

MOBILISER 5.1 INSTALLATION GUIDE

SAP MOBILE SERVICES

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# About this Document

## Revision History

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| 03.04.2013 | 1.0 | Sven Kapp | First document version |  |  |

## Reference Documents

|  |  |  |  |
| --- | --- | --- | --- |
| Document Name | Document Version No. | Document location | Purpose |
| Mobiliser 5 Site Preparation Plan | 1.3 | e.g. sharepoint location |  |
| Mobiliser 5 Load Balancer | 1.3 | e.g. sharepoint location |  |
| Mobiliser 5 Installation Guide Keystores | 1.2 | e.g. sharepoint location |  |

# Introduction

Valid for Mobiliser Version 5.1.

The Mobiliser Service Delivery Platform is a powerful infrastructure component in modern transaction processing suited to the needs of the mobilized world.

The platform offers Telcos, Financial Institutions and Service Providers access to all necessary services required in transaction processing, namely authentication, authorization and accounting in one stop, and enables quick integration of any application.

The platform is a key enabler for modern value added services offerings as the platform offers:

* multiple communication channels (SMS, IVR, USSD, MMS, WAP, XML)
* support for multiple languages and currencies
* different payment and clearing protocols (e.g. ISO 8583, Edifact, SWIFT, CDR, TAP$, CIBER)

The document describes in general the configuration and setup of a redundant Mobiliser Release 5 system. It should provide as much as possible details to prepare the OS and network. Please check the Custom Section of “Advanced Properties” to change various values such as version information of used software, SID (Database Service Name) or other widely used details.

That document is written for a Mobiliser 5.1 Installation based on a SAP JVM Version 6.1, an Oracle DB and Linux OS.

## Who should read this document?

This document has been written to perform installation of Mobiliser Release 5.1. The following skills are required:

1. Linux

* Login to remote machines by SSH
* Edit files, search and replace
* General understanding of user and group permissions
* Basic understanding of Shell scripting (variable scope, syntax)
* Basic understanding of common Unix tools like “tar”, “sed” and “netstat”
* Basic understanding of SAP tools like “spacar”

1. XML

* Basic understanding of XML files (syntax)
* Awareness of common nomenclature like “node” or “element”

1. Network

* Basic understanding of TCP/IP
* Basic understanding of HTTP and HTTPS protocol
* Basic understanding of SSL like certificate creation and validation chains

# General Description

## General Project Information

|  |  |
| --- | --- |
| General / System details | |
| Project Number | Vanilla Mobiliser Release 5.1 |
| Systems | Web Server, Application Server, Messaging Server, Database Server |
| Release Version |  |
| OS | Red Hat Enterprise Linux 6 |
| RDBMS | Oracle |

# Preperation task

## SAP software

### SAP Java

1. Download the latest SAPCAR package from the SAP Software Download Center website[[1]](#footnote-1). Please ensure that you download the latest file for the used platform. At the time of writing, the filename is **SAPCAR\_315-20010450.EXE** for Linux\_x86\_64. Don’t be confused about the file extension!
2. Download the latest SAPJVM  package from the SAP Software Download Center website1. Please ensure that you download the latest SAR for the used platform. At the time of writing, the filename is **SAPJVM6\_48-10006989.SAR** for Linux\_x86\_64.
3. Copy the SAPCAR binary to the server’s /usr/local/bin directory, rename it into “sapcar” (no file extension) and make it executable

### SAP Mobiliser Platform

1. Copy or download the latest “Sybase 365 Mobiliser Platform 5.1” package from the SAP Software Download Center website1 to the server’s /tmp directory. At the time of writing, the filename is **51044540.zip**.
2. In case you also need the Brand Mobiliser, copy or download the latest “Sybase Brand Mobiliser 1.3” package from the SAP Software Download Center website2 to the server’s /tmp directory. At the time of writing, the filename is **51044523.zip**.
3. In case you also need the SmartPhone Mobiliser, copy or download the latest “Sybase 365 SmartPhone Mobiliser 5.1” package from the SAP Software Download Center website1 to the server’s /tmp directory. At the time of writing, the filename is **51044541.zip**.

## Third Party Software

### Oracle JDBC Driver

Download the latest Oracle JDBC Driver for Java Version 6 (ojdbc6.jar).

Later you have to package a database provider specific OSGI bundle using “create\_jdbc\_bundle.sh” utility. The “create\_jdbc\_bundle.sh” utility can be found in the downloaded “Sybase 365 Mobiliser Platform 5.1” package located in “applications/oracle” sub directory. More details can be found in chapter 5.3.2.

### IBM DB2 JDBC Driver

Download the latest IBM DB2 JDBC Driver.

### Springsource

Download from Springsource website²:

* com.springsource.org.jgroups-2.2.8.jar
* com.springsource.javax.media.jai.codec-1.1.3.jar
* com.springsource.javax.media.jai.core-1.1.3.jar

# Installation process

## Database setup

After following the instructions of the **Site Preparation Document**, there is a database in place and you should have received hostname, port, SID, username and password for the same from a DBA.

### Preparation of DB Instance for first time usage

|  |  |  |  |
| --- | --- | --- | --- |
| Affected Servers | | | |
| Application Server | Messaging Server | Web Server | Database Server |
|  |  |  | X |

First of all, create the needed table spaces and data files needed for Mobiliser. The attached files are an example; you might have to **adjust table space data file locations and user definitions** according to the Site Preparation Document before executing it as system user.



The first script creates two table spaces; the second script creates two roles and two users. The first one is schema owner and the second one is used within the OSGi container to connect to the database and has restricted permissions for security reasons.

The database will be initialized in a later step. Reason for that is that no SQL scripts have to be executed directly on the database. The component *DbMaintain* is used for that. This is installed in section 5.3.2 DbMaintain configuration.

