

Living Systems® Process Suite

Frequently Asked Questions

Living Systems Process Suite Documentation

3.3
Mon Nov 1 2021

Whitestein Technologies AG | Hinterbergstrasse 20 | CH-6330 Cham
Tel +41 44-256-5000 | Fax +41 44-256-5001 | <http://www.whitestein.com>

Copyright © 2007-2021 Whitestein Technologies AG
All rights reserved.

Copyright © 2007-2021 Whitestein Technologies AG.

This document is part of the Living Systems® Process Suite product, and its use is governed by the corresponding license agreement. All rights reserved.

Whitestein Technologies, Living Systems, and the corresponding logos are registered trademarks of Whitestein Technologies AG. Java and all Java-based trademarks are trademarks of Oracle and/or its affiliates. Other company, product, or service names may be trademarks or service marks of their respective holders.

Contents

1	Frequently Asked Questions	1
1.1	General	1
1.1.1	What are logs?	1
1.2	LSPS Server	1
1.2.1	The server returns the ConnectorTracker XA exception.	1
1.2.2	Embedded Server starts with an Exception.	2
1.2.3	SDK Embedded Server with MSSQL data source starts with java.lang.SecurityException exception	2
1.2.4	SDK Embedded Server starts with an OpenEJBException	2
1.2.5	How Do I Disable Remote Access to the SDK Embedded Server?	3
1.2.6	Messages in JMS queue are stuck.	3
1.2.7	Server returns "ISPN000299: Unable to acquire lock after 15 seconds"	3
1.2.8	WebSphere returns "The messaging engine's unique id does not match that found in the data store."	4
1.2.9	WebSphere returns "java.sql.SQLException: ORA-02089: COMMIT is not allowed in a subordinate session"	4
1.3	Disabling Update of the Database Schema of a Data Type Model	4
1.4	Application User Interface	4
1.4.1	Browser displays an error when accessing the application.	4
1.4.2	Browser remains blank after login.	5
1.4.3	The session of the Application User Interface is expired.	5
1.4.4	The user remains logged in even after the session timeout period has lapsed.	5
1.5	PDS	5
1.5.1	Icons are missing in the top toolbar of PDS on my Linux machine.	5

1.6	Modeling	5
1.6.1	I accidentally deleted the methods file.	5
1.6.2	There is no Decision Table Definition option in the menu.	5
1.6.3	When should a Module be executable?	6
1.6.4	There are validation problems even though the expressions are correct.	6
1.6.5	I cannot access a local variable in another local variable.	6
1.6.6	How do I load and work with a file from my workspace.	6
1.6.7	An expression returns only the last collection item, last list item or last set item.	6
1.6.8	I want to create a model instance from an expression.	7
1.6.9	I want to create a model instance over an entity.	7
1.6.10	I want to get all todos of a model instance.	7
1.6.11	What is the difference between the Upload As and Run As module command?	7
1.6.12	Data Types	7
1.6.12.1	How do I get all shared records of a type without creating a query?	7
1.6.12.2	Proxy Writes Directly to Database or Does not Merge.	8
1.6.12.3	Warning "Missing database index on foreign key" on a Data Relationship	8
1.6.12.4	Model upload fails with a hibernate exception.	8
1.6.13	UI Forms	8
1.6.13.1	My local form variable has incorrect value.	8
1.6.13.2	I cannot change properties of a listener.	9
1.6.14	Forms	9
1.6.14.1	Font Awesome icons disappeared, are missing or display incorrectly.	9
1.6.14.2	A component ignores a size setting.	9
1.6.14.3	Add a Stylesheet File to a Module	9
1.6.14.4	Filter on a table column is not displayed.	10
1.6.14.5	Geolocator in the forms module is missing.	10
1.6.14.6	A document UI definition reports the error "Type mismatch. Cannot convert from <code><></code> to <code>human::UIDefinition</code> ".	10
1.6.14.7	Charts ignore plot options.	10
1.6.14.8	Modeling ID is ignored.	10
1.6.15	Processes	10

