">
  <resources>
    <!-- Insert resources here -->
    <resource-root path="/lib/jansi.jar"/>
    <resource-root path="/lib/T24CollectorClient.jar"/>
    <resource-root path="/lib/TAFJTelnetD.jar"/>
    <resource-root path="/lib/antlr.jar"/>
    <resource-root path="/lib/icu4j.jar"/>
    <resource-root path="/lib/jremote.jar"/>
    <resource-root path="/lib/log4j-api.jar"/>
    <resource-root path="/lib/log4j-core.jar"/>
    <resource-root path="/lib/cache-api.jar"/>
    <resource-root path="/lib/TemenosSecurity.jar"/>
    <resource-root path="/lib/TAFJClient.jar"/>
    <resource-root path="/lib/TAFJCommon.jar"/>
    <resource-root path="/lib/TAFJCache.jar"/>
    <resource-root path="/lib/TAFJCompiler.jar"/>
    <resource-root path="/lib/TAFJCore.jar"/>
    <resource-root path="/lib/TAFJLogging.jar"/>
    <resource-root path="/lib/TAFJLocking.jar"/>
    <resource-root path="/lib/TAFJVersion.jar"/>
    <resource-root path="/ext/TAFJBASIC.jar"/>
    <resource-root path="/ext/tComponentFramework.jar"/>
  </resources>
  <dependencies>
    <module name="com.temenos.t24"/>
    <module name="com.microsoft.sqlserver"/>
    <module name="javax.api"/>
    <module name="javaee.api"/>
    <module name="javax.jms.api"/>
    <module name="javax.transaction.api"/>
  </dependencies>
</module>
```

## 9.4 Configuring the T24 modules

To configure a T24 module:

1. Create a global module com\temenos\t24\main under %JBOSS\_HOME%\modules.

```
cd %JBOSS_HOME%\modules\teme
nos mkdir t24\main
```

2. Change to %JBOSS\_HOME%\modules\com\temenos\t24\main.

```
cd %JBOSS_HOME%\modules\com\temenos\t24\main
```

3. Create a symbolic link to %T24\_HOME%\t24lib.

```
mklink /D lib %T24_HOME%\lib\t24lib
```



4. Check that the link has been created properly in  
`%JBoss_HOME%\modules\com\temenos\t24\main`

Name	Date modified	Type
lib	6/27/2017 11:39 AM	File folder

## 9.5 Generate module.xml for T24.

T24 contains many libraries, which makes adding jars into `module.xml` a lengthy process. To make it easier, TAFJ provides a utility (`JBossTools`) to generate/update `module.xml`.

You need to run **Module Generator** (`JBossTools.bat`) from `%TAFJ_HOME%\bin` with the required arguments.

### Command syntax

```
JBossTools module_name path_to_jars dest [root_prefix] [-tafjdep]
```

### Options

Option	Description
<code>module_name</code>	Name of the JBoss module
<code>path_to_jars</code>	The list of folders that you want to parse (use operating system path separator between folders).
<code>dest</code>	The folder - or path to the folder - where you want the file <code>module.xml</code> to be generated.
Option	Description
<code>root_prefix</code>	Name of the link if <code>module.xml</code> is at the same level as the link.
<code>-tafjdep</code>	Option to add TAFJ module dependencies in the dependencies section.

1. Create a TAFJ `module.xml` file.



```
JBossTools com.temenos.t24 %T24_HOME%\lib\t24lib %JBoss_HOME%\modules\com\temenos\t24\main  
lib -tafjdep
```

```
Found : /lib/XF_Contract.jar  
Found : /lib/XF_Unit.jar  
Found : /lib/XT_PriceFeed.jar  
module.xml generated under: C:\Temenos\3rdParty\AS\JBoss\jboss-eap-7.0.0\modules\com\temenos\t24\main  
Don't forget to fill up the dependencies section if you need one  
C:\Temenos\TAFJ\bin>
```

2. Open module.xml in your text editor and check if the dependency module for tafj is present. If it isn't, you need to add it.

