



# DX Unified Infrastructure Management

## **CABI Installation, Upgrade and Troubleshooting Guide**

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## Fresh Install Prerequisites

- Applies to versions DX UIM 20.40 and DX UIM 23.4.0 GA

The CABI server needs to have a minimum of 10 GB of hard disk space with a minimum of 8 GB of RAM.

CABI recommends the following setup:

- Hard Disk: 10 GB
- RAM: 16 GB memory
- CPU: 2-core minimum, 2.5GHz multi-core Pentium processor for Windows, Mac, and Linux
- CABI supports JDK version 1.8
- For CABI-specific prerequisites, refer to the [Install or Upgrade for a Bundled CABI Server](#)
- Ensure the specific database port is opened on the CABI robot
- For Windows Authenticated environment the Nimsoft Robot watcher service on DX UIM and CABI machines should be logged on with the same user.
- Additional Settings for [Oracle Env](#) CABI Installation
- Additional Setting for [TLS Enable](#) CABI on Installation
- Additional Settings for [SQL with Windows Authentication](#) CABI on Installation

## Upgrade Prerequisites

- Please follow the CABI upgrade path
  - Please refer to the [CABI Support Matrix](#) DX UIM 20.4, and for DX UIM 23.4 adjust the dropdown selector
- Please take a backup of the CABI Probe and CABI js deployed in the wasp folder
- Before planning an upgrade, download all the custom reports that have been created. Reports can be downloaded. See [Export Custom Reports](#)
- In any case where the CABI upgrade fails in DX UIM 20.4, and support recommends installing CABI fresh, then we need to run the [CABI cleanup script](#) and install CABI anew and import the reports back into CABI. For DX UIM 23.4 please refer to: [How to uninstall and then reinstall CABI in DX UIM 23.4.0](#)
  - After Upgrade/Installation you can import your custom reports [Import Custom Reports](#)
- Additional Settings for [Oracle Env](#) CABI Installation
- Additional Setting for [TLS Enable](#) CABI on Installation
- Additional Settings for [SQL with Windows Authentication](#) CABI on Installation

## Supported Upgrade Paths

### IMPORTANT!

The CABI probe version is dependent on the DX UIM version. Therefore, in some cases, upgrading CABI requires you to upgrade the DX UIM environment as well.

- If the current DX UIM version is v20.3, and CABI is in use, the upgrade path is as follows:
  1. Upgrade DX UIM from 20.3 to 20.4 and then DX UIM 23.4
  2. Upgrade CABI probe 4.30 to 7.50 to CABI 8.0.x to DX UIM 23.4.0
- If the current DX UIM version is v20.4 to 20.4 CU3, and CABI is in use, the upgrade path is as follows:
  1. Upgrade DX UIM from 20.4 / 20.4 CU(1-3) to DX UIM 23.4
  2. Upgrade CABI probe 7.50 to CABI 8.0.x to DX UIM 23.4.0
- If the current DX UIM version is v20.4 CU4 or above, and CABI is in use, the upgrade path is as follows:
  1. Upgrade DX UIM from 20.4 CU(4-9) to DX UIM 23.4
  2. Upgrade CABI probe 8.0.x to DX UIM 23.4.0

## Troubleshooting Guide for DX UIM 23.4.x

### 1. CABI 23.4.0 Upgrade/Install Home Page is Blank on Oracle/Windows Authentication/TLS 1.2 Environment

#### Issue: Jasper Log Shows

org.springframework.transaction.CannotCreateTransactionException: Could not open Hibernate Session for transaction; nested exception is org.hibernate.exception.GenericJDBCException: Unable to acquire JDBC Connection.

org.apache.commons.dbcp.SQLNestedException: Cannot create PoolableConnectionFactory ([TibcoSoftware][Oracle JDBC Driver][Oracle]ORA-01017: invalid username/password; logon denied

#### Cause:

Oracle Instance name is not updated in the context.xml file - follow the steps listed below for resolution.

#### Resolution:

##### For Oracle Environment,

1. Edit the following file on the CABI robot  
`$UIM_HOME/Nimsoft\probes\service\wasp\webapps\cabijis\WEB-INF\webapp\WEB-INF\classes\hibernate.properties` and update these keys  
`metadata.hibernate.dialect=com.jaspersoft.ji.hibernate.dialect.OracleJICustomDialect`  
`metadata.hibernate.auditDataSource.jndiName=jdbc/jasperserver`  
`$UIM_HOME/Nimsoft/probes/service/wasp/webapps/cabijis/META-INF/context.xml`
2. Change SID to servicename, for example:  
`url="jdbc:tibcosoftware:oracle://*.**.**.**:1521;SID=ORCL" to`  
`url="jdbc:tibcosoftware:oracle://*.**.**.**:1521;ServiceName=orclpdb"`

### 3. In case CABI installed with SQL using Windows Authentication Environment

In `$UIM_HOME/Nimsoft/probes/service/wasp/webapps/cabijs/META-INF/context.xml`, file add key and value:

**integratedSecurity=true;AuthenticationMethod=ntlm;**

```
<Resource accessToUnderlyingConnectionAllowed="true" auth="Container" driverClassName="tibcooftware.jdbc.sqlserver.SQLServerDriver" factory="com.jaspersoft.jasperserver.tomcat.jndi.JSCommonsBasicDataSourceFactory" maxActive="100" maxIdle="30" maxWait="10000" name="jdbc/jasperserverAudit" password="ENC-4eced03611de81ccaeaf380ef460fal214eabffb0e3e9e013f8e5082c952fc69a-" testOnBorrow="true" type="javax.sql.DataSource" url="jdbc:tibcooftware:sqlserver://uim-s...:1433;databaseName=...;sendTimestampEscapeAsString=false;encryptionMethod=ssl;trustServerCertificate=true;TrustStore=C:/Program Files/Nimsoft/security/truststore.jks;TrustStorePassword=*****;" username=" " validationQuery="SELECT 1"/>
```

### 4. In case the DB is configured with TLS1.2

In `$UIM_HOME/Nimsoft/probes/service/wasp/webapps/cabijs/META-INF/context.xml` add this key and value:

**encryptionMethod=ssl;trustServerCertificate=true;TrustStore=C:/Program Files/Nimsoft/security/truststore.jks;TrustStorePassword=\*\*\*\*\*;**

Save the changes and activate the probe. It will resolve the issue.