1.6.15.1	I get "A parametric process cannot be instantiated automatically." on my process	10
1.6.15.2	I want to instantiate a process from a document.	10
1.6.16	Roles	11
1.6.16.1	How do I check if the current user has a role?	11
1.6.17	RESTful Webservices	11
1.6.18	Expressions	11
1.6.18.1	I get "The symbol <TYPE> is undefined." validation error.	11
1.6.18.2	I want to format a Date.	11
1.6.18.3	I want to preform action on each item of a Collection or Map.	12
1.7	Database	12
1.7.1	MS SQL server reports deadlocks.	12
1.7.2	Migration or initialization of LSPS tables fails on MySQL 5.6.	12
1.7.3	Migration of MySQL fails with an exception.	13
1.7.4	Migration or Initialization of Database fails with an SQLNonTransientConnectionException exception on MySQL 8.	13
1.8	Miscellaneous	14
1.8.1	How should I structure my project?	14
1.8.2	LSPS launcher icon is displayed incorrectly in the launcher bar in Gnome.	15
1.8.3	To-dos and Documents is temporarily unavailable.	15

Chapter 1

Frequently Asked Questions

1.1 General

1.1.1 What are logs?

In the context of LSPS, the term *log* can refer to one of the following:

- A log entry made when a model instances executes the Log task or `log()` function call.
Both, the task type and the function, are provided by the Standard Library and the entries are visible in the Logs view of the Management perspective and Management Console. These logs are stored in the LSPS_↵_LOGS table of the LSPS system database.
- A process log entry which is automatically created by model instances.
These are logs about execution progress. They are stored in the LSPS_PROCESS_LOG table and are not visible from any client. Further information is available in the [Server Installation and Upgrade Guide](#)
- The log message of the `debugLog()` function which is displayed in standard output.

1.2 LSPS Server

1.2.1 The server returns the ConnectorTracker XA exception.

The JBoss or Wildfly server returns the following XA exception:

```
WARN [com.arjuna.ats.jta.logging.loggerI18N] [com.arjuna.ats.internal.jta.recovery.xarecovery1]
```

To remedy the situation, the database user has all required access rights:

For Oracle, make sure the Oracle user has access to the appropriate tables so they can accomplish the recovery:

```
GRANT SELECT ON sys.dba_pending_transactions TO user;  
GRANT SELECT ON sys.pending_trans$ TO user;  
GRANT SELECT ON sys.dba_2pc_pending TO user;  
GRANT EXECUTE ON sys.dbms_xa TO user;
```

Substitute `user` with the user that connects from JBoss to Oracle. This solution works for Oracle 10g R2 (patched for bug 5945463) and 11g.

In an unpatched version older than 11g change the last GRANT EXECUTE to the following:

```
GRANT EXECUTE ON sys.dbms_system TO user;
```

1.2.2 Embedded Server starts with an Exception.

- Make sure `javac` is on the classpath if the embedded server starts with the following exception:

```
Starting database failed.
IO Exception: "java.io.IOException: Cannot run program ""javac""
```

The Java compiler binary might not be on the classpath: Create a `JAVA_HOME` environment variable and add it to the `PATH` environment variable.

- Details, such as Model Instance details, in the Management perspective which are no longer valid might be open, for example, due to a database reset, and the data is no longer present in the database: **Close any detail tab in the Management perspective.**

1.2.3 SDK Embedded Server with MSSQL data source starts with `java.lang.SecurityException` exception

If you are using MSSQL data source in your SDK Embedded Server, the server might start with the following exception:

```
java.lang.SecurityException: Invalid signature file digest for Manifest main attributes
    at sun.security.util.SignatureFileVerifier.processImpl(Unknown Source)
    ...
Error: A JNI error has occurred, please check your installation and try again
Exception in thread "main"
```

This happens because `com.microsoft.sqlserver.jdbc.SQLServerDriver` pulls additional dependencies. Exclude the dependencies in the `<YOUR__APP>-db-migration` project `pom.xml`:

```
...
<configuration>
  <filters>
    <filter>
      <artifact>*:*/artifact>
      <excludes>
        <exclude>META-INF/*.SF</exclude>
        <exclude>META-INF/*.DSA</exclude>
        <exclude>META-INF/*.RSA</exclude>
      </excludes>
    </filter>
  </filters>
  <!-- Additional configuration. -->
</configuration>
```