## Java installation

|  |  |  |  |
| --- | --- | --- | --- |
| Affected Servers | | | |
| Application Server | Messaging Server | Web Server | Database Server |
| X | X | X |  |

1. Copy the SAPJVM file to the server’s /tmp directory using user “sybase”.
2. Login to the server via SSH using user “sybase”.
3. Change directory to /opt/sybase/java.

cd /opt/sybase/java

1. Install the JDK by using “sapcar” as user “sap-mob”.

sudo -u sap-mob sapcar -xf /tmp/SAPJVM6\_48-10006989.SAR

1. Create a symbolic link “current” to the extracted package as user “sap-mob”.

sudo -u sap-mob ln -s sapjvm\_6 current

## Money Mobiliser OSGi Installation

|  |  |  |  |
| --- | --- | --- | --- |
| Affected Servers | | | |
| Application Server | Messaging Server | Web Server | Database Server |
| X |  |  |  |

### Basic installation

1. Login to the server via SSH using user “sybase”.
2. Change directory to /tmp.

cd /tmp

1. Create a new temporary directory e.g. “mobiliser-5.1” and change into the new created directory

mkdir mobiliser-5.1

cd mobiliser-5.1

1. Extract the zip file **51044540.zip**.

unzip /tmp/**51044540.zip**

1. Change permissions of the newly created sub folder “mobiliser” to enable read access for group members.

chmod -R g+rx mobiliser  
  
This folder contains at least the following folder structure: /docs

/money

/sql

/web

1. Copy Money Mobiliser application into the target folder as user “sap-money”.

sudo -u sap-money cp -r money/\* /opt/sybase/money/

1. Remove Windows-specific files as user “sap-money”.

sudo -u sap-money rm -f /opt/sybase/money/bin/\*.bat

1. Create symbolic link to logs directory for legacy support.

sudo -u sap-money ln -s /var/log/sybase/money /opt/sybase/money/logs

Copy com.springsource.org.jgroups-2.2.8.jar into the directory {MOBILISER\_HOME}/bundles/07-frameworks

Copy com.springsource.javax.media.jai.codec-1.1.3.jar and com.springsource.javax.media.jai.core-1.1.3.jar into the directory {MOBILISER\_HOME}/bundles/16-framework-reports

### DbMaintain

#### Configuration

To setup all needed DB objects for Mobiliser Release 5 and all further database updates as well, DbMaintain should be used. It house keeps executed statements by filling and checking a version table in the database and is used to add new preferences or notification templates into the system as well.

Edit *dbmaintain.properties* according to your environment. In most environments, only 5 parameters have to be adjusted. Most parameters are self-explanatory or explained via the comments of that file.

Adjust the following parameters accordingly:

database.url=jdbc:oracle:thin:@van-db-1:1521:PSYVAN  
database.userName=VAN\_MOBR5  
database.schemaNames=VAN\_MOBR5  
database.password=secret

#e.g. /path/to/ojdbc14.jar

database.driverLocation=/tmp/ojdbc6.jar

Instead of storing the password in this file, it’s possible to provide the password on command line when executing DbMaintain by -p parameter. It’s recommended not to store the password in the dbmaintain.properties file for security reasons.

As the SAP download not include any vendor specific DB driver you have to configure that first.

**Please set dbMaintainer.fromScratch.enabled=true only if you read the comments and you know what you are doing.**

#### Oracle

In the folder „applications/oracle/” of the extracted file 51044540.zip you find the needed to create the OSGI JDBC bundle as well as everything required for an initial setup the Oracle DB with all needed objects and data.

**Create the Oracle JDBC bundle**

* Copy the downloaded Oracle JDBC from chapter 4.2.1 to the directory „applications/oracle/” from the extracted 51044540.zip
* Create the OSGI JDBC bundle file

“./create\_jdbc\_bundle.sh oraclemanifest ojdbc6.jar”

* Copy and rename OSGI bundle:

“sudo –u sap-money cp bundle\_ojdbc6.jar ../../mobiliser/apps/mobiliser\_5.1.0.RELEASE/bundles/07-frameworks/oracle-jdbc-osgi\_11.2.0.3.0-1.0.1.jar” Please note that the new name indicates the version of the Oracle driver. At time of writing the document version 11.2.0.3 is the newest.

**Initial DB setup with DbMaintain**

To initialize the database, open a shell and change directory to the location „applications/oracle/”, in which you created the Oracle OSGI bundle the step before. Execute the following command and follow the instructions of DbMaintain application:

/opt/sybase/java/current/bin/java -jar sql/com.sybase365.mobiliser.vanilla.oracle-5.1.0.RELEASE-scriptarchive-oracle-driverless.jar -c /tmp/dbmaintain.properties –p secret

If you located the dbmaintain.properties somewhere else please just change the –c parameter to reflect the location.

Please note that -p parameter is optional and the command requires at least Java 1.6.

For more information about DbMaintain usage, check the integrated help using the following command:

java -jar com.sybase365.mobiliser.vanilla.oracle-5.1.0.RELEASE-scriptarchive-oracle-driverless.jar –h

#### IBM

In the folder sql of the extracted distribution file from section 5.3.1, you will find an artifact called **com.sybase365.mobiliser.vanilla.oracle-5.1.0.RELEASE-scriptarchive-oracle.jar**. This archive contains all DDL, DML and preferences necessary for initial installation. The second important file in this folder is **dbmaintain.properties**.

These two files can be copied to any system which has a Java Installation. The best destination is the workstation of the Systems Engineers who are responsible to maintain the Mobiliser installation.

**It’s possible, but discouraged to run DbMaintain on any server related to Mobiliser Release 5 installation.**

To initialize the database, open a shell and change directory to the location, you copied the two mentioned files. Execute the following command and follow the instructions of DbMaintain application:

java -jar com.sybase365.mobiliser.vanilla.oracle-5.1.0.RELEASE-scriptarchive-oracle.jar -c dbmaintain.properties -p secret

Please note that -p parameter is optional and the command requires at least Java 1.6.

For more information about DbMaintain usage, check the integrated help using the following command:

java -jar com.sybase365.mobiliser.vanilla.oracle-5.1.0.RELEASE-scriptarchive-oracle.jar –h

### Basic configuration

This section describes modification and configuration for a standard installation of Money Mobiliser. The OSGi container is based on Apache Felix.

#### setenv.sh

**File location:** /opt/sybase/money/bin/setenv.sh

The file setenv.sh controls the start parameters of OSGi. You have to adjust or append the following parameters in this file as user “sap-money”:

JAVA\_HOME="/opt/sybase/java/current"  
MOBILISER\_HOME="/opt/sybase/money"  
MOBILISER\_OUT="/var/log/sybase/money/felix.out"  
MOBILISER\_OPTS="$MOBILISER\_OPTS -DSAP-MOBILISER-R5"  
MOBILISER\_OPTS="$MOBILISER\_OPTS -Dmoney.bundle.path=/opt/sybase/money/bundles/"  
MOBILISER\_OPTS="$MOBILISER\_OPTS -Dlog4j.logfiles.path=/var/log/sybase/money/"  
MOBILISER\_OPTS="$MOBILISER\_OPTS -Dmoney.conf.path=/opt/sybase/money/conf"  
MOBILISER\_OPTS="$MOBILISER\_OPTS -Dmoney.reports.path=/opt/sybase/money/reports"  
MOBILISER\_PID="$MOBILISER\_HOME"/bin/mobiliser.pid

These settings can be placed anywhere within this file if it doesn’t break the syntax. For example, at the bottom of the file would work.

#### com.sybase365.mobiliser.framework.persistence.jdbc.bonecp.pool.properties

**File location:** /opt/sybase/money/conf/cfgbackup/com.sybase365.mobiliser.framework.persistence.jdbc.bonecp.pool.properties

In this configuration file, you can set the database connection parameters of Money Mobiliser. The following parameters have to be adjusted accordingly to your environment. These are similar to the settings in section 0.

|  |  |
| --- | --- |
| Key | Value |
| jdbcUrl | jdbc:oracle:thin:@van-db-1:1521:PSYVAN |
| username | a\_mobr5\_1 |
| password | {enc}Do/p2/KXu10LGXx8Z4l9dA== |
| maxConnectionsPerPartition | 100 |
| minConnectionsPerPartition | 10 |
| partitionCount | 2 |

To create an encrypted password, follow the instructions of the **Operations Manual** or section **7.1** below.

#### org.ops4j.pax.logging.properties

**File location:** /opt/sybase/money/conf/cfgbackup/org.ops4j.pax.logging.properties

This configuration file controls the Log4J settings of Money Mobiliser and the installed bundles.

Edit all lines with the following pattern (which is an hourly log rotation)

DatePattern='.'yyyy-MM-dd-HH

To the following (which is a daily log rotation)

DatePattern='.'yyyy-MM-dd

This can be achieved by running the following command as user “sap-money”, but make sure you understand what it does before you run it.

sed -i "s/DatePattern='.'yyyy-MM-dd-HH/DatePattern='.'yyyy-MM-dd/g" /opt/sybase/money/conf/cfgbackup/org.ops4j.pax.logging.properties

### Start / Stop procedure

For a full reference how to start and stop Money Mobiliser, refer to **Operations Guide**. The following commands can be used.

#### Start

1. Change to Money Mobiliser home directory

cd /opt/sybase/money

1. Start Money Mobiliser by invoking bin/startup.sh as user “sap-money”.

sudo -u sap-money bin/startup.sh

#### Stop

1. Change to Money Mobiliser home directory

cd /opt/sybase/money

1. Start Money Mobiliser by invoking bin/shutdown.sh as user “sap-money”.

sudo -u sap-money bin/shutdown.sh

#### Status

1. Change to Money Mobiliser home directory

cd /opt/sybase/money

1. Start Money Mobiliser by invoking bin/mobiliser.sh status as user “sap-money”.

sudo -u sap-money bin/mobiliser.sh status

## Brand Mobiliser OSGi Installation

|  |  |  |  |
| --- | --- | --- | --- |
| Affected Servers | | | |
| Application Server | Messaging Server | Web Server | Database Server |
|  | X |  |  |

### Basic installation

1. Copy (or download) current version of distribution file aims-brand-mobiliser-1.2.0.zip to server’s /tmp directory.
2. Login to the server via SSH using user “sybase”.
3. Change directory to /tmp.

cd /tmp

1. Extract distribution file “aims-brand-mobiliser-1.2.0.zip”.

unzip aims-brand-mobiliser-1.2.0.zip

1. Change permissions of newly created folder to enable read access for group members.

chmod -R g+r aims-brand-mobiliser-1.2.0  
  
This archive contains the following folder structure: /bin

/bundle

/conf

/license

/sql

/upload

1. Copy Money Mobiliser Application into to target folder.

sudo -u sap-brand cp -r aims-brand-mobiliser-1.2.0/\* /opt/sybase/brand/

1. Remove Windows-specific files.

sudo -u sap-brand rm -f /opt/sybase/brand/\*.bat

1. Remove sql directory as it’s not needed after database initialization.

sudo -u sap-brand rm -rf /opt/sybase/brand/sql

1. Change directory to /tmp/aims-brand-mobiliser-1.2.0/sql/oracle/**1.3**

cd aims-brand-mobiliser-1.2.0/sql/oracle/**1.3**

1. Copy **03-BrandMobiliser-Objects.sql** and **04-BrandMobiliser-Base-Data.sql** and only these to the database server (or your workstation) and execute them as user “VAN\_BM”.

**Please Note: Do not execute these scripts as system user!**

1. In order to connect as a non-privileged user, you should consider creating or updating the synonyms. Create synonyms of schema VAN\_BM to schema A\_VAN\_BM\_1. Please refer to **Operations Manual** or section 7.2 below.

### Basic configuration

This section describes modification and configuration for a standard installation of Brand Mobiliser. The OSGi container is based on Apache Felix.

#### run.sh

**File location:**

/run.sh

The file run.sh controls the start parameters of OSGi. You have to edit this file as user “sap-brand”. Add the following variable declaration after the JAVA\_HOME comment at the top of the file.

JAVA\_HOME="/opt/sybase/java/current"

#### config.properties

File location:

/opt/sybase/brand/conf/config.properties

This file contains global settings for Apache Felix container. Edit this file as user “sap-brand”. Remove org.osgi.service.http.port property or comment it out (using a hash (#) symbol).

#### service.dsprovider.properties

**File location:**

/opt/sybase/brand/conf/cfgbackup/service.dsprovider.properties

You control the database connection parameters of Brand Mobiliser in this configuration file. The following parameters have to be adjusted accordingly to your environment:

driverClassName=oracle.jdbc.driver.OracleDriver  
url=jdbc:oracle:thin:@van-db-1:1521:PSYVAN  
username=A\_VAN\_BM\_1  
password=secret

**Please note:**Encrypted passwords aren’t possible for Brand Mobiliser 1.2.0, but this is part of Release 1.3.0.

#### org.ops4j.pax.logging.properties

**File location:**

/opt/sybase/brand/conf/cfgbackup/org.ops4j.pax.logging.properties

This configuration file controls the Log4J settings of the Brand Mobiliser and the installed bundles.

Edit all lines with the following pattern (which is an hourly log rotation)

DatePattern='.'yyyy-MM-dd-HH

To the following (which is a daily log rotation)

DatePattern='.'yyyy-MM-dd

This can be achieved by running the following command as user “sap-money”, but make sure you understand what it does before you run it.

sed -i "s/DatePattern='.'yyyy-MM-dd-HH/DatePattern='.'yyyy-MM-dd/g" /opt/sybase/brand/conf/cfgbackup/org.ops4j.pax.logging.properties

#### service.mobiliser.plugin.properties

File location:

/opt/sybase/brand/conf/cfgbackup/service.mobiliser.plugin.properties

This file configures the Money Mobiliser Plugin of the Brand Mobiliser. The web services URL is configured there to connect Brand Mobiliser with Money Mobiliser.

Adjust the file accordingly to the environment. For now, only jaxbBaseUrl has to be adjusted.

jaxbBaseUrl=http://van-aps-t1:8080/mobiliser/services

If a layer 3 load balancer is available in front of the application layer and can be accessed from the application servers, use the virtual hostname instead.

The first five lines containing wsBaseUrl can be deleted or commented out using the hash (#) symbol. They are only necessary for Mobiliser Release 4.x setups.

Please refer to **Mobiliser Security Guide** for instructions to change jaxbServiceUser and jaxbServicePassword.

### Start / Stop procedure

For a full reference how to start and stop Brand Mobiliser, refer to **Operations Guide**. The following commands can be used.

#### Start

1. Change to Brand Mobiliser home directory

cd /opt/sybase/brand

1. Start Brand Mobiliser by invoking run.sh start as user “sap-brand”

sudo -u sap-brand ./run.sh start

#### Stop

1. Change to Brand Mobiliser home directory

cd /opt/sybase/brand

1. Stop Brand Mobiliser by invoking run.sh stop as user “sap-brand”

sudo -u sap-brand ./run.sh stop

#### Status

1. Change to Brand Mobiliser home directory

cd /opt/sybase/brand

1. Start Brand Mobiliser by invoking run.sh start status as user “sap-brand”

sudo -u sap-brand ./run.sh status

### Apache ActiveMQ

The communication between the SAP Brand Mobiliser and the channel component of the SAP Sybase Mobiliser Platform is implemented as a JavaMessagingService (JMS). In general the SAP Sybase Mobiliser Platform has included a lean JMS implementation. To have more useful feature especially in a Clustered environment it’s recommended to install and use the full Apache ActiveMQ server.

You can download the ActiveMQ Binary Distribution from the website <http://activemq.apache.org> – at time writing the document the actual version is 5.8.0.

Basic installation

1. Copy (or download) current version of the ActiveMQ Binary distribution file to server’s /tmp directory.
2. Login to the server via SSH using user “sybase”.
3. Change directory to /opt/sybase/activeMQ

cd /opt/sybase/activeMQ

1. Extract distribution file “”.

Linux only: sudo –u sap-jms tar -zxvf /tmp/apache-activemq-5.8.0-bin.tar.gz

Unix: gzip -d /tmp/apache-activemq-5.8.0-bin.tar.gz && sudo –u sap-jms tar -xvf /tmp/apache-activemq-5.8.0-bin.tar

1. Create soft link for extracted folder.

sudo –u sap-jms ln –s apache-activemq-5.8.0 current

1. Set JAVA\_HOME in the shellscript ./bin/activemq while change the following section in the file

# Location of the java installation

# Specify the location of your java installation using JAVA\_HOME, or specify the

# path to the "java" binary using JAVACMD

# (set JAVACMD to "auto" for automatic detection)

JAVA\_HOME="/opt/sybase/java/current"

#JAVACMD="auto"

Please visit the official Website <http://activemq.apache.org> for more information regarding additional configuration options.

### Start / Stop procedure

For a full reference how to operate the ActiveMQ, refer to the official Website <http://activemq.apache.org>. The following commands can be used.

#### Start

1. Change to activeMQ home directory

cd /opt/sybase/activeMQ/current

1. Start ActiveMQ by invoking activemq start as user “sap-jms”

sudo -u sap-jms ./activemq start

#### Stop

1. Change to activeMQ home directory

cd /opt/sybase/activeMQ/current

1. Stop ActiveMQ by invoking activemq stop as user “sap-jms”

sudo -u sap-jms ./activemq stop

#### Status

1. Change to activeMQ home directory

cd /opt/sybase/activeMQ/current

1. Status of ActiveMQ by invoking activemq status as user “sap-jms”

sudo -u sap-jms ./activemq status

## Internal Portal

|  |  |  |  |
| --- | --- | --- | --- |
| Affected Servers | | | |
| Application Server | Messaging Server | Web Server | Database Server |
| X |  |  |  |

### Basic installation

1. Copy (or download) current version of distribution fileError! Unknown document property name. to server’s /tmp directory.
2. Login to the server via SSH using user “sybase”.
3. Change directory to /tmp

cd /tmp

1. Extract distribution file “**Error! Unknown document property name.**”

unzip **Error! Unknown document property name.**

1. Change permissions of newly created folder to enable read access for group members and change into that directory.

chmod -R g+r **Error! Unknown document property name.**  
cd **Error! Unknown document property name.**  
  
This archive contains the following folder structure: /docs

/money

/sql

/web

1. Copy Money Mobiliser Application into to target folder as user “sap-portal”

sudo -u sap-portal cp -r web/\* /opt/sybase/portal/

1. Remove Windows-specific files as user “sap-portal”.

sudo -u sap-portal rm -f /opt/sybase/portal/bin/\*.bat

1. Create symbolic link to logs directory for legacy support.

sudo -u sap-portal ln -s /var/log/sybase/portal /opt/sybase/portal/log

### Basic configuration

This section describes modification and configuration for a standard installation of internal Mobiliser Portals. The portals are running in Apache Tomcat.

#### setenv.sh

**File location:**

/opt/sybase/portal/bin/setenv.sh

The file setenv.sh controls the start parameters of Tomcat. You have to adjust the following parameters in this file as user “sap-portal”:

JAVA\_HOME="/opt/sybase/java/current"  
CATALINA\_HOME="/opt/sybase/portal"  
CATALINA\_PID="${CATALINA\_HOME}/bin/catalina.pid"  
CATALINA\_OPTS="$CATALINA\_OPTS -Dlog4j.logfiles.path=/var/log/sybase/portal/"  
CATALINA\_OPTS="$CATALINA\_OPTS -DSAP-INTERNALPORTALS-R5"

These settings can be placed anywhere within this file if it doesn’t break the syntax. For example, at the bottom of the file would work.

Add the following to the end of the file; *if it doesn’t exist*. This will enable Log4J log mover on every portal startup.

## log mover  
if [ "$1" = "start" -o "$1" = "jpda" -a "$2" = "start" ]; then  
 if [ -r "$CATALINA\_HOME/logs/catalina.out" ]; then  
 DATE=$(date +%d-%m-%Y-%T)  
 C\_LOG="$CATALINA\_HOME"/logs/catalina.out  
 N\_LOG="$CATALINA\_HOME"/logs/catalina.out\_$DATE  
  
 echo "Backing up $C\_LOG to $N\_LOG first"  
  
 mv $C\_LOG $N\_LOG  
  
 echo "Removing work directory first"  
  
 rm -rf "$CATALINA\_HOME"/work/Catalina/  
 fi  
fi

#### web-ui\_log4j.xml

**File location:**

/opt/sybase/portal/conf/web-ui\_log4j.xml

This configuration file controls the Log4J settings of the Mobiliser Portal.

You might have to adjust the following parameters to activate the “daily rolling file appender” which rotates the portal log file every night.

Use below table as reference of what has to be changed. Please note, that the current setup might be slightly different.

|  |
| --- |
| OLD |
| <appender name="FILE" class="org.apache.log4j.FileAppender">  <param name="File" value="${log4j.logfiles.path}/web-ui.log" />  <layout class="org.apache.log4j.PatternLayout">  <param name="ConversionPattern" value="%d{ISO8601} [%t] %-5p %c:%L %x - %m%n" />  </layout> </appender> |

|  |
| --- |
| NEW |
| <appender name="FILE" class="org.apache.log4j.DailyRollingFileAppender">  <param name="File" value="${log4j.logfiles.path}/web-ui.log" />  <param name="Append" value="true" />  <param name="DatePattern" value="'.'yyyy-MM-dd" />  <layout class="org.apache.log4j.PatternLayout">  <param name="ConversionPattern" value="%d{ISO8601} [%t] %-5p %c:%L %x - %m%n" />  </layout> </appender> |

**File location:**

/opt/sybase/portal/conf/server.xml

This file controls general Apache Tomcat settings. You have to disable mobile web context, as it does not exist in this setup. Delete the following XML node to disable it.

<Context  
 docBase="mobileweb"  
 path="/mobileweb" />

Adjust the file to disable automatic deployments and automatic unpacking. The following shows the necessary settings.

<Host name="localhost" appBase="webapps"  
 unpackWARs="false" autoDeploy="false">

This will prevent an accidently deployment of .war files.

#### context.xml

**File location:**

/opt/sybase/portal/conf/context.xml

This configuration file is used to control Preferences Server connection settings which are used by the web applications. You have to update hostname and port to fit your environment.

If a layer 3 load balancer is available in front of the application layer and can be accessed from the application servers, use the virtual hostname instead.

Adjust prefs value in the configuration file accordingly.

prefs://mobiliser:secret@van-aps-1:8080/mobiliser/rest/prefs?pollInterval=60000&amp;clientType=json&amp;applicationIdentifier=presentationlayer

#### application-context.xml

**File location:**

/opt/sybase/portal/webapps/portal/WEB-INF/application-context.xml

This configuration file controls Mobiliser Portal specific settings and allows enabling or disabling any sub application like *CST* or *Dashboard*.

In general a package with these necessary configuration adjustments should be part of the customization. In case you have to adjust that manually you can do so by adjusting the following parameters depending on the environment.

This example shows how to disable the *Distributor Partner Portal* application.

1. Remove the **complete** bean XML element <bean id="distributorPartnerPortal"> or comment it out using <!-- and -->
2. Remove the ref XML element <ref bean="distributorPartnerPortal" /> or comment it out using <!-- and -->

### Start / Stop procedure

For a full reference how to start and stop internal Mobiliser Portals, refer to **Operations Guide**. The following commands can be used.

#### Start

1. Change to Mobiliser Portal home directory

cd /opt/sybase/portal

1. Start Mobiliser Portal by invoking bin/startup.sh as user “sap-portal”.

sudo -u sap-portal bin/startup.sh

#### Stop

1. Change to Mobiliser Portal home directory

cd /opt/sybase/portal

1. Start Mobiliser Portal by invoking bin/shutdown.sh as user “sap-portal”.

sudo -u sap-portal bin/shutdown.sh

#### Status

1. Change to Mobiliser Portal home directory

cd /opt/sybase/portal

1. Start Mobiliser Portal by invoking bin/catalina.sh status as user “sap-portal”.

sudo -u sap-portal bin/catalina.sh status

## External Portal

|  |  |  |  |
| --- | --- | --- | --- |
| Affected Servers | | | |
| Application Server | Messaging Server | Web Server | Database Server |
|  |  | X |  |

### Basic installation

1. Copy (or download) current version of distribution file Error! Unknown document property name.to server’s /tmp directory.
2. Login to the server via SSH using user “sybase”.
3. Change directory to /tmp.

cd /tmp

1. Extract distribution file “**Error! Unknown document property name.**”.

unzip **Error! Unknown document property name.**

1. Change permissions of newly created folder to enable read access for group members and change into that directory.

chmod -R g+r **Error! Unknown document property name.**  
cd **Error! Unknown document property name.**  
  
This archive contains at least the following folder structure: /docs

/money

/sql

/web

1. Copy Money Mobiliser application into to target folder.

sudo -u sap-portal cp -r web/\* /opt/sybase/portal/

1. Remove Windows-specific files.

sudo -u sap-portal rm -f /opt/sybase/portal/bin/\*.bat

1. Create symbolic link to logs directory for legacy support.

sudo -u sap-portal ln -s /var/log/sybase/portal /opt/sybase/portal/logs

### Basic configuration

This section describes modification and configuration for a standard installation of internal Mobiliser Portals. The portals are running in Apache Tomcat.

#### setenv.sh

**File location:**

/opt/sybase/portal/bin/setenv.sh

The file setenv.sh controls the start parameters of Tomcat. You have to adjust the following parameters in this file as user “sap-portal”:

JAVA\_HOME="/opt/sybase/java/current"  
CATALINA\_HOME="/opt/sybase/portal"  
CATALINA\_PID="${CATALINA\_HOME}/bin/catalina.pid"  
CATALINA\_OPTS="$CATALINA\_OPTS -Dlog4j.logfiles.path=/var/log/sybase/portal/"  
CATALINA\_OPTS="$CATALINA\_OPTS -DSAP-INTERNALPORTALS-R5"

These settings can be placed anywhere within this file if it doesn’t break the syntax. For example, at the bottom of the file would work.

Add the following to the end of the file; *if it doesn’t exist*. This will enable to Log4J log mover on every portal startup.

## log mover  
if [ "$1" = "start" -o "$1" = "jpda" -a "$2" = "start" ]; then  
 if [ -r "$CATALINA\_HOME/logs/catalina.out" ]; then  
 DATE=$(date +%d-%m-%Y-%T)  
 C\_LOG="$CATALINA\_HOME"/logs/catalina.out  
 N\_LOG="$CATALINA\_HOME"/logs/catalina.out\_$DATE  
  
 echo "Backing up $C\_LOG to $N\_LOG first"  
  
 mv $C\_LOG $N\_LOG  
  
 echo "Removing work directory first"  
  
 rm -rf "$CATALINA\_HOME"/work/Catalina/  
 fi  
fi

#### web-ui\_log4j.xml

File location:

/opt/sybase/portal/conf/web-ui\_log4j.xml

This configuration file controls the Log4J settings of Mobiliser Portal.

You might have to adjust the following parameters to activate the “daily rolling file appender” which rotates the portal log file every night.

Use below table as reference of what has to be changed. Please note, that the current setup might be slightly different.

|  |
| --- |
| OLD |
| <appender name="FILE" class="org.apache.log4j.FileAppender">  <param name="File" value="${log4j.logfiles.path}/web-ui.log" />  <layout class="org.apache.log4j.PatternLayout">  <param name="ConversionPattern" value="%d{ISO8601} [%t] %-5p %c:%L %x - %m%n" />  </layout> </appender> |

|  |
| --- |
| NEW |
| <appender name="FILE" class="org.apache.log4j.DailyRollingFileAppender">  <param name="File" value="${log4j.logfiles.path}/web-ui.log" />  <param name="Append" value="true" />  <param name="DatePattern" value="'.'yyyy-MM-dd" />  <layout class="org.apache.log4j.PatternLayout">  <param name="ConversionPattern" value="%d{ISO8601} [%t] %-5p %c:%L %x - %m%n" />  </layout> </appender> |

#### server.xml

**File location:**

/opt/sybase/portal/conf/server.xml

This file controls general Apache Tomcat settings. You have to disable mobile web context, as it does not exist in this setup. Delete the following XML node to disable it.

<Context  
 docBase="mobileweb"  
 path="/mobileweb" />

Adjust the file to disable automatic deployments and automatic unpacking. The following shows the necessary settings.

<Host name="localhost" appBase="webapps"  
 unpackWARs="false" autoDeploy="false">

This will prevent an accidently deployment of .war files.

#### context.xml

**File location:**

/opt/sybase/portal/conf/context.xml

This configuration file is used to control Preferences Server connection settings which are used by the web applications. You have to update hostname and port to fit your environment.

If a layer 3 load balancer is available in front of the application layer and can be accessed from the application servers, use the virtual hostname instead.

Adjust prefs value in the configuration file accordingly.

prefs://mobiliser:secret@van-aps-1:8080/mobiliser/rest/prefs?pollInterval=60000&amp;clientType=json&amp;applicationIdentifier=presentationlayer

#### application-context.xml

**File location:**

/opt/sybase/portal/webapps/portal/WEB-INF/application-context.xml

This configuration file controls Mobiliser Portal specific settings and allows enabling or disabling any sub application like *CST* or *Dashboard*.

In general a package with these necessary configuration adjustments should be part of the customization. In case you have to adjust that manual you can do so by adjusting the following parameters depending on the environment.

This example shows how to disable the Customer Support Tool (CST) application.

1. Remove the **complete** bean XML element <bean id="cst"> or comment it out using <!-- and -->
2. Remove the ref XML element <ref bean="cst" /> or comment it out using <!-- and -->

#### trackers-context.xml

**File location:**

/opt/sybase/portal/webapps/WEB-INF/portal/trackers-context.xml

This configuration file controls Mobiliser Portal Tracker specific settings and allows enabling or disabling trackers functionality.

In general a package with these necessary configuration adjustments should be part of the customization. In case you have to adjust that manually you can do so by adjusting the following parameters depending on the environment.

This example shows how to disable the trackers for security reasons.

1. Remove the complete content or comment it out using <!-- and --> between the line  
   <!-- DASHBOARD TRACKERS -->  
   and the line  
   <!-- DASHBOARD TRACKERS DAO -->
2. For <bean id="trackersDao"> element, remove any sub-element of <util:list> or comment it out using <!-- and -->. These sub-elements are of the form <ref local="*reference*"/>.  
   **Please make sure that start and end tag of <util:list> is not removed.**

Instead of these steps, it’s possible to run the following sed command as user “sap-portal”.

sudo -u sap-portal sed -i \  
 -e '/<!-- DASHBOARD TRACKERS -->/,/<!-- DASHBOARD TRACKERS DAO -->/ s/^.\*//' \  
 -e '/<property name="trackers">/,/<\/util:list>/ s/<ref local=".\*"\/>//' \  
 -e '/^$/d' \  
 /opt/sybase/portal/webapps/WEB-INF/trackers-context.xml

Please note that this is one command, split over more than one line using \*newline*.

### Start / Stop procedure

For a full reference how to start and stop external Mobiliser Portals, refer to **Operations Guide**. Refer to section **5.5.3** above as the instructions are the same.

## Apache HTTPD

|  |  |  |  |
| --- | --- | --- | --- |
| Affected Servers | | | |
| Application Server | Messaging Server | Web Server | Database Server |
|  |  | X |  |

### Basic installation

1. Copy (or download) current version of HTTPD configuration base file to server’s /tmp directory.
2. Login to the server via SSH using user “sybase”.
3. Change directory to /opt/sybase/httpd.

cd /opt/sybase/httpd

1. Create bin directory and copy system’s apachectl into it.

sudo -u sap-httpd mkdir bin  
sudo -u sap-httpd cp /usr/sbin/apachectl bin/

1. Modify apachectl as user “sap-httpd”. Add the following line after the line containing

**HTTPD='/usr/sbin/httpd':**  
OPTIONS='-d /opt/sybase/httpd -e debug -E /var/log/sybase/httpd/startup.log'

1. Create symbolic links to log and system’s modules directory.

sudo -u sap-httpd ln -s /var/log/sybase/httpd logs  
sudo -u sap-httpd ln -s /usr/lib64/httpd/modules modules

1. Create modules configuration based on currently installed Apache HTTPD modules on the system and store it in /tmp directory**. Please note that this is one command over more than one line.**

grep -h 'LoadModule' /etc/httpd/conf/httpd.conf /etc/httpd/conf.d/\*.conf | grep -Ev '^# |^$' | sed 's/^LoadModule/#LoadModule/g' | uniq > /tmp/modules.conf

1. Copy created modules.conf to configuration directory.

sudo -u sap-httpd cp /tmp/modules.conf conf/modules.conf

1. Extract HTTPD configuration base “”.

sudo -u sap-httpd tar xvf /tmp/httpd-configuration-base-rhel6-RC01.tar

### Basic configuration

This section describes modification and configuration for of Apache HTTPD. The system’s Apache HTTPD is used, but started and operated as non-privileged user “sap-httpd”. This allows a parallel usage of Apache HTTPD which is configured in system’s /etc directory and benefits from operating system upgrades.

#### modules.conf

**File location:**

/opt/sybase/httpd/conf/modules.conf

The file modules.conf controls the modules that are loaded into Apache HTTPD server. This file has been created from current operating system’s modules installation status. **Step 7** of **5.7.1** above **has to be repeated if new modules have been installed or some modules have been removed.**

Enable at least the following modules by removing the hash (#) at the start of the line.

* authz\_host\_module
* log\_config\_module
* logio\_module
* setenvif\_module
* mime\_module
* status\_module
* info\_module
* rewrite\_module
* proxy\_module
* proxy\_balancer\_module
* proxy\_http\_module
* proxy\_connect\_module
* ssl\_module

Refer to official **Apache Documentation** for more information about these plugins.

#### money-mobiliser.conf

**File location:**

/opt/sybase/httpd/conf/components/money-mobiliser.conf

This file has to be created and contains Money Mobiliser specific settings. This file can be adjusted to current environment and can be referenced via various virtual host configuration files.

Create a new file /opt/sybase/httpd/conf/components/money-mobiliser.conf with the following contents:

ProxyPass /smartphone http://van-aps-1:8080/mobiliser/smartphone   
ProxyPassReverse /smartphone http://van-aps-1:8080/mobiliser/smartphone  
  
<Location /smartphone>  
 Order deny,allow  
 Deny from all  
 Allow from all  
</Location>

This enables the Smartphone Mobiliser endpoint used by Smartphone Mobiliser. There may be other endpoints to be enabled here depending on the current environment.

If the environment contains a layer 3 load balancer, this hostname or IP address has to be used instead. If there is software load balancing, this is a good place to refer to configure this. Refer to **Mobiliser 5 Installation Guide Load Balancer** for more information.

#### brand-mobiliser.conf

**File location:**

/opt/sybase/httpd/conf/components/brand-mobiliser.conf

This file has to be created and contains Brand Mobiliser specific settings. This file can be adjusted to the current environment and can be referenced via various virtual host configuration files.

Create a new file /opt/sybase/httpd/conf/components/brand-mobiliser.conf with the following contents:

ProxyPass /brand http://van-msg-1:8081/brand  
  
<Location /brand>  
 Order deny,allow  
 Deny from all  
 Allow from all  
</Location>

If the environment contains a layer 3 load balancer, this hostname or IP address has to be used instead. If there is software load balancing, this is a good place to refer to configure this. Refer to **Mobiliser 5 Installation Guide Load Balancer** for more information.

#### mobiliser-portals-internal.conf

**File location:**

/opt/sybase/httpd/conf/components/mobiliser-portals-internal.conf

This file has to be created and contains Mobiliser Portals specific settings. This file can be adjusted to current environment and can be referenced via various virtual host configuration files.

Create a new file /opt/sybase/httpd/conf/components/mobiliser-portals-internal.conf with the following contents:

ProxyPass /portal http://van-aps-1:8082/portal   
  
<Location /internal>  
 Order deny,allow  
 Deny from all  
 Allow from *all*  
</Location>

This enables internal portals for any address. **This should be adjusted to the current environment** as the internal portals should only be accessible for a restricted group (like employees).

If the environment contains a layer 3 load balancer, this hostname or IP address has to be used instead. If there is software load balancing, this is a good place to refer to configure this.

#### mobiliser-portals-external.conf

**File location:**

/opt/sybase/httpd/conf/components/mobiliser-portals-external.conf

This file has to be created and contains Mobiliser Portals specific settings. This file can be adjusted to current environment and can be referenced via various virtual host configuration files.

Create a new file /opt/sybase/httpd/conf/components/mobiliser-portals-external.conf with the following contents:

ProxyPass /portal http://van-ws-1:8082/portal   
  
<Location /external>  
 Order deny,allow  
 Deny from all  
 Allow from all   
</Location>

This enables external portals for any address. This is okay as this only includes Consumer applications which are intended to be used by everyone.

If the environment contains a layer 3 load balancer, this hostname or IP address has to be used instead. If there is software load balancing, this is a good place to refer to configure this.

#### port-1080.conf

**File location:**

/opt/sybase/httpd/conf/port-1080.conf

This file contains any configuration for Apache HTTPD virtual host running on port 1080. Files similar to this can simply be created to enable additional ports and/or virtual hosts. Every file matching the pattern port-*\**.conf in this directory is taken into account on next configuration reload.

In this particular, all applications are enabled. This should be adjusted to the current environment if there is, for instance, more than one virtual host.

Create a new file /opt/sybase/httpd/conf/port-1080.conf with the following contents:

Listen 1080  
<VirtualHost \*:1080>  
 ErrorLog logs/error-1080.log  
 CustomLog logs/access-1080.log combined  
  
 Include conf/components/rewrite-rules.conf  
 Include conf/components/browser-setting.conf  
  
 Include conf/components/money-mobiliser.conf  
 Include conf/components/brand-mobiliser.conf  
 Include conf/components/mobiliser-portals-internal.conf  
 Include conf/components/mobiliser-portals-external.conf  
  
 Include conf/components/status-info.conf  
</VirtualHost>

Refer to Offical Apache Documentation for full information about configuration of virtual hosts.

* **rewrite-rules.conf** – contains basic HTTP rewrite rules for security reasons
* **browser-settings.conf –** contains some sanity adjustments for special browser support
* **money-mobiliser.conf** – enables Money Mobiliser Smartphone web services for this virtual host
* **brand-mobiliser.conf** – enables Brand Mobiliser for this virtual host
* **mobiliser-portals-internal.conf** – enables internal Mobiliser Portals for this virtual host
* **mobiliser-portals-external.conf** – enables external Mobiliser Portals for this virtual host
* **status-info.conf** – enables /-status and /-info URLs which are useful for monitoring of Apache HTTPD server. Access to that should be restricted.

Includes can be mixed and repeated in several virtual hosts. It’s an easy way to enable or disable application access from the webserver.

### Start / Stop procedure

For a full reference how to start and stop Apache HTTPD server, refer to **Operations Guide**. The following commands can be used.

#### Start

1. Change to Apache HTTPD home directory

cd /opt/sybase/httpd

1. Start Apache HTTPD by invoking bin/apachectl start as user “sap-httpd”.

sudo -u sap-httpd bin/apachectl start

#### Stop

1. Change to Apache HTTPD home directory

cd /opt/sybase/httpd

1. Stop Apache HTTPD by invoking bin/apachectl stop as user “sap-httpd”.

sudo -u sap-httpd bin/apachectl stop

#### Reload configuration

1. Change to Apache HTTPD home directory

cd /opt/sybase/httpd

1. Reload Apache HTTPD configuration by invoking bin/apachectl graceful as user “sap-httpd”.

sudo -u sap-httpd bin/apachectl graceful

#### Status

1. Change to Apache HTTPD home directory

cd /opt/sybase/httpd

1. Stop Apache HTTPD by invoking bin/apachectl status as user “sap-httpd”.

sudo -u sap-httpd bin/apachectl status

# Next steps

* For HTTPS connectivity between the Mobiliser Components follow the instructions of **Mobiliser 5 Installation Guide Keystores**.
* For Load Balancing configuration follow the instructions of **Mobiliser 5 Installation Guide Load Balancer**.

# Appendices

## Database password encryption

The following instructions can be done on any workstation which has Java installed. The JAR used for DB password encryption is named **com.sybase365.mobiliser.vanilla.cli-tools-5.1.0.RELEASE-CLIEncrypterClient.jar** and can be found in the $MOBILISER\_HOME/tools folder.

The purpose of the password encryption tool is to secure passwords that are present in Mobiliser configuration files.

### Password Encryption Instructions

Navigate to $MOBILISER\_HOME/tools directory. The JAR **com.sybase365.mobiliser.vanilla.cli-tools-5.1.0.RELEASE-CLIEncrypterClient.jar** is what will be used to create the encrypted password. The JAR requires two variables to execute successfully:

* ***Decryption Key*** *–* This value is the key that Mobiliser uses to decrypt any password that is in Base64 format. The decryption key can be changed by an administrator and is located in the file /opt/sybase/money/conf/system.properties; the default decryption key is “sybase365”.
* ***Password Value*** – This value is the password in plain text that you would like to have be hashed and converted into Base64 format.

**Usage:**$JAVA\_HOME/bin/java –jar com.sybase365.mobiliser.vanilla.cli-tools-5.1.0.RELEASE-CLIEncrypterClient.jar <decryption key> <password value>

**Example:**  
$JAVA\_HOME/bin/java –jar com.sybase365.mobiliser.vanilla.cli-tools-5.1.0.RELEASE-CLIEncrypterClient.jar sybase365 secret  
Encrypted and base64 encoded: SHKmaY8EHShYtPqqVtA+52VR+EvfeUwpNXeek3dbdZ8=

Once the JAR has been executed successfully a Base64 encrypted version of your password will be returned to you. **Please note that the result is salted and therefore differs for each run of the script**.

In order to use this newly encrypted password within a configuration file it must be entered in the following way:

**Format:**

{enc}<BASE64 encoded value>

**Example:**

{enc}SHKmaY8EHShYtPqqVtA+52VR+EvfeUwpNXeek3dbdZ8=

## Synonym creation

TBD…

/\* Formatted on 22.05.2012 13:32:22 (QP5 v5.139.911.3011) \*/

SELECT DISTINCT

'CREATE SYNONYM A\_MOBR5.'

|| object\_name

|| ' FOR '

|| owner

|| '.'

|| object\_name

|| ';'

FROM dba\_objects

WHERE owner = 'VAN\_MOBR5'

AND object\_type IN

('PROCEDURE',

'TABLE',

'VIEW',

'SEQUENCE',

'PACKAGE',

'MATERIALIZED VIEW',

'FUNCTION');

/\* Formatted on 22.05.2012 13:32:22 (QP5 v5.139.911.3011) \*/

SELECT DISTINCT

'GRANT SELECT,INSERT,UPDATE,DELETE ON '

|| owner

|| '.'

|| object\_name

|| ' TO '

|| 'A\_VAN\_BM\_1'

|| ';'

FROM dba\_objects

WHERE owner = 'VAN\_BM'

AND object\_type IN

('TABLE'

);

/\* Formatted on 22.05.2012 13:32:22 (QP5 v5.139.911.3011) \*/

SELECT DISTINCT

'GRANT EXECUTE ON '

|| owner

|| '.'

|| object\_name

|| ' TO '

|| 'A\_VAN\_BM\_1'

|| ';'

FROM dba\_objects

WHERE owner = 'VAN\_BM'

AND object\_type IN

('PROCEDURE',

'PACKAGE',

'MATERIALIZED VIEW',

'FUNCTION');

/\* Formatted on 22.05.2012 13:32:22 (QP5 v5.139.911.3011) \*/

SELECT DISTINCT

'GRANT SELECT ON '

|| owner

|| '.'

|| object\_name

|| ' TO '

|| 'A\_VAN\_BM\_1'

|| ';'

FROM dba\_objects

WHERE owner = 'VAN\_BM'

AND object\_type IN

('SEQUENCE');

1. <http://service.sap.com/support>

   ² <http://ebr.springsource.com/repository/app/bundle> [↑](#footnote-ref-1)