## Troubleshooting Guide for DX UIM 20.4.x

### 1. If you face an issue where you are not able to export reports in .pdf or .docx format

(This issue will occur until CABI version 8.02)

#### Issue:

Custom CABI report does not export in .pdf and /or .docx format

#### Cause:

Jaspersoft settings

#### Resolution:

1. Install chrome/chromium Version 110 (or below) onto the server
2. Make sure auto update for Chrome is disabled
3. Change the chrome/chromium in `js.config.properties` file (check Google Chrome properties on that machine and edit the following value. `chrome.path = "INSTALL_DIR/Google/Chrome/Application/chrome.exe` (replace \ with /)
4. In `jt's.config.properties`, change `Chrome.page.timeout` to 900

5. Restart CABI
6. Restart wasp

**Note:** This setting is only applicable until CABI v8.02, In CABI 23.4 or higher this issue is fixed.

2. If the report throws ChromeServiceException: Server responded with non-200 code: 405 - Method Not Allowed. Using unsafe HTTP verb GET to invoke /json/new. This action supports only the PUT verb.

**Issue:**

PDF Reports are not downloading in CABI v20.x

**Cause:**

Chromium path is set

**Resolution:**

Downgrade Google Chrome (or) Chromium engine to Version 110 or below

Stop Jaspersoft Services

Change the configuration to point back to chromium or Google Chrome Version 110

- a. Configuration can be found in **js.config.properties** (<tomcat>/webapps/reportservice/WEB-INF/js.config.properties) file
- b. Update the chrome.path key-value pair to point to chromium or Google Chrome Version 110. Example: chrome.path=/Applications/Chromium.app/Contents/MacOS/Chromium
- c. Disable auto update for chrome/chromium

3. Response code: 403 error starting CABI probe post DX UIM 20.4 upgrade

**Issue:**

CABI probe won't start with the error below in the CABI logs:

- [main, cabi] SSO JasperUserUtility will be using jasperAdminUser: CABI\_REST\_USE
- [main, cabi] JasperUserUtility:login(): URL attempted :https://CABIserver/cabijs/login.html  
[main, cabi] JasperUserUtility:login(): Response code :403  
[main, cabi] JasperUserUtility:login(): Got an unauthorized response, I should fall back to superuser login

**Additional Failure Scenario:**

In some scenarios, it has been observed that even after the upgrade to 7.5 or 8, the CABI probe fails to start and throws the following error, yet CABI still works (CABI Reports via Operator Console work!)

[main, cabi] Not able to connect to url=https://1\*.\*.\*:443/cabijs



In this case, the same resolution steps apply.

**Cause:**

The CABI probe superuser password was not set to the default before the upgrade.

**Resolution:**

1. Run through the following steps to resolve the issue:
2. Set the CABI password to the default by running this query on the database:  

```
UPDATE jiuser SET password = " WHERE username = 'superuser';
```
3. Login to the CABI page using the username superuser, no password is needed
4. Then go to Manage, then Users and then select the superuser
5. Then edit, then type superuser as the password then Save
6. Set cabi\_rest\_user key in the CABI probe's raw configure to be superuser then Click Apply
7. Restart the CABI robot and verify the issue is resolved

#### 4. Bundled CABI Reports JKS Key error on importing reports

**Issue:**

Unable to migrate reports from CABI 7.5 to CABI 7.5.

**Note:**

This is only for migrating CABI reports from one 7.5 CABI to another 7.5 CABI (Not applicable for migrating reports from any version prior to 7.5)

**Cause:**

The import failed due to an invalid encryption key

**Resolution:**

1. Login to CABI UI
2. Take an export of reports needed from the source environment (e.g., UAT) as superuser
3. Export any sample report from the target envt(eg: Production)
4. Open index.xml from the zip file exported from target environment
5. Copy the values below from the target index.xml\  

```
<property name="keyalias" value="xxxxxxx"/>  
<property name="encrypted" value="xxxxxx"/>
```
6. Unzip the index.xml from the exported source report
7. Replace the source index.xml values
8. Zip the folder

9. Import the modified zip into the target environment

## 5. Invalid Credentials error displayed during Operator Console login after upgrade to DX UIM 20.4 CU6/CU7/CU8

### Issue:

After upgrading to DX UIM 20.4 CU6 / CU7 / CU8 we are getting an error when trying to login to the UMP/ Operator Console page for all users.

### Cause:

Outdated java\_jre package

### Resolution:

1. Please ensure you upgrade the java\_jre to the **latest** compatible version
2. From IM or AC select the local archive
3. Select the java\_jre package and make sure it is the latest version and is downloaded and available, e.g., java\_jre v2.15

**java\_jre**

Java runtime for Windows and Linux  
Includes Java runtime for Windows and Linux.

**Revision history**

Date	Description	State	Version
04.12.2022	<p><b>What's New:</b></p> <p>The package is now version 2.15 and Java JRE is updated to OpenJDK Java Runtime Environment 1.8.0_352-b08.</p> <p>Follow these steps to update the java runtime environment in UIM:</p> <ul style="list-style-type: none"><li>• Download and import the latest Java_JRE probe java_jre-2.1.5.zip from the Support Archive.</li><li>• Drag and drop the imported package on the robot to change the java runtime environment.</li><li>• Verify that the update is complete by checking the following values are updated to jre8u352b08 in the robot.cfg file: NIM_JRE_HOME = jre/jre8u352b08 NIM_JRE_HOME_1_8 = jre/jre8u352b08</li><li>• Restart the robot. Restarting the robot ensures that all the java probes deployed on this robot will use the latest jre version.</li><li>• Manually delete the old java_jre folder (for example: jre8u345b01) located in the directory &lt;UIM_Installation&gt;\Nimsoft\jre in all the robots.</li></ul> <p>SHA-256 Checksum: 185d9b45230d7d778c5af1dec35a9bc5e39b40e0e4d01b99a0bd5112c86a2dd</p>	GA	2.15

4. Drag and drop the java\_jre package to the Operator Console robot(s)
5. Confirm the wasp probe is green and has a port and PID on the Operator Console robot
6. Recheck the wasp.log for the same errors and/or attach it to the case
7. Log into the Operator Console and verify the issue is fixed

## 6. Jaspersoft Neo4j vulnerability with Clarity

### Issue:

According to the vulnerability scan, this file is vulnerable in conjunction with Log4JShell: neo4j-jdbc42-1.0.8.1009.jar

### Resolution:

Neo4j JDBC jar is not used with Clarity. These are optional drivers which Tibco plans to remove or upgrade in future

### Workaround:

Remove the neo4j-jdbc42-1.0.8.1009.jar file from the  
\$UIM\_HOME\Nimsoft\probes\service\wasp\webapps\cabijs\WEB-INF\lib and restart the services

## Troubleshooting Guide Common to All Versions

### 1. If the CABI and wasp probes fail and both become red

Probe (command = <startup java>) returns no-restart code (42) in the logs, then opens raw configure mode and changes loglevel to 5, and then activates the probe again and checks the logs

#### Log Path:

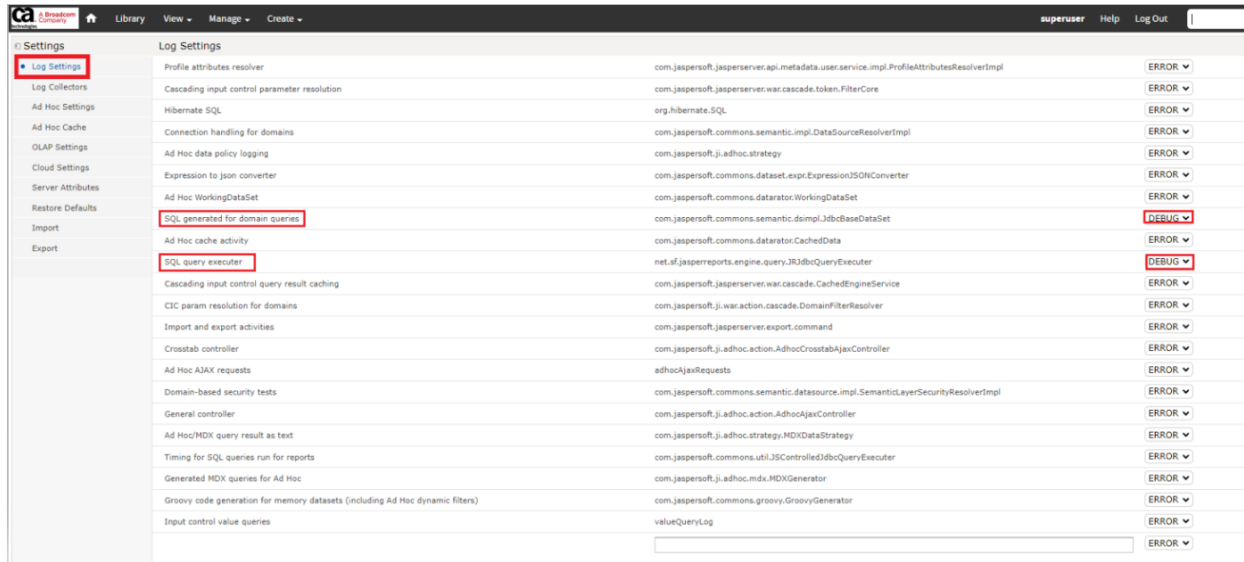
- b. **Installation Log:**
  - i. \$UIM\_HOME\Nimsoft\probes\service\cabi\cabi.log
  - ii. \$UIM\_HOME\Nimsoft\probes\service\cabi\\_cabi.log
- c. **CABI Logs (jasperserver log):**  
\$UIM\_HOME\Nimsoft\probes\service\wasp\webapps\cabijs\WEB-INF\logs\jasperserver.log
- d. **wasp Log:** \$UIM\_HOME\Nimsoft\probes\service\wasp\wasp.log

### 2. Enabling additional CABI logs

1. Login as CABI with 'superuser' account
2. Go to server settings>> log settings and set the following logger to DEBUG\
  - a. SQL query executer.
  - b. SQL generated for domain queries

This will create additional logs in the file located at the path below:

\$UIM\_HOME\Nimsoft\probes\service\wasp\webapps\cabijs\WEB-INF\logs\jasperserver.log)



### 3. If the wasp logs show Database Information is null

#### Issue:

Wasp probe ends up in a failed state when it fails to locate the data\_engine probe or throws a Max. restarts error and does not start up successfully

The wasp.log, and/or \_wasp.log files will show similar errors to the snippet below:

```
[main, com.nimsoft.nimbus.NimProbeBase] Login to NimBUS is OK
[main, com.nimsoft.nimbus.probe.service.wasp.WaspNimProbe] WaspNimProbe login successful.
[main, com.nimsoft.nimbus.probe.service.wasp.Probe] Connection String: null
[main, com.nimsoft.nimbus.probe.service.wasp.Probe] Cannot obtain connection string from data_engine
[main, com.nimsoft.nimbus.probe.service.wasp.Probe] (4) not found, Received status (4) on response (for sendRcv) for cmd =
'nametoip' name = 'data_engine'
at com.nimsoft.nimbus.NimSessionBase.sendRcv(NimSessionBase.java:610)
at com.nimsoft.nimbus.NimSessionBase.sendRcv(NimSessionBase.java:561)
```

or you will see errors such as:

```
ERROR [main, com.nimsoft.nimbus.probe.service.wasp.Probe] main() Fatal error!
ERROR [main, com.nimsoft.nimbus.probe.service.wasp.Probe] main() (1) error, Database Information is null
ERROR [main, com.nimsoft.nimbus.probe.service.wasp.Probe] (1) error, Database Information is null
at com.nimsoft.nimbus.probe.service.wasp.Probe.doit(Probe.java:327)
at com.nimsoft.nimbus.probe.service.wasp.Probe.main(Probe.java:119)
[5976] Controller: Max. restarts reached for probe 'wasp' (command = <startup java>)
```

#### Cause:

Upon review of the wasp.cfg, either the probe is pointing to the following location to locate the probe: **data\_engine = data\_engine** or there is no data\_engine parameter and value defined in the **wasp.cfg**.

This is incorrect. The wasp is usually deployed to a separate robot which attaches to and is under the Primary hub system and in this use case the key should contain the full NimBUS address of the data\_engine.

For example here is the syntax:

```
data_engine = /<uim_domain>/<primary_hub_name>/<primary_hub_robot_name>/data_engine
```

### Resolution:

Go to the Primary hub server, right click on the data\_engine probe, go to the bottom line for "Edit" and select

"Copy to Clipboard"

Open a notepad file and paste the contents. Locate the data\_engine probe string (a.k.a NimBUS address)

e.g., "/<uim\_domain>/<primary\_hub\_name>/<primary\_hub\_robot\_name>/data\_engine"

Copy the connection string

Open the wasp probe in Raw Configure, and under setup section, edit the data\_engine key

Enter the data\_engine NimBUS address:

e.g., "data\_engine = /<domain>/<hub>/<robot>/data\_engine"

Click Apply to apply the changes and Save

Restart the robot service of the Operator Console robot system/Deactivate-Activate the wasp probe

Check the wasp log at log level 5 to see if the issue is resolved

## 4. If CABI logs throw Unknown providerName error:

### Issue:

CABI logs throw an Unknown providerName error.

```
Feb 13 10:56:31:729 [main, cabi_external] checking url=http://10.61.105.1:8080/cabi.js, timeAlreadyWaitedInSecs=0, maxTimeInSecs=120
Feb 13 10:56:31:729 [main, cabi_external] timeSinceConnectInMillies=0, timeAlreadyWaitedInSecs=0
Feb 13 10:56:31:729 [main, cabi_external] isUrlWorking=true
Feb 13 10:56:31:776 [main, cabi_external] going to create jasper login session using user: superuser, pwd: <not printed> ...
at con.ninsoft.nindbprovider.de.provider.DataEngineDBProviderInfo.getNormalizedProviderName(DataEngineDBProviderInfo.java:143)
at con.ninsoft.nindbprovider.de.provider.DataEngineDBProviderFactory.createDBProvider(DataEngineDBProviderFactory.java:57)
at con.ninsoft.nindbprovider.de.provider.DataEngineDBProviderFactory.createDataEngineDBProvider(DataEngineDBProviderFactory.java:46)
at con.ca.cabi4uin.common.DBInfoFactory.initNindbProviderBase(DBInfoFactory.java:39)
at con.ca.cabi4uin.common.DBInfoFactory.getNindbProviderBase(DBInfoFactory.java:23)
at con.ca.cabi4uin.Probe.setupcabi(Probe.java:345)
at con.ca.cabi4uin.Probe.initOnTimer(Probe.java:700)
at con.ninsoft.nimbus.NinProbe.doForever(NinProbe.java:418)
at con.ca.cabi4uin.Probe.run(Probe.java:892)
at con.ca.cabi4uin.Probe.main(Probe.java:123)
Feb 13 10:56:32:615 [main, cabi_external] (520) , Unknown providerName: ''
at con.ninsoft.nindbprovider.de.provider.DataEngineDBProviderInfo.getNormalizedProviderName(DataEngineDBProviderInfo.java:171)
Feb 13 10:56:32:615 [main, cabi_external] setting the lastInstallStatus=4
Feb 13 10:56:32:615 [main, cabi_external] successfully set the lastInstallStatus=4
Feb 13 10:56:32:615 [main, cabi_external] srcFilePath=C:\Program Files (x86)\Ninsoft\probes\service\cabi_external\cabi_install_archive.log, srcFilePath.exists=false,
tgtFilePath=C:\Program Files (x86)\Ninsoft\probes\service\cabi_external\cabi_install_archive.log, tgtFilePath.exists=false
Feb 13 10:56:34:053 [4152] Controller: Probe 'cabi_external' (Command = <startup java>) returns no-restart code (42)
```

### Cause:

The security file (certificate.pem) located in the folder might have become corrupted

### Resolution:

1. Replace the security folder present in **\$UIM\_HOME\Program Files (x86)\Nimsoft** in the CABI machine with the security folder present in **\$UIM\_HOME\Program Files (x86)\Nimsoft UIM** machine.
2. Add the path of the certificate.pem in robot.cfg on CABI machine as `cryptkeycryptkey = /* path */`

## 5. If you face an issue where jasperserver page keeps 'blinking' or reloading

### Issue:

1. Login to CABI bundled flashing screen. Constant reloading
2. Selecting dashboards or reports shows Data Access Error. This is running CABI and Operator Console with http

### Cause:

- a. This is due to browser security changes that no longer allow you to disable the cross-site domain connection between systems any longer
- b. This is necessary primarily for CABI when it is configured for and accessed via **HTTP**

### Resolution:

1. Deactivate the CABI probe.
2. Open Raw Configure of the CABI probe and set the CABI configuration parameter `cabi_url` to:<http://<URLwithMatchingSubdomainAndDomain>:<port>/cabijs>
3. Deactivate the wasp probe
4. Modify **\$UIM\_HOME\nimsoft\probes\service\wasp\webapps\cabijs\META-INF\context.xml** with
5. `<CookieProcessor class="org.apache.tomcat.util.http.Rfc6265CookieProcessor" sameSiteCookies="Lax" />`
6. Activate the CABI probe.
7. Activate the wasp probe
8. On the Operator Console robot Deactivate the wasp probe
9. Modify **\$UIM\_HOME\nimsoft\probes\service\wasp\webapps\cabi\META-INF\context.xml** with:
  - a. `<CookieProcessor class="org.apache.tomcat.util.http.Rfc6265CookieProcessor" sameSiteCookies="Lax" />`
  - b. Activate the wasp probe
  - c. Login to Operator Console machine using below url  
[http://<URLwithMatchingSubdomainAndDomain>:<port>/operatorconsole\\_portlet](http://<URLwithMatchingSubdomainAndDomain>:<port>/operatorconsole_portlet)

## 6. The CABI fails due to an issue called “too many connections” when CABI is installed on My SQL Database.

### **Issue:**

If CABI fails due to an issue called “too many connections” when CABI is installed on MySQL database

### **Cause:**

Check the My SQL connection parameter using the below query and if it is significantly less. Increase it

### **Resolution:**

- Query to Check No. of allowed connections-> SHOW VARIABLES LIKE "max\_connections"
- Query to Increase connection parameter-> SET GLOBAL max\_connections = X;
  - The minimum recommended value is 500
- The maximum value you can set max\_connections to is 100000. The minimum value is 1, while the default value is 151

## 7. CABI is not accessible on Operator Console (HTTPS Configuration)

### **Issue:**

CABI is not accessible on the Operator Console for reports and CABI is not available on dashboards.

### **Resolution:**

Configure HTTPS for CABI and Operator Console by following the steps below:

- Add key **https\_port** and value in CABI wasp (e.g., https\_port 443)
- Add CABI url in CABI raw configuration (cabi\_url <https://IPAddress:port/cabijs>)
- Add key and value in Operator Console wasp (https\_port 443)
- Update the CABI key and value on the Operator Console wasp, e.g., (/domain/hub/cabi\_robot/cabi\_probe)

### **Note:**

To get the key, you need to RT-Click on the CABI probe, go to edit, select copy to clipboard, then paste the copied data into notepad and there you will get the same kind of key

## 8. CABI slow reports - poor performance - timeouts

### **Issue:**

When attempting to run either custom Ad Hoc reports, or some of the out-of-the-box CABI reports such as the Group Trend report, the performance is very poor. The reports are slow to populate, and sometimes they time out without ever completing.

## Cause:

The out-of-the-box settings for CABI and wasp may need tweaking for some environments in order to provide peak performance

## Resolution:

The first thing that usually makes a difference is to increase the memory settings from the out-of-the-box defaults for both the CABI and wasp probes (on the CABI robot.)

These settings can be changed in the .cfg or using Raw Configure. They will be located under <startup> - > <opt> under each probe

The key/value to look for is: **java\_mem\_max**

We recommend using the **same values for both probes** here, as this provides the best performance

This is only a starting point - generally, higher is better in terms of performance, and in very large environments, you may need to set each probe to 12GB or higher

It is important to ensure that you have enough free RAM on the Operating System to accommodate any changes you make, and we recommend leaving 4GB free for the OS itself if possible; in other words, if the OS has 32GB of RAM available, you could allocate 14GB to CABI, and 14GB to the wasp probe, leaving 4GB free

## Virtualizer Settings

After increasing the memory, the next thing to change is to tweak the Virtualizer settings within CABI

**This must be done to take advantage of the increased memory from the previous step.**

The Virtualizer is a component that uses virtual memory (on disk) to generate reports in order to avoid OutOfMemory exceptions. Still, it can be somewhat slow for larger datasets. It can help to force larger reports to be generated entirely in memory (assuming enough has been given to the probes - it would be wise to monitor the memory usage after making changes here while running reports to ensure you have allocated a sufficient amount.

To change these settings, you will alter a file on the CABI robot (take a backup first!) located at:

```
nimsoft/probes/service/wasp/webapps/cabijs/WEB-INF/applicationContext.xml
```

Within this file, search for the following section (it appears around line 1316):

```
<!--report virtualizers-->
  <bean id="fileVirtualizerFactory"
    class="com.jaspersoft.jasperserver.api.engine.common.service.impl.FileVirtualizerFactory"
    >
    <property name="maxSize" value="300"/>
    <property name="directory" value="{java.io.tmpdir}"/>
  </bean>
```

"300" represents the maximum number of pages that can be contained in memory to force all reports to run in memory set this to a very high number, e.g., 999999.

Save the file and then **restart the CABI robot**



### Crosstab Limits:

After changing these settings, when attempting to run larger reports, you may receive an error that says, "Crosstab bucket limit exceeded." This can be prevented/corrected as follows:

- Stop the wasp probe and CABI probe on the CABI robot, take a backup, and then edit the following file: `$UIM_HOME/nimsoft/probes/service/wasp/webapps/cabijs/WEB-INF/classes/jasperreports.properties` in this file, locate the following:
- `#limit the crosstab bucket/measure count to prevent out of memory errors`  
**`net.sf.jasperreports.crosstab.bucket.measure.limit=100000`**

The 100000 represents the maximum number of rows a report can return. Raising this higher will allow longer reports to run at the expense of using more memory; as a point of reference, one customer increased this to 20000000 (twenty million) and found that the largest reports used around 12GB of RAM on the CABI probe.

Another customer saw usage as high as 28GB with the same settings. This will depend on the number of metrics/devices and the time reported, so it would be wise to monitor the memory usage to determine how high you can go.

## 9. CABI is reporting errors for some reports

### Issue:

Some CABI-based Unified dashboards are reporting, "**An unexplained error has occurred and the operation failed.**"

CABI log contains an error similar to the one below:

Error Message

```
net.sf.jasperreports.engine.JRException: Error executing SQL statement for: QOS_Trend_TimeSeries.
```

### Cause:

This is caused by exceeding the configured `table_definition_cache` value in MySQL. This can occur in environments with many RN, HN, DN, and BN tables. The default computed value is 1400, which may not be high enough in some environments.

### Resolution:

Work with a DBA to update the MySQL `my.cnf` configuration to increase the **`table_definition_cache`** value to **2800**.

## 10. The CABI probe green for a period of time, then goes red, unable to connect to the CABI page directly

### Issue:

The following message is in the CABI.log file:

- [main, cabi] checking url=http://#.##.##:80/cabijs, timeAlreadyWaitedInSecs=382, maxTimeInSecs=600
- [main, cabi] connection.getResponseCode()=404

### Cause:

This generally can happen if wasp was installed to use port 80 and the same port is used by another application

### Resolution:

Validate that port 80 is not already in use, and if it is, then set wasp to an alternate port number

## 11. Most reports in CABI only support up to 25 devices for the Top N number

### Issue:

Most reports in CABI only support up to 25 devices for the Top N number

### Cause:

Need to modify/change the TopN value in the dropdown and for the report

### Resolution:

1. Login to the CABI server using 'superuser'
2. Select View > Repository
3. Navigate to /public/ca/uim/resources/library/lists and right-click > edit on Top #
4. Add the additional Top N number that you desire > Submit

**Note:** If the number is increased too high, it may make the graph unusable.

## 12. Unable to run custom CABI reports with DX UIM user – server error

### Issue:

Server Error. There was an error on the server. Try again or contact site administrators. (Error UID: f43ab919-bf56-41b7-b9f6-50686a5f39a8)

jasperserver.log:

Caused by: com.jaspersoft.jasperserver.multipleTenancy.MTResourceNotVisibleException: Path /My\_first\_Ad\_Hoc\_View is not visible in organization context Multitenancy context: organization UIM

Arguments:

at com.jaspersoft.jasperserver.multipleTenancy.DefaultPathTransformer.toExternalPath(DefaultPathTransformer.java:146)

... 199 more

2021-08-31T13:02:47,810 ERROR SecureExceptionHandlerImpl,http-nio-8080-exec-1363:116 - There was an error on the server. Try again or contact site administrators. (Error UID: 2ab98fd6-0ce5-4475-9338-5760ad31f96b)

2021-08-31T13:02:47,829 ERROR ErrorHandlerAction,http-nio-8080-exec-1363:118 - Error UID 2ab98fd6-0ce5-4475-9338-5760ad31f96b com.jaspersoft.jasperserver.multipleTenancy.MTResourceNotVisibleException: You may not access resources which do not belong to your organization.

### Cause:

The report fails to be run by a DX UIM user because the report was created using the superuser account and not a DX UIM user error

(com.jaspersoft.jasperserver.multipleTenancy.MTResourceNotVisibleException: You may not access resources that do not belong to your organization.) The superuser, if logged into CABI, can run the custom report. At the same time, other users receive the error mentioned above because the report is created with the superuser, and it creates an organization mismatch.

### Resolution:

To resolve this issue, the reports must be created again by a DX UIM user properly logged in to CABI, and not using the cabijs superuser/superuser.

It is possible to create a custom CABI report in 2 ways:

1. **With a DX UIM user by logging into cabijs directly with the DX UIM user:**
  - Browse to `http(s)://<cabi_server>/cabijs` > enter UIM in organization and use DX UIM username and password

2. If you get an invalid credentials error:
  - Log into <cabi\_server>/cabijs using superuse

Invalid credentials supplied.

Could not login to CA Business Intelligence.

Organization:

UIM

User ID:

administrator

Password:

••••••••

Show locale & time zone  
Change password

- Go to Manage > Users > Select the user (e.g. administrator)
- Click Edit
- Enter the exact same password stored for the DX UIM user and save
- Apply these steps to all users affected
- After this, it will be possible to login to CABI with a specific DX UIM user

## 2. Via OC/reports > Create custom reports

To add a custom JasperServer report to the Operator Console in DX UIM 20.x, you can follow these steps:

1. Login to JasperServer as superuser
2. Open the repository, View:Repository, and browse to public/ca/uim/reports/library/
3. Right-click on Library and select "Add Folder"
4. Create a folder for your custom reports
5. Grant access as needed to this folder
6. Copy your custom report, or directly create one, to your custom folder created before
  - a. Then the path to the report should be something like this:
  - b. public/ca/uim/reports/library/My\_Custom\_Reports/My\_Custom\_Report
7. Grant access as needed to this report

8. Run the report from JasperServer to make sure it works
9. Restart the wasp on the Operator Console server
10. Check that the custom folder and report can be accessed from OC

### 13. Where is the SMTP email setting for scheduled reports in the Operator Console for DX UIM 20.3

#### Issue:

Where do I configure the SMTP Email settings for emailing scheduled reports in CABI for DX UIM 20.x?

#### Cause:

As reports in DX UIM 20.x are managed by CABI, the SMTP settings need to be configured on the CABI server

#### Resolution:

\*Stop the robot where CABI is running and restart it after the changes are made.

1. Go to \Nimsoft\probes\service\wasp\webapps\cabijs\WEB-INF folder
2. Create a backup of js.quartz.properties file
3. Edit **js.quartz.properties** file as shown below, edit the bold values to match with your setup:

`report.scheduler.web.deployment.uri=http(s)://<cabi-ip-or-fqdn>:<port>/cabijs`

**`report.scheduler.mail.sender.host`**=smtp.example.com (The FQDN of the mail server)

**`report.scheduler.mail.sender.username`**=smtp\_user\_name\_(The name of the mail server user that JasperReports Server can use)

**`report.scheduler.mail.sender.password`**=smtp\_password\_ (The password of the mail server user)

**`report.scheduler.mail.sender.from`**=sender\_email\_address@example.com (The address that appears in the From field on email notifications)

**`report.scheduler.mail.sender.protocol`**=smtp (The protocol that the mail server uses. JasperReports Server only supports SMTP.)