1.2.4 SDK Embedded Server starts with an `OpenEJBException`

If you get the following exception, fix the `jdbc` url of `LSPS_DS` in `<YOUR_APP>-embedded/conf/conf/openejb.xml` to `JdbcUrl jdbc:h2:tcp://localhost/./h2/h2;MVCC=TRUE;LOCK_TIMEOUT=60000`.

```
WARN JdbcServicesImpl HHH000342: Could not obtain connection to query metadata : A file path that
Exception in thread "main" org.apache.openejb.OpenEJBException: Creating application failed: /home
    at org.apache.openejb.assembler.classic.Assembler.createApplication(Assembler.java:843)
    at org.apache.openejb.assembler.classic.Assembler.createApplication(Assembler.java:677)
    at org.apache.openejb.assembler.classic.Assembler.createApplication(Assembler.java:673)
    at com.whitestain.lps.launcher.Launcher.launch(Launcher.java:129)
    at com.whitestain.ekassa.embedded.LSPSLauncher.main(LSPSLauncher.java:27)
Caused by: org.apache.openejb.OpenEJBException: org.apache.openejb.OpenEJBRuntimeException: javax
    at org.apache.openejb.assembler.classic.Assembler.loadPersistenceUnits(Assembler.java:988)
    at org.apache.openejb.assembler.classic.Assembler.createApplication(Assembler.java:741)
```


1.2.5 How Do I Disable Remote Access to the SDK Embedded Server?

To disable remote access to the *Application User Interface* the SDK Embedded Server, add the following filter to the <YOUR-APPLICATION>/vaadin-war/src/main/webapp/WEB-INF/web.xml:

```
<filter>
  <filter-name>Remote Address Filter</filter-name>
  <filter-class>org.apache.catalina.filters.RemoteAddrFilter</filter-class>
  <init-param>
    <param-name>allow</param-name>
    <param-value>127.\d+.\d+.\d+|::1|0:0:0:0:0:0:0:1</param-value>
  </init-param>
</filter>
<filter-mapping>
  <filter-name>Remote Address Filter</filter-name>
  <url-pattern>/*</url-pattern>
</filter-mapping>
```

To do the same for Management Console, expand the application EAR you created and add the filter to the lsps-management/web.xml file. Then recreate the EAR.

1.2.6 Messages in JMS queue are stuck.

In your server logging configuration, activate the debug log level for com.whitestein.lsps.engine.CommunicationServiceBean and com.whitestein.lsps.engine.ProcessAgentImpl services and inspect the log.

1.2.7 Server returns "ISPN000299: Unable to acquire lock after 15 seconds"

Infinispan on JBoss and Wildfly returns the ISPN000299: Unable to acquire lock after 15 seconds: this occurs when an operation takes too long so the session is locked and fails to acknowledge the Vaadin heartbeat from the Application User Interface.

To remedy the problem, do the following:

- set the active-timeout parameter of the server to 10m in the profile xml file, such as, standalone-full.xml:

```
<cache-container name="web" default-cache="passivation" module="org.wildfly.clustering.web.infinispan">
  <local-cache name="passivation">
    <!-- CHANGED the acquire-timeout here: -->
    <locking isolation="REPEATABLE_READ" acquire-timeout="600000"/>
    <transaction mode="BATCH"/>
    <file-store passivation="true" purge="false"/>
  </local-cache>
</cache-container>
```

- increase the heartbeat interval in your Application User Interface in the web.xml of the application:

```
<param-name>heartbeatInterval</param-name>
<param-value>300</param-value>
```

1.2.8 WebSphere returns "The messaging engine's unique id does not match that found in the data store."

When Websphere is configured to store JMS tables in the DB which already contains such tables, for example, as a result of a previous installation, it fails with the error:

```
[LSPS_BUS:websphereNode01.server1-LSPS_BUS] CWSIS1535E: The messaging engine's unique id does not match
that found in the data store. ME_UUID=1B0B5DB0D21BFD75, ME_UUID (DB)=090BD5611CD4240C
```

To resolve the problem, delete the tables with the SIB prefix from the LSPS database: DROP TABLE "LSPS"."SIB000"; DROP TABLE "LSPS"."SIB001"; DROP TABLE "LSPS"."SIBCLASSMAP";

1.2.9 WebSphere returns "java.sql.SQLException: ORA-02089: COMMIT is not allowed in a subordinate session"

When timers are stored in the database that is accessed using an XA datasource, such as, LSPS_DS, WebSphere might return an exception with

```
Caused by: com.ibm.ws.scheduler.exception.SchedulerDataStoreException: java.sql.SQLException:
