

Unica Director V12.1.0.4 Installation Guide



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Chapter 1. Installation overview

Unica Director helps you monitor the Unica Campaign application health, monitor flowcharts, perform clean up operations, migration of campaigns, sessions, flowcharts from one environment to another environment and so on. Unica Director can be installed as a standalone application. Unica Director comes with two modules:

- Unica Director - Server and
- Unica Director - Agent

You must set up a single instance of Unica Director server instance. This will act as the Unica Director application. Unica Director Agent should be installed on all the machines where Unica Campaign applications are deployed or installed. For example - If you have Campaign web and Campaign Listener installed on same machines, you will need to have Director agent application installed. If you have distributed environment where Unica Campaign web app is deployed on one machine and Unica Campaign Listener machines on another machine - then you will need to install Director agent on both machines running Campaign web and listener components.

With 12.1.0.4 release we are supporting Journey application, If user is using Journey application then they can use the same director server application. Director agent needs to be installed on the machines running Journey components like Journey Web, Journey engine, Journey Kafka/Zookeeper components. If all these components are deployed on different machines multiple Director agent installations needed.

Supported Unica Campaign version

Unica Director is compatible with Unica Campaign v11.1 onwards. It is not compatible with older versions of Unica Campaign.

Chapter 2. Prerequisites

The following pre-requisites must be fulfilled before you begin the Unica Director installation:

1. Apache ActiveMQ -5.15.7 is configured in the customer environment. Unica Director does not bundle or provide Apache ActiveMQ. You must download, install and configure it. Before beginning the Unica Director installation you should have the ActiveMQ - Broker URL, port and credentials. You are required to provide this information while installing Unica Director.
2. You should install the Unica Director agent on the Unica Campaign systems (Web application and listener machines) - You must have the required information or access to install Unica Director on these machines. Example - Operating system details like - hostname, login details, installation location and so on.
3. Please identify ports that could be used for Server component and Agent components. These ports should not be in use by any other service or application on the machine.
4. Add Unica Campaign Listener Hostname in application:

 **Note:** The Listener Hostname cannot be an IP address.

1. Log in to Unica.
2. Navigate to **Settings ->Configuration**.
3. Navigate to **Campaign ->unicaACLlistener**.
4. Update the ServerHost to Hostname.

Add the following Active MQ Setting for Unica Campaign:

1. Go to Settings -> Configuration.
2. Go to FlowchartEvents . set "enableEvents" to yes.
3. Go to FlowchartEvents-> ActiveMQ . Fil in all ActiveMQ details.

For example:

url	tcp:// zebra39.nonprod.hclpnp.com:61616
Unica Platform User with Data Sources for ActiveMQ Credentials	asm_Admin
Data Source For ActiveMQ message broker credentials	ACTIVEMQ_CRED_DS
queueName	flowchartInfo-campaign_rb

4. Go to Setting -> Users -> Select respective User -> Edit data sources -> Add New.

For example:

Data source	ACTIVEMQ_CRED_DS
Data source login	admin
Data source password	admin
Confirm password	admin


5. Assign all the data sources to the Unica Platform user who is logged on to the Director server. He can only then be able to perform a Test connection of Data sources within the Unica Director.
6. Install Unica Director Agent with the same user using which Unica Campaign Listener or Unica Campaign application was installed, so that it will have access to all the Unica Campaign directories to access logs or start / stop / restart campaign listener.
7. A separate database schema/user are required to create and maintain system tables for Director. This database schema/user can be used once as the same as Unica Campaign/Unica Platform product but it can be a separate one.
8. Applicable only to the Windows OS - The Unica Director - Agent system (on the computer where the Unica Campaign Listener is installed):

Please make sure that the following performance counters are available. You can check this by launching the Performance Monitor:

- Processor Time

- Working Set

These counters help the Unica Director - Agent application to gather the statistics of the Unica Campaign listener or server processes on memory and CPU utilization.

 **Note:** If the performance counters are not available, open the command prompt as an administrator on the target server and enter the following commands to rebuild the performance counters. Otherwise you will not be able to see the data in the System Usage Graph on the Windows Operating System.

- For 32 bit machine:

- `cd %windir%\system32\`
- `lodctr /R`

- For 64 bit machine:

- `cd C:\Windows\SysWOW64\`
- `lodctr /R`

Chapter 3. Installing Unica Director

Unica Director can be installed on Operating Systems supported / compatible with the Unica Campaign application. Unica Director can be installed in GUI / console mode, it does not support silent mode installation.

You can run the Unica Director installer as below:

Windows:

```
run HCL_Unica_Director_12.0.0.0_win.exe
```

RHEL Linux / SUSE / AIX:

Run

```
./HCL_Unica_Director_12.0.0.0_<os>.bin
```

You will be prompted for interactive inputs to proceed with the installation.

Server and Agent Install	Choose the locale	Specify the locale you would want to use
Server and Agent Install	Specify the Installation Directory	This is the directory location where Unica Director selected components will be installed
Server and Agent Install	Select the Components to Install	You can select Director Server or Agent components to be installed. You can install any or both components on the same machine
Server Install	Database Setup	You can select Database setup option - Automatic Database Setup / Manual Database Setup
Server Install	Database Setup -	Type of Database - Unica Director Server can be installed with the following three types of databases: 1. IBM DB2

		<ol style="list-style-type: none"> 2. Oracle 3. MS SQL Server
Server Install	Database Details	Database Hostname Database Port Database Name or SID Database User Name Database Password
Server Install	JDBC Connection	JDBC Connection string will be shown to user
Server Install	Active MQ Server details	You are required to specify Active MQ Server details such as <ol style="list-style-type: none"> 1. Active MQ Broker URL 2. Active MQ User ID 3. Active MQ Password
Server Install	Server Port Numer	This port number will be used to access the Unica Director application
Agent Install	Agent Port Number	This port number will be used to communicate Unica Director Server to agent


After the installation is complete, you can see the installation log under the installation directory with name Director_Install_MM_DD_YYYY_HH_MM_SS.

Datasource and ActiveMQ passwords: The Datasource and ActiveMQ passwords should be in an encrypted format in the Application.properties file and they should work correctly.**Note:** If the database or Active MQ passwords have expired or have changed then:

1. You must go to the \$INSTALLATION_PATH/Server/tools/bin path.
2. Run the encrypt.sh utility with the password to encrypt the password.
3. You must replace this encrypted password in application.properties file.

For example: \$INSTALLATION_PATH/Server/tools/bin/encrypt.bat -p <password to encrypt>

<Install_Path>/Server/Downloads Web logs and Server logs will be downloaded to this location. For example: Flowchart logs, Campaign web logs, Listener logs, and so on.

 **Note:** Server port number and agent port number are the port numbers used by Unica Director server and agent respectively and are not those that are used by Unica Platform or Unica Campaign application or by the web application server. Also please ensure that these port numbers should not have been already used by other applications running on that machine and should be accessible throughout the network.

Chapter 4. Manual Database Setup

In case of manual DB selection, the Director Server Installer will not ask for DB details and will not run DB scripts. You have to run the DB scripts (<DirectorHome>\Server\tools\DDL) manually and update the DB details in the <Install_Path_Director_Server>/Server/application.properties file.

config to update in application.properties

The following config should be updated in application.properties in case of Manual database setup: #DB details
spring.datasource.url=<jdbc url>
spring.datasource.username=<db username>
spring.datasource.password=<db password>
spring.datasource.driverClassName=<Database Driver>
#Hibernate
spring.jpa.hibernate.dialect= <Dialect>

Example:

```
spring.datasource.url=jdbc:db2://zebra682.nonprod.hclpnp.com:50001/testdb4
spring.datasource.username=uc684
spring.datasource.password=ENC(7iWciyBkHv0IfDP6PiftwLgqXu5P8DTs)
spring.datasource.driverClassName=com.ibm.db2.jcc.DB2Driver
spring.jpa.hibernate.dialect=org.hibernate.dialect.DB2Dialect
```

Encrypting database and Active MQ passwords

1. Go to \$INSTALLATION_PATH/Server/tools/bin.
2. Run the encrypt.sh utility with the given password to encrypt the password's value.
3. Replace that encrypted value of the password in the application.properties file manually.

For example: \$INSTALLATION_PATH/Server/tools/bin/encrypt.bat -p <password to encrypt>

Chapter 5. Configuring Unica Director

Change in ActiveMQ configuration

After Unica Director server installation you might need to change the ActiveMQ configuration. You can do this by modifying the ActiveMQ configuration in the <Unica Director Install Path> /Server/application.properties

```
spring.activemq.broker-url=ACTIVE_MQ_BROKER_URL
```

```
spring.activemq.user=ACTIVE_MQ_USER
```


```
spring.activemq.password=ACTIVE_MQ_USER_PASSWORD
```

Listener resource consumption data

By default, the Unica Director server maintains listener CPU and Memory consumption data of the last 7 days. If you require more data than this, it can be done by updating the < Unica Director Install Path> /Server/application.properties

```
set parameter addon.listener.profile.data.days=<number of days>
```

This will retain the data for the specified number of days in the ao_listener_rc table but the graph will show data for the last 7 days (beginning today) only.

 **Note:** Setting a higher value for days to retain data can cause delay in the update to the System Usage chart.

Cache Mechanism to Improve Performance

When the first time Dashboard page is open, and every time the user navigates to and from between Dashboard and Clean up page, an Add On Server call is made to get the 'Orphan temp tables and files' count. This in turn makes a call to the respective Add On Agent. Add On Agent then spawns a utility to run as a separate process to get the table and file count. This might take upto a few minutes in case the data is substantial on that agent. This is a CPU intensive process. The Add On agent thread and Add On Server thread waits till the utility run is complete to get the file count result. This causes over utilization of threads on

server as well as agent and the server can run out of threads in case multiple such requests. We have added a caching mechanism to overcome this issue and the file count will be cached for a configured amount of time and will avoid too many process to be spawned. We have added following two properties in the application.properties of Add On Agent.

```
cache.evict.time.interval.in.minutes=10
```

This signifies the max age of the value cached, after which it will be marked stale, and new unica_acclean process will be triggered whenever a new request for the getting the file count comes in. On an average this time should be set to 5-10 times of 'avg.utility.run.duration.in.seconds'.

```
avg.utility.run.duration.in.seconds=120
```

This signifies the wait duration for subsequent requests for getting file count when one unica_acclean process is already in progress. This should be set based on average time of the process run time, but at the same time it should not be more than 2 mins as it will keep the threads blocked.

Chapter 6. Configure Unica Director to connect to Campaign deployed on Apache Tomcat

If Unica Campaign is deployed on Tomcat Web Server, please follow below steps to start / stop or get status of Unica Campaign deployment in Tomcat from HCL Unica Director:

Prerequisites:

1. Configure <TomcatDirectory>/conf/jmxremote.access and jmxremote.password file . Please contact your Tomcat administrator for details .

jmxremote.access: It should provide the access roles for the Tomcat users. User- you should have been provided with access required to get the status like - readonly and readwrite.

Example: Contents of jmxremote.access:

```
monitorRole readonly
```

```
controlRole readwrite
```

```
tomcat readwrite
```

Note : Please ensure you give readwrite permission for controlRole and tomcat

jmxremote.password: It should provide the username and password for the Tomcat user, this file should restrict access to other users other than the user who runs the Director agent.

Example: Contents of jmxremote.password

```
monitorRole tomcat
```

```
controlRole tomcat
```

```
tomcat unica*03
```

2. Add JMXremote configuration(JMX remote access ,JMX password file and JMX port), JVM argument and JVM Heap size as per the system load and configuration for Unica Campaign application. Please make sure JMXremote port should not conflict with any other application port. Please contact your Tomcat Administrator for details .

```
CATALINA_OPTS=-Dcom.sun.management.jmxremote -
Dcom.sun.management.jmxremote.port=<JMX_PORT>
-Dcom.sun.management.jmxremote.ssl=false -
Dcom.sun.management.jmxremote.authenticate=true -
Dcom.sun.management.jmxremote.password.file=../conf/jmxremote.password
-Dcom.sun.management.jmxremote.access.file=../conf/jmxremote.access
-Dcom.sun.management.jmxremote.rmi.port=<JMXremote_PORT> -
Djava.rmi.server.hostname=<HOST_NAME>
```

Here is Sample example which needs to be added in <TomcatDirectory>/bin/setenv.sh

```
set "CATALINA_OPTS=%CATALINA_OPTS% -Xms2560m -Xmx2560m
-XX:MaxPermSize=512m -Dcom.sun.management.jmxremote -
Dcom.sun.management.jmxremote.port=<JMXremote_PORT> -
Dcom.sun.management.jmxremote.ssl=false -
Dcom.sun.management.jmxremote.authenticate=true -
Dcom.sun.management.jmxremote.password.file=$TOMCAT_HOME/conf/
jmxremote.password -Dcom.sun.management.jmxremote.access.file=$TOMCAT_HOME/
conf/jmxremote.access -Dcom.sun.management.jmxremote.rmi.port=<JMXremote_PORT>
-Djava.rmi.server.hostname=<HOST_NAME>"
```

```
set "JAVA_OPTS=%JAVA_OPTS% -DUNICA_PLATFORM_CACHE_ENABLED=true -
Dclient.encoding.override=UTF-8 -Dcom.sun.management.jmxremote
```

Note : If you don't want to use Autentication for Tomcat Webserver then you have to set JMX remote authenticate option value as false.

E.g : -Dcom.sun.management.jmxremote.authenticate=false

3. Please replace "localhost" with fully qualified hostname (eg. camel09.nonprod.hclpnp.com) in server.xml in following places :

E.g:

a) <Host name="camel09.nonprod.hclpnp.com" appBase="webapps" unpackWARs="true" autoDeploy="true">

b) <Engine name="Catalina" defaultHost="camel09.nonprod.hclpnp.com">

4. Create a directory with fully qualified host name under \$TOMCAT_HOME/conf/Catalina/ . Copy campaign.xml from \$TOMCAT_HOME/conf/Catalina/localhost/ to \$TOMCAT_HOME/conf/Catalina/<fully_qualified_host_name>/campaign.xml

E.g:

\$TOMCAT_HOME/conf/Catalina/camel09.nonprod.hclpnp.com/Campaign.xml

5. Restart the Tomcat web application server so your changes take effect.

Configuring Tomcat WebServer in HCL Unica Director:

1. In the Environment Page of Unica Director Configure Web Server as Tomcat by providing full Qualified host name , applicaiton name ,agent port , Campaign Home and Web Server details which inclues Server Type and JMX port . Below is an example:

E.g :

*SERVER HOST - Fully qualified name with domain E.g : camel09.nonprod.hclpnp.com

*DEPLOYED APPLICATION NAME - Campaign

*AGENT PORT - 1112

*AGENT ON HTTPS - False

*CAMPAIGN HOME - C:\HCL\MarketingSoftware11\Campaign

--*WEB SERVER DETAILS

*Server type - Tomcat

*Tomcat JMX Port - 9080

2. Go to Health Check ->Application Deployment. You can now get the Status of the Unica Campaign Application / start or stop Unica Campaign Application deployed on the Tomcat Server.

Note: Starting / stopping Unica Campaign Application status can be checked in the Job queue.

Status will be shown in Application Deployment with a Green(Running) or Red icon (Stopped) with TimeStamp.

Chapter 7. Configuring Unica Director for SSL

Perform the following steps to configure SSL for Unica Director Server and Agent:

Prerequisites:

1. The Unica Campaign and Unica Platform application should SSL enabled too.
2. In Unica Platform, Go to HCL Unica Platform |Security |API management|Unica Platform. The path (Affinium|suite|security|apiSecurity|manager) appears only when we click above.

Configure SSL for Unica Director Server by performing the following steps:

Prerequisite:

Copy certificate files (.cer / .jks) used for Unica Platform to the machine where Unica Director server will be running. For example - PlatformClientIdentity.jks and PlatformClientSecurityCert.cer used to configure Unica Platform / Unica Campaign SSL environment.

1. Navigate to <HCL_Unica_DIRECTOR_SERVER_HOME>\Agent and open the Agent jar. Once you open Agent jar then please update below parameter in application.properties file.

For agent component , application. properties is available inside

<HCL_Unica_DIRECTOR_SERVER_HOME>\add-on_Agent-11.1.0.0.jar\BOOT-INF\classes.

For Windows - To update the jar, user can use 7-zip or any other tool to open the jar file and change only in one file : application.properties and then user can run updated jar file successfully.

For Linux/SUSE - To update the jar, **run > vim add-on_Agent-11.1.0.0.jar** command inside <HCL_Unica_DIRECTOR_SERVER_HOME>\Agent on the terminal , select BOOT-INF/classes/application.properties path and change only in one file : application.properties and save the file. Exit the vi editor once saved. User can run the updated jar file successfully

Un-comment all below :

```
server.ssl.key-alias=PlatformClientIdentity #this should same alias as of PlatformClientIdentity.jks
```

```
server.ssl.key-password=unica*03 #this should be same password used to create PlatformClientIdentity.jks
```

```
server.ssl.key-store=C:\\PROGRA~1\\Java\\JDK18~1.0_1
```

```
bin
```

```
PlatformClientIdentity.jks #Provide the path where you copied PlatformClientIdentity.jks
```

```
server.ssl.key-store-provider=SUN #if using Oracle JRE , provider is SUN , for IBM Jre , provider is IBMJCE
```

```
server.ssl.key-store-type=JKS
```

2. Import the certificate inside the JRE keystore which will be used to start Unica Director server:

```
keytool -import -file PlatformClientSecurityCert.cer -alias addonkey -keystore $JDK_HOME/jre/lib/security/cacerts
```

3. Start the Unica Director Server

```
$JDK_HOME/bin/java -jar add-on_Server-12.0.0.0
```

Configure SSL for Unica Director Agent by performing the following steps:

Pre-requisite:

Copy certificate files (.cer / .jks) used for Unica Platform to the machine where Unica Director Agent will be running. For example - PlatformClientIdentity.jks and PlatformClientSecurityCert.cer used to configure Unica Platform / Unica Campaign SSL environment.

1. Navigate to <HCL_Unica_DIRECTOR_SERVER_HOME>\Agent and open application.properties file , change below values:

Un-coment all below :

```
server.ssl.key-alias=PlatformClientIdentity #this should same alias as of PlatformClientIdentity.jks
```

```
server.ssl.key-password=unica*03 #this should be same password used to create
PlatformClientIdentity.jks
```

```
server.ssl.key-store=C:\\PROGRA~1\\Java\\JDK18~1.0_1
```

```
bin
```

```
PlatformClientIdentity.jks #Provide the path where you copied PlatformClientIdentity.jks
```

```
server.ssl.key-store-provider=SUN #if using Oracle JRE , provider is SUN , for IBM Jre ,
provider is IBMJCE
```

```
server.ssl.key-store-type=JKS
```

2. Import the certificate inside the JRE keystore which will be used to start Unica Director server:

```
keytool -import -file PlatformClientSecurityCert.cer -alias addonkey -keystore $JDK_HOME/
jre/lib/security/cacerts
```

3. Start the Unica Director Agent:

```
$JDK_HOME/bin/java -jar add-on_Server-12.0.0.0
```

Configure Director Server with multiple SSL enabled Unica Environments

- Step 1 - How to generate JSK self-signed certificate.

```
keytool -genkey -alias DirectorClientIdentity -keyalg RSA -keystore
DirectorClientIdentity.jks -keypass password -validity 3650 -dname
"CN=*.nonprod.hclpnp.com" -storepass password
```

```
keytool -export -keystore DirectorClientIdentity.jks -storepass password -alias
DirectorClientIdentity-file DirectorCertificate.cer
```

- Step 2 - Import Multiple environments certificates in to newly generated certificates:

Import environment 1's and 2'nd public certificate in to DirectorClientIdentity.jks

Sample command:

```
keytool -import -alias PlatformClientIdentity_env1 -file PlatformClientIdentity_env1.cer -
keystore DirectorClientIdentity.jks -storepass password
```

```
keytool -import -alias PlatformClientIdentity_env2 -file PlatformClientIdentity_env2.cer -  
keystore DirectorClientIdentity.jks -storepass password
```

- Step 3 - Now Import this certificate in java cacert which is running director application:

```
keytool -import -file PlatformCertificate.cer -alias platformkey -keystore /opt/IBM/  
WebSphere/AppServer/java/jre/lib/security/cacerts
```

Add below mentioned Platform certificates in Director Server application.properties file:

```
server.ssl.key-alias=PlatformClientIdentity1 #this should same alias as of
```

```
PlatformClientIdentity1.jks
```

```
server.ssl.key-password=unica*03 #this should be same password used to create
```

```
PlatformClientIdentity.jks
```

```
server.ssl.key-alias=PlatformClientIdentity2 #this should same alias as of
```

```
PlatformClientIdentity2.jks
```

```
server.ssl.key-password=unica*03 #this should be same password used to create
```

```
PlatformClientIdentity.jks
```


Start the Director Server

Chapter 8. Upgrade Unica Director from 11.1 to 12.1

Before performing upgrade, ensure that you take a back up of your present installation files.

To upgrade Unica Director from 11.1 to 12.0 , you can install Director 12.0 at the same , where Director 11.1 is installed. Ensure that you stop both Director server and Agent before starting the installation of 12.0 Unica Director.

Select "Automatic database setup". Provide the existing database details, the information about ActiveMQ, Server port, Agent port similar to which 11.1 Director is using and complete your installation.

 **Note:** There will be an error in Director installation logs, but that can be ignored. It is due to the reason that the tables already exist.

Also, the new add-on_Server-12.0.0.0.jar and add-on_Agent-12.0.0.0.jar will be installed. You must start these jars and must not start add-on_Server-11.1.0.0.jar and add-on_Agent-11.1.0.0.jar.

You can also delete this add-on_Server-11.1.0.0.jar and add-on_Agent-11.1.0.0.jar files.

Chapter 9. Starting Unica Director

Unica Director server or agent can be started using below steps. It runs Java 1.8 to run the application.

Pre-requisites:

Java 1.8 path should be set on the Operating System.

Starting Unica Director - Server application

- `java -jar add-on_Server-12.0.0.0.jar`

where the jar is located in <Unica Director Install Path> /Server

Starting Unica Director - Agent application

- `java -jar add-on_Agent-12.0.0.0.jar`

where the jar is located in <Unica Director Install Path>/Agent

Note:

1. Unica Director Server and Agent applications should be up and running as long as Unica Campaign is running, Failure to do this will lead to incomplete or no information of Health or monitoring available with the Unica Director server.
2. Apache ActiveMQ should be available as long as Unica Campaign application is up and running. Failure to do this will lead to incomplete / no information being passed / shared with Unica Director. This can also lead to inconsistent information in the Flowchart monitoring section on the Unica Director application.
3. Application.properties available at <HCL_Director_Home>\Server is always referred when the Director server is started. If you want to make any changes, for example: port number, you must make it in the application.properties available at this location and restart the Director server.

Chapter 10. Enabling Debug logging

By default Unica Director - Server and Agent applications show ERROR logs in the log files or console.

Unica Director Server log file is available at <DIRECTOR_HOME>/Server/logs/add-on_server.log

Unica Director Agent log file is available at <DIRECTOR_HOME>/Agent/logs/add-on_agent.log

Its not recommended that you change the logging level as it might impact in the application performance.

You can change the logging level in the JAR file by updating the BOOT-INF/classes/log4j2-spring.xml for the following parameters:

```
<Root level="error">
```

```
<Logger name="com.hclpnp" level="info">
```

Possible values are: ERROR, INFO, WARN, DEBUG.

Chapter 11. Troubleshooting

1. Not able to shutdown Unica Director server:

Workaround: If for any reason, the Unica Director server does not get shutdown with Ctrl +C , user can kill the process id to shutdown the Unica Director-server

After installation and configuration of **IBM Marketing Software Director**, if you are not able to see any flowchart(s) in **Monitoring** section, after running few flowcharts after the configuration is done, restart **Apache Active MQ**. This step is mandatory once all the configurations are done.