#### Note:

If your mail server does not require a username or password, leave the values empty

**WARNING: If you add # at the start of the lines above it will cause file corruption and CABI will not be able to start**

## 14. Scheduled CABI reports in DX UIM 20.3.x never reports a last run date

### Issue:

When attempting to schedule CABI reports in DX UIM 20.3.x, the last run field never updates.

Scheduled Jobs: /public/ca/uim/reports/library/servers/servers_by_cpu_usage							
Back	Create Schedule	Run Now	Refresh List				
Job ID	Job Name	Owner	State	Last Run	Next Run	Enabled	
1	test	superuser	NORMAL		2020-11-18 07:51:53	<input checked="" type="checkbox"/>	
2	test2	superuser	NORMAL		2020-11-18 07:48:53	<input checked="" type="checkbox"/>	
3	test3	superuser	NORMAL		2020-11-18 07:51:53	<input checked="" type="checkbox"/>	
4	test4	superuser	NORMAL		2020-11-18 07:51:53	<input checked="" type="checkbox"/>	
7	scheduled job with no email	superuser	NORMAL		2020-11-18 07:49:00	<input checked="" type="checkbox"/>	

### Cause:

Issue in database tables

### Resolution:

To fix the "last run" problem, take the following steps:

- Login to the database using any sql client
- Take a backup of "QRTZ\_FIRED\_TRIGGERS" table
- And then execute the below SQL commands:

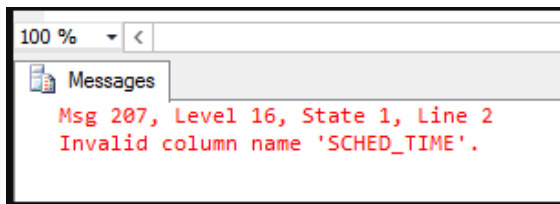
```
ALTER TABLE QRTZ_FIRED_TRIGGERS ADD SCHED_TIME BIGINT;
```

```
UPDATE QRTZ_FIRED_TRIGGERS SET SCHED_TIME = FIRED_TIME;
```

```
ALTER TABLE QRTZ_FIRED_TRIGGERS ALTER COLUMN SCHED_TIME BIGINT NOT NULL;
```

### Note:

You must run these queries one at a time, if you run them all at once you get this error



In this situation, it isn't necessary to rerun the upgrade. Simply run "upgrade-sql server-7.1.0-7.2.0-pro.sql" SQL script from their JasperReports® Server 7.5 deployment buildomaticinstall\_resourcessqlserver folder to add the column to your JasperReports® Server 7.5.0 repository DB.

The SQL content is:

```
ALTER TABLE QRTZ_FIRED_TRIGGERS ADD SCHED_TIME BIGINT;
```

```
UPDATE QRTZ_FIRED_TRIGGERS SET SCHED_TIME = FIRED_TIME;
```

```
ALTER TABLE QRTZ_FIRED_TRIGGERS ALTER COLUMN SCHED_TIME BIGINT NOT NULL;
```

In addition, this user should wipe out the legacy dashboard from the 7.1 repository content since it is no longer supported by JasperReports® Server starting in version 7.2.0.

It is also highly recommended that customers deactivate any existing report jobs that were migrated from the previous version of CABI and re-create them in the newer version of CABI.

After deactivating the previous schedules, you should see that any Reports loading delays/issues or the initial view of reports from the "Reports" tab load in a reasonable amount of time.

## 15. The CABI report scheduler cannot send the email for DX UIM reports due to authentication errors

### Issue:

CABI report scheduler not sending reports

### Resolution:

Authentication was enabled in "applicationContext-report-scheduling.xml"

Take a backup of this file in some other folder

Change:

```
$UIM_HOME\Nimsoft\probes\service\wasp\webapps\cabijs\WEB-INF\applicationContext-report-scheduling.xml
```

Change from "true" to "false" for the key below:

```
<prop key="mail.smtp.auth">false</prop>
```



Restart the CABI robot and check again once the wasp and CABI probes are active

### Note:

In this use case, authentication is required for the CABI server, and username /password is specified in Js.quartz.properties, you need to use the keyword **true** for the key "**mail.smtp.auth**"

## 16. Cannot select devices or groups in CABI Availability Reports

### Issue:

When trying to create a Device or Group Availability Report in CABI can't see any device or group in the drop-down menu under "Select Device"

### Cause:

Possible causes:

1. The required QOS is not being gathered
- b) Origin mismatch between user permissions in CABI and reports

### Resolution:

1. The first thing to check is that respective probes gather the required data:

The availability report requires the following metrics (probes listed in bold):

**QOS\_SERVICE\_AVAILABILITY** (This metric is fetched using the icmp probe)

For Cloud & Virtual Devices, Power State (Device up/Down status) is calculated using the following metrics:

**azure** – QOS\_AZURE\_INSTANCE\_POWER\_STATE

**aws** – QOS\_AWS\_INSTANCE\_POWER\_STATE

**hub** – QOS\_POWER\_STATE

**hyperV** – QOS\_HYPERV\_INSTANCE\_POWER\_STATE

**nutanix** – QOS\_NUTANIX\_INSTANCE\_POWER\_STATE

**openstack** – QOS\_OPENSTACK\_INSTANCE\_POWER\_STATE

**VMware** – QOS\_VMWARE\_INSTANCE\_POWER\_STATE

### Note:

For the VMware probe, if QOS\_VMWARE\_INSTANCE\_POWER\_STATE is not found while configuring the probe the following QOS is needed:

**QOS\_VMWARE\_VM\_POWER\_STATE**

Only once these metrics are added to monitoring the Availability by Group or Device Reports will data selection (it will allow the device to be visible under the drop-down menu)

To verify that data is already stored in the database, the following queries can be run:

Example for checking ICMP probe current data:

- a) Run:

```
select table_id,r_table from s_qos_data where qos like '%_POWER_STATE' order by source;  
select table_id,r_table from s_qos_data where qos like '%_SERVICE_AVAILABILITY' order by
```



source;

Example result:

```
709216 RN_QOS_DATA_0225
102494 RN_QOS_DATA_0225
102586 RN_QOS_DATA_0225
```

b) Now run the following query using the previous query results:

```
select * from <RN_QOS_DATA_0***> where table_id = <table_id> ORDER BY samptime
DESC
```

Example:

```
select * from RN_QOS_DATA_0225 where table_id = 709216 ORDER BY samptime DESC
```

If the result shows current data then you know that the data is being collected correctly:

Example result:

```
709216 2021-01-27 11:36:02.000 100.00 0.00 600.00 -3600
```

c) If the above is checked and, in the Availability Reports, is still not possible to see devices:

- These reports ONLY work for Account Contact Users (Users created in USM and associated with an Account)
- If you are using a Non-Account Contact User (i.e. administrator) it will result in this behavior
- To test or use this functionality with a Non-Account Contact User(s), the following steps are required:
  1. Login to CABI as superuser
  2. Navigate to Manage -> Users -> Select the User, Properties will be shown on the right side.
  3. Click on Edit -> Attributes -> Add New Attribute -> Use the following attribute name: "allowed\_origins"
  4. For the value, add the required Origin or Origins. Each value should be put in single quotes (e.g. 'Origin1','Origin2','Origin3')
  5. Click on Save, clear the browser cache from all time,s and retest

**Note:**

This step is required for ALL Non-Account Contact Users who require access to these Reports

You can obtain a list of all the available origins by running the following SQL query:

```
SELECT DISTINCT ORIGIN FROM CM_COMPUTER_SYSTEM_ORIGIN
```

## 17. CABI is not available or accessible; please contact your administrator

### Issue:

Able to get into CABI directly, but when trying to open a report or dashboard in CABI get the following error. This is with a new installation that is using HTTPS.

### Resolution:

Added the new `cabi_url` to the CABI probe raw config using what the certificate would expect.

- Deactivate wasp on the Operator Console robot
- Remove `../wasp/work` from the wasp on the Operator Console robot
- Remove `../wasp/webapps/cabi` from the wasp on the Operator Console robot
- Activate wasp on the Operator Console
- Restart the CABI robot

### Note:

In this one, Operator Console had an authority-signed certificate and a self-signed certificate on the CABI server. Most browsers do not like self-signed and will ask if you want to accept it when going to the site. If you have not done that or closed the browser and have not opened the CABI https path in a new tab prior to going back into OC, Operator Console will fail to load dashboards or reports until that certificate is accepted by opening the CABI https path in another tab.

## 18. Chrome version 91.0.4472.77 or Edge Version 91.0.864.37 no longer works with CABI, data access error

### Issue:

1. Before updating to the latest version of Chrome, I was able to get into the DX UIM home page or Dashboards -> IM Overview. Now seeing data access error after updating to these Chrome and Edge versions
2. Also, you may find that when clicking on Reports in the Operator Console and running a report, you get sent to the CABI login screen no matter what report is run. The report does not load; you get sent to a CABI login screen each time.

### Cause:

This is specific to the same site change in both browsers. It should only affect those users that are currently using http to connect to Operator Console and CABI

### Resolution:

The recommended resolution for this would be one of the following:

- Make the Operator Console and CABI (JasperServer) configured with HTTPS. Doc section: Configure CABI Server to Use HTTPS
- Link to setup [HTTPS](#) & [Additional Configuration](#)
- Use the "Lax" setting and access the Operator Console and CABI (JasperServer) using a URL that has the same subdomain and domain

Alternatively, the following can be set

For Chrome, add the following to the machine where Chrome is installed:

HKEY\_LOCAL\_MACHINE\SOFTWARE\Policies\Google\Chrome

Add dword value:

type: dword

name: LegacySameSiteCookieBehaviorEnabled

value: 00000001

Add Key:

HKEY\_LOCAL\_MACHINE\SOFTWARE\Policies\Google\Chrome\LegacySameSiteCookieBehaviorEnabledForDomainList

Add string value:

type: string

name: 1

value: \*.<your-company-domain>.com

For example, \*.broadcom.com

For Edge: Add dword value:HKEY\_LOCAL\_MACHINE\SOFTWARE\Policies\Microsoft\Edge

type: dword

name: LegacySameSiteCookieBehaviorEnabled

value: 00000001

After applying the registry changes for the respective browser, clear the cache at all times and reopen the browser.

**Note:**

CABI 8.0x will not work on DX UIM 23.4 Operator Console robot

**Root Cause:**

CABI 8.0x will not work on DX UIM 23.4 Operator Console robot without upgrading the CABI probe due to 'groovy' upgrade on Operator Console side.

## CABI Firewall Enablement

Items	Source	Destination	Port	Is this required?
A	End-user machine	Operator Console	CABI/OC Port	Inbound (ON OC Machine)
B	End-user machine	CABI	CABI/OC Port	Inbound (ON CABI Machine)

C	Operator Console	CABI	CABI/OC Port	Inbound(ON OC Machine)
D	CABI	Operator Console	CABI/OC Port	Inbound (ON CABI Machine)
E	DB Machine	CABI	DB Port	Inbound (ON DB Machine)
F	CABI	DB Machine	DB Port	Outbound (ON CABI Machine)

**Additional Notes:**

- While editing any file, ensure there is NO white space in the file
- Before editing any file, it is recommended to make a backup for the file