```
<resource-root path="/lib/t24-ST_CustomerService-t24service.jar" />  
</resources>  
<dependencies>  
  <module name="com.temenos.tafj"/>  
</dependencies>  
</module>
```

Save the module.xml file

## 9.6 Configuring JBoss

Before you begin, the following is the suggested nomenclature for profile naming.

Parameter	Value	Explanation
product_name	T24	
	AML	
	TAP	
Business_role	App	Application layer
	Web	Web layer or presentation layer
Type	Std	Standalone
	Mng	Managed
	Clu	Cluster



Number	From 00 to 99
--------	---------------

**About this task:**

In this scenario, you are going to create a standalone server for T24 in the Application layer.  
The standalone name will be T24AppStd.

1. Copy and save the file standalone-full.xml as T24AppStd01.xml in the configuration directory:
2. Provide the values for the following parameters in the configuration file (for example, standalonefull.xml): data sources, global modules, pools for MDBs and queues (jms-destinations).  
The sample standalonefull.xml is in the following path 3.  
%TAFJ\_HOME%\appserver\jboss\jboss7eap
4. Start JBoss with the new profile:  
%JBASS\_HOME%/bin/standalone.bat -b 0.0.0.0 -bmanagement 0.0.0.0 -  
serverconfig=T24AppStd01.xml

## 9.7 Configuring T24/TAFJ in the application server

1. Edit the file tafj.properties that is in the following location:
2. %TAFJ\_HOME%\appserver\jboss\jboss6eap\jboss-cli
3. Open the file in your text editor:
4. Use your favourite text editor, for example Notepad++.
5. Provide the following parameters values: DB\_URL, DB\_DRIVER, DB\_USER and DB\_PWD.

```
#####
# Path details
#
# For windows use C:\\
#
TAFJ_HOME=[TAFJ root folder]
#####
# database details
#
DB_URL=[url]
DB_DRIVER=[h2,ora12c,db2jdbc,sqljdbc]
DB_USER=[user]
DB_PWD=[password]
```

6. Move to %TAFJ\_HOME%\appserver\jboss\jboss6eap\jboss-cli directory.





7. Open the T24Setup.cli in notepad++

8. Under the drivers section, uncomment the line SQLServer drivers parameters

```
#Drivers
#define the driver corresponding to your database - H2 driver is already exist
#please note that you have to create the module for the driver first
#/subsystem=datasources/jdbc-driver=ora12c:add(driver-name=ora12c,driver-module=
#/subsystem=datasources/jdbc-driver=sqljdbc:add(driver-name=sqljdbc,driver-module=
#/subsystem=datasources/jdbc-driver=db2jdbc:add(driver-name=db2jdbc,driver-module=
```

9. Move to the %JBOSS\_HOME%\bin

10. Open the jboss-cli.xml file in notepad++

11. Set the value of resolve-parameter-values to true

```
<resolve-parameter-values>true</resolve-parameter-values>
```

12. In the same file, set the validate-operation-requests value to true and save the file.

```
<validate-operation-requests>true</validate-operation-requests>
```

13. Start JBoss

```
%JBOSS_HOME%\bin\standalone.bat -b 0.0.0.0 -bmanagement 0.0.0.0 --server-config=T24AppStd01.xml
```

14. Run the jboss-cli command

```
%JBOSS_HOME%\bin\jboss-cli.bat --connect --file=C:\Temenos\TAFJ\appserver\jboss\
jboss7eap\jboss-cli\T24Setup.cli
--properties=C:\Temenos\TAFJ\appserver\jboss\jboss7eap\jboss-cli\tafj.properties
```

```
C:\Temenos\TAFJ\appserver\jboss\jboss7eap\jboss-cli> %JBOSS_HOME%\bin\jboss-cli.bat --connect
i\tafj.properties
The batch executed successfully
process-state: reload-required
Press any key to continue . . .
C:\Temenos\TAFJ\appserver\jboss\jboss7eap\jboss-cli>
```

The scripts will add the following to the standalone configuration file.

- System properties
- Drivers
- Datasources
- Global modules (TAFJ and T24)
- JMS Pools
- JMS Queues



## 10 Configuring and installing the UXP Browser

1. Download the UXPBrower.zip from distribution.
2. FTP the UXP Browser zip to the %TEMENOS\_HOME%\Install folder.
3. Copy the Browser.war and hothouse-iris.war into the deployments folder.

```
copy %TEMENOS_HOME%\Install\Browser.war %JBOSS_HOME%\standalone\deployments copy  
%TEMENOS_HOME%\Install\hothouse-iris.war %JBOSS_HOME%\standalone\deployments
```

4. Unzip the UXP Browser zip to C:\Temenos\UXPBrower.

Name	Date modified	Type	Size
MenuRoot-201705.0	5/22/2017 9:14 AM	Compressed (zipp...	129 KB
generated-201705.0	5/22/2017 9:09 AM	Compressed (zipp...	2,458,329 KB
Browser-201705.0.war	5/22/2017 9:06 AM	WAR File	58,873 KB
browser-iris-201705.war	5/22/2017 9:06 AM	WAR File	39,783 KB
generated-201705.0.zip.md5	5/22/2017 9:05 AM	MD5 File	1 KB

5. The UXP Browser folder contains a generated.zip file which you need extracted again to produce 2 more folders: generated and a manual.

C:\Temenos\UXPBrower				
Name	Date modified	Type	Size	
generated	5/19/2017 9:25 AM	File folder		
manual	5/19/2017 9:13 AM	File folder		
Browser-201705.0.war	5/22/2017 9:06 AM	WAR File	58,873 KB	
browser-iris-201705.war	6/21/2017 1:36 PM	WAR File	39,783 KB	
generated-201705.0	5/22/2017 9:09 AM	Compressed (zipp...	2,458,329 KB	
generated-201705.0.zip.md5	5/22/2017 9:05 AM	MD5 File	1 KB	
MenuRoot-201705.0	5/22/2017 9:14 AM	Compressed (zipp...	129 KB	
SSOAPI.properties	6/21/2017 1:34 PM	PROPERTIES File	2 KB	
web	6/21/2017 1:35 PM	XML Document	5 KB	

### 10.1 Setting the UXP environment variables

1. Add the environment variable GENERATED with the value path of the generated folder.





2. Add the environment variable MANUAL with the value path of the manual folder.

```
MANUAL=%TEMENOS_HOME%\UXPBrowser\manual
```

## 10.2 Editing the WEB-INF files

1. Set BASIC.AUTH.MODE to FALSE in hothouse-iris.war\WEB-INF\SSOAPI.properties.

```
#SSOAPI=com.temenos.technology.SSOAPI.SSOAPIT24RemoteImpl
SSOAPI=com.temenos.technology.SSOAPI.SSOAPIT24UserAuthorisationImp
LOG.LEVEL=INFO
BASIC.AUTH.MODE=false
PRIVATE.KEY=/WEB-INF/ssoprivate.key
PUBLIC.KEY=/WEB-INF/ssopublic.key
SSOAPI.AUTH.TOKEN.TIMEOUT=3600
SSOAPI.AUTH.MAX.LEASE=86400
#SSOAPI.T24REMOTE.URL=http://localhost:9089/Authenticator/auth
# TAFJ settings
```

2. Comment out the <filter-mapping> section in the hothouse-iris.war\WEB-INF\web.xml.

```
<filter>
  <filter-name>gzip-output</filter-name>
  <filter-class>filter.gzip.GZIPFilter</filter-class>
</filter>
<!--
  <filter-mapping>
    <filter-name>gzip-output</filter-name>
    <servlet-name>IRIS</servlet-name>
  </filter-mapping>
```



# 11 Deployment

The following chapter describes how to deploy TAFJEE, BrowserWeb, Axis2 and IF related EJBs jars. It also shows you how to deploy the stack through the new browser, the UXP Browser.

## 11.1 Deploying TAFJEE

You need to deploy TAFJEE\_EAR.ear in the %JBOSS\_HOME%\standalone\deployments folder.

To deploy TAFJEE:

1. Find the TAFJEE\_EAR.ear file with TAFJ installed in the path  
%TAFJ\_HOME%\appserver\jboss\jboss7eap:

Name	Date modified	Type
jboss-cli	6/18/2017 7:50 AM	File folder
modules	6/18/2017 7:50 AM	File folder
TAFJEE_EAR.ear	6/18/2017 7:50 AM	EAR File

2. Copy the ear file into the deployments folder of JBoss:

```
copy %TAFJ_HOME%\appserver\jboss\jboss7eap\TAFJEE_EAR.ear %JBOSS_HOME%\standalone\deployments
```

## 11.2 Deploying BrowserWeb

You need to deploy the BrowserWeb application for your specific version of TAFJ-T24 in the %JBOSS\_HOME%\standalone\deployments folder. For example, the Browserweb.war located on the path %TEMENOS\_HOME%\Install\Browserweb-

201705.00.tar To deploy

BrowserWeb:

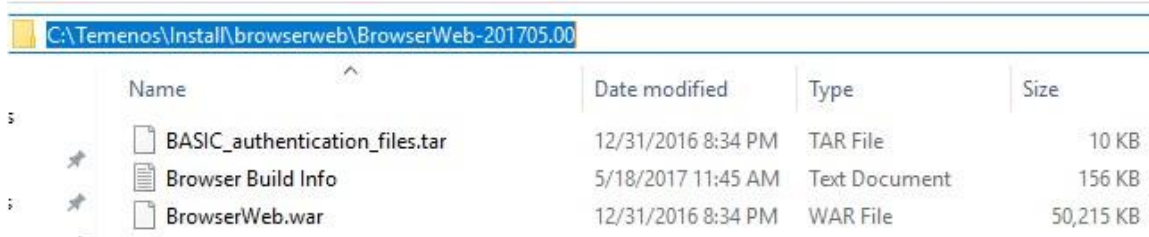
1. FTP the Browserweb.tar for your specific version of TAFJ-T24 to the %TEMENOS\_HOME%\Install folder.
2. Create the folder browserweb. Use the command:

```
mkdir browserwebwar
```



Alternatively:

- a. Right click inside the **Install** folder and select **New > Folder**.
  - b. Name the folder browserweb.
3. Right click BrowserWeb-201612.00.tar. Extract the file into browserweb folder by providing its path.



Name	Date modified	Type	Size
BASIC_authentication_files.tar	12/31/2016 8:34 PM	TAR File	10 KB
Browser Build Info	5/18/2017 11:45 AM	Text Document	156 KB
BrowserWeb.war	12/31/2016 8:34 PM	WAR File	50,215 KB

4. Copy BrowserWeb.war into the deployments folder of JBoss.

```
cd %JBoss_HOME%\standalone\deployments
copy %TEMENOS_HOME%\Install\browserweb\BrowserWeb-201612.00\BrowserWeb.war %JBoss_HOME%\standalone\deployments
```

## 11.3 Deploying Axis2

Apache Axis2 is a core engine for web services. It enables you to add a Web services interface to Web applications.

To deploy the Axis2:

1. Copy axis2.war from some existing location (JBoss6.4) to the %TEMENOS\_HOME%\Install folder.
2. Copy the axis2.war from the Install folder to the JBoss deployments folder.

```
copy %TEMENOS_HOME%\Install\axis2.war %JBoss_HOME%\standalone\deployments
```

## 11.4 Deploying UXP Browser

1. Copy the browser-iris-201705.war from the UXPBrower folder to the JBoss deployments folder.

```
copy %TEMENOS_HOME%\UXPBrower\ browser-iris201705.war %JBoss_HOME%\standalone\deployments
```

2. Copy the Browser-201705.war from the UXPBrower folder to the JBoss deployments folder.

```
copy %TEMENOS_HOME%\UXPBrower\Browser201705.war %JBoss_HOME%\standalone\deployments
```



## 11.5 Deploy IF related EJB jars

**Integration<sup>1</sup>** Framework (IF) jar files are available as a part of the T24 enterprise libraries. These jar files must be deployed on the JBoss Application servers.

To deploy the IF related EJB jars:

1. Contact Temenos distribution for T24 Integration Framework EJB jar files.

Adapter	EJB jar to deploy
Inbound Adapter	t24-IntegrationFrameworkService-ejb.jar
Outbound Adapter	t24-EB_OFSCollectorService-ejb.jar

2. FTP the t24-IF\_IntegrationFrameworkService-ejb.jar and the t24-EB\_OFSCollectorService-ejb.jar to the %TEMENOS\_HOME%\Install folder.
3. Copy both the jars from the Install folder to JBoss deployments folder using the below command:

```
copy %TEMENOS_HOME%\Install\t24-IF_IntegrationFrameworkService-ejb.jar
%JBOSS_HOME%\standalone\deployments
copy %TEMENOS_HOME%\Install\t24-EB_OFSCollectorService-ejb.jar
%JBOSS_HOME%\standalone\deployments
```

## 11.6 Modifications for R18AMR (201804)

### Procedure

1. Copy TAFJSpoolerPlugins.rar from %TAFJ\_HOME%/appserver to Deployments folder.

TAFJJEE\_EAR.ear fails to deploy with an error of PrintHold is missing if the TAFJSpoolerPlugins.rar is not present.

2. In T24AppStd01.xml, add **security-domain** for **T24** as shown below.



Both t24-EB\_OFSCConnectorService-ejb and t24-IF\_IntegrationFrameworkService-ejb jar files fails to deploy (if not added) with the following error:

```
[\"jboss.deployment.unit.\\\\"t24-EB_OFSCConnectorService-ejb.jar\\\\".component.OFSCConnectorServiceBeanTAFJ.CREATE is missing [jboss.security.security-domain.T24]\\"]}]}
```

```
<security-domains>
  <security-domain name="other" cache-type="default">
    <authentication>
      <login-module code="Remoting" flag="optional">
        <module-option name="password-stacking" value="useFirstPass"/>
      </login-module>
      <login-module code="RealmDirect" flag="required">
        <module-option name="password-stacking" value="useFirstPass"/>
      </login-module>
    </authentication>
  </security-domain>
  <security-domain name="T24" cache-type="default">
    <authentication>
      <login-module code="Remoting" flag="optional">
        <module-option name="password-stacking" value="useFirstPass"/>
      </login-module>
      <login-module code="RealmDirect" flag="required">
        <module-option name="password-stacking" value="useFirstPass"/>
      </login-module>
    </authentication>
  </security-domain>
  <security-domain name="jboss-web-policy" cache-type="default">
    <authentication>
      <login-module code="Remoting" flag="optional">
        <module-option name="password-stacking" value="useFirstPass"/>
      </login-module>
      <login-module code="RealmDirect" flag="required">
        <module-option name="password-stacking" value="useFirstPass"/>
      </login-module>
    </authentication>
  </security-domain>
</security-domains>
```

- The reason for adding security domain as T24 is, in both the `ejb.jar` files mentioned above, the security domain in the `jboss-ejb3.xml` has been set as T24 (`%JBOSS_HOME%\standalone\deployments\t24-IF_IntegrationFrameworkService-ejb.jar\META-INF\jboss-ejb3.xml`).

```
<assembly-descriptor>
  <s:security>
    <ejb-name>OFSCConnectorServiceBeanTAFJ</ejb-name>
    <s:security-domain>T24</s:security-domain>
  </s:security>
</assembly-descriptor>
:/jboss:ejb-jar>
```

### 11.6.1 Services error

You may see the following error:

```
\\"Services that may be the cause:\" => {\"jboss.jdbc-driver.sqljdbc\"}
```



If this error occurs, do the following:

1. Create a folder under sqlserver as jdbc

is PC > Local Disk (C:) > Temenos > 3rdParty > AS > JBOSS > jboss-eap-7.0 > modules > com > microsoft > sqlserver >				
Name	Date modified	Type	Size	
jdbc	30/05/2018 12:38	File folder		

2. Add .jdbc in module name under tafj module.

(%JBOSS\_HOME%\modules\com\temenos\tafj\main\module.xml)

```
<!-- JBOSS_HOME = C:\JBOSS\JBOSS-7.0 -->
<module name="com.ibm.db2v11"/> -->
<module name="com.microsoft.sqlserver.jdbc"/>

<module name="javax.api"/>
<module name="javaxee.api"/>
<module name="javax.jms.api"/>
<module name="javax.transaction.api"/>

<!-- JBOSS_HOME = C:\JBOSS\JBOSS-7.0 -->
```

3. Add .jdbc in module name under sql module

(%JBOSS\_HOME%\modules\com\microsoft\sqlserver\jdbc\main\module.xml).

```
<module xmlns="urn:jboss:module:1.1" name="com.microsoft.sqlserver.jdbc">
  <resources>
    <resource-root path="sqljdbc42.jar"/>
  </resources>
  <dependencies>
    <module name="javax.api"/>
    <module name="javax.transaction.api"/>
  </dependencies>
</module>
```



## 12 Sanity check - post-deployment

### 12.1 Starting the Application server

The standalone.bat script in %JBoss\_HOME%\bin is used to start JBoss. It takes several parameters depending on your needs and what you are deploying with particular interest in the T24 browser you are deploying.

If you are NOT deploying the UXP browser, the following start command parameters is sufficient.

#### BrowserWeb

```
standalone.bat --server-config=standalone-full.xml -b 0.0.0.0
```

#### UXP Browser

If you intend to deploy the UXP browser, several parameters need to be passed to the start JBoss command. Note. You have to kill your JBoss process if you had started it during the **BrowesWeb** step above. You specifically also have to use the **-Doverride.IRIS\_ROOT** in non UTP Environments.

```
CALL standalone.bat --server-config=standalone-full.xml -Djboss.node.name=node1  
-b 0.0.0.0 -Dcom.edgeipk.librarypath=%GENERATED%\edge -  
Doverride.IRIS_MAP=%MANUAL%\edge\data\HrefComponentManualMap.properties,%GENERAT  
ED%\edge\data\HrefComponentMap.properties -  
Dcom.temenos.interaction.config.dir=%GENERATED%\iris -  
Djboss.as.management.blocking.timeout=1200 -  
Doverride.IRIS_ROOT=http://localhost:8080/hothouse-iris/Hothouse.svc
```

Once the application server is fully started, go into the deployments to see all the deployed artefacts.



C:\Temenos\3rdParty\AS\JBoss\jboss-eap-7.0.0\standalone\deployments				
Name	Date modified	Type	Size	
axis2.war	3/15/2017 6:19 AM	WAR File	21,166 KB	
axis2.war.deployed	3/15/2017 6:19 AM	DEPLOYED File	1 KB	
Browser-201705.0.war	5/22/2017 9:06 AM	WAR File	58,873 KB	
Browser-201705.0.war.deployed	5/22/2017 9:06 AM	DEPLOYED File	1 KB	
browser-iris-201705.war	6/21/2017 1:36 PM	WAR File	39,783 KB	
browser-iris-201705.war.deployed	6/21/2017 1:36 PM	DEPLOYED File	1 KB	
BrowserWeb.war	12/31/2016 8:34 PM	WAR File	50,215 KB	
BrowserWeb.war.deployed	12/31/2016 8:34 PM	DEPLOYED File	1 KB	
README	4/18/2016 4:54 PM	Text Document	9 KB	
t24-EB_OFSCConnectorService-ejb	3/20/2017 12:43 PM	Executable Jar File	15 KB	
t24-EB_OFSCConnectorService-ejb.jar.deployed	3/20/2017 12:43 PM	DEPLOYED File	1 KB	
t24-IF_IntegrationFrameworkService-ejb	3/20/2017 12:43 PM	Executable Jar File	28 KB	
t24-IF_IntegrationFrameworkService-ejb.jar.deployed	3/20/2017 12:43 PM	DEPLOYED File	1 KB	
TAFJEE_EAR.ear	6/15/2017 8:14 AM	EAR File	10,572 KB	
TAFJEE_EAR.ear.deployed	6/15/2017 8:14 AM	DEPLOYED File	1 KB	

## 12.2 Accessing BrowserWeb

1. Access the web user interface by going to: localhost:8080/BrowserWeb

← → ↻ ⓘ localhost:8080/BrowserWeb/servlet/BrowserServlet

 **TEMENOS**

**T24 Sign in**

Usernames and passwords are case sensitive.

Username

Password

2. Log into the T24 application with a valid user name and password.

← → ↻ ⓘ localhost:8080/BrowserWeb/servlet/BrowserLoginServlet

INPUTTER Last signed on 27 JUN 2017 at 09:42 with 0 attempt(s)

[Help](#) [Tools](#) [Sign Off](#)

🔍

▸ User Menu  
▸ Admin Menu  
▸ Role Based Home pages





## 12.3 Accessing UXP Browser

The default port for the UXP Browser is 8080. Make sure that:

- The port is set in the JBoss configuration file in the socket-binding section for http name.
- That you can access any deployed applications with this port.

```
<socket-binding-group name="standard-sockets" default-interface="public" port
  <socket-binding name="management-http" interface="management" port="${jb
  <socket-binding name="management-https" interface="management" port="${j
  <socket-binding name="ajp" port="${jboss.ajp.port:8009}"/>
  <socket-binding name="http" port="${jboss.http.port:8080}"/>
  <socket-binding name="https" port="${jboss.https.port:8443}"/>
  <socket-binding name="iiop" interface="unsecure" port="3528"/>
```

Access the UXP browser using the below URL. We recommend using the Chrome browser.

[http://app\\_server\\_ip\\_address:8080/Browser](http://app_server_ip_address:8080/Browser)



## 12.4 Accessing TAFJEE from BrowserWeb

Access the TAFJ services by typing the following URL in the browser:

[www.localhost:8080/TAFJEE](http://www.localhost:8080/TAFJEE)



## Welcome!

Welcome to TAFJ servlets. If you can see this page you have

### Diagnostic

- [tDiag](#)  
Get details about your TAFJ environment
- [tShow](#)  
Get routine compilation details
- [Sanity check](#)  
Run environment validation

### Execution

- [Execute servlet](#)  
Post message to ExecQueue
- [Entry points](#)  
Learn how to interact with TAFJEE
- [DBTools](#)  
Execute DBTools command

### Troubleshooting

- [Technical monitor](#)  
Monitor your TAFJEE application
- [Log files](#)  
Change log level and view log files
- [Como files](#)  
View como files

**Webapp version:DEV.201705.1**



## 12.5 Running the TAFJEE utilities

### tShow EX

#### tShow servlet

You can get routine information by submitting your routine name in the field below.

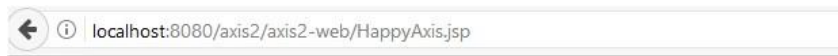
Routine name:

#### EX

BASIC source	/mnt/data/t24build/bnk/bnk.run/T24DEV/EB/EB_API/Utils/EX.b
BASIC package	
BASIC Import(s)	com.temenos.t24
JAVA class location	file:/C:/Temenos/3rdParty/AS/JBOSS/jboss-eap-7.0.0/modules/
Compilation date	21 May 2017 11:47:08
Compilation host	t24integ-01
Compiled with TAFJ	DEV_201705.0
Timestamp	1495367228118
Grammar level	0
Include Basic Replacement	false
Dependencies check	OK

## 12.6 Connecting to Axis2

Access the web services at the following URL: [www.localhost:8080/axis2](http://www.localhost:8080/axis2) On the axis homepage, select validate to see if the environment is correctly configured to use axis. (scroll down to view the full configuration report).



The Apache Software Foundation  
<http://www.apache.org/>

## Axis2 Happiness Page

### Examining webapp configuration

#### Essential Components

```
Found Apache-Axis (org.apache.axis2.transport.http.AxisServlet)
  at vfs:/C:/Temenos/3rdParty/AS/JBOSS/jboss-eap-7.0.0/bin/content/axis2.war/WEB-INF/lib/axis2-t
Found Jakarta-Commons Logging (org.apache.commons.logging.Log)
  at C:\Temenos\3rdParty\AS\JBOSS\jboss-eap-7.0.0\modules\system\layers\base\org\slf4j\jcl-over-
Found Streaming API for XML (javax.xml.stream.XMLStreamReader)
  at an unknown location
Found Streaming API for XML implementation (org.codehaus.stax2.XMLStreamWriter2)
  at vfs:/C:/Temenos/3rdParty/AS/JBOSS/jboss-eap-7.0.0/bin/content/axis2.war/WEB-INF/lib/wstx-a-
```

The core axis2 libraries are present.

**Note:** Even if everything this page probes for is present, there is no guarantee your Axis Service will

### Examining Version Service

Found Axis2 default Version service and Axis2 is working properly.

Now you can drop a service archive in axis2/WEB-INF/services. Following output was produced while



As already mentioned at the beginning of this document, you need to read the release updates before you proceed with T24 upgrade. There is a new IFRS 9 compliance functionality from the Banking Framework. You need to install the IFRS product first in order to perform tasks such as creating a new customer and account. If the I9 (product is not installed, you will get IFRS\_CHECK\_I9\_ENABLED errors when you try to create a new customer. Please refer to the available documentation on installing a new product.



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Stack home

<http://uni-t.temenos.com/product/Stack-Verification>



Stack Q & A

<https://askjumpstart.temenosgroup.com/>



Contact us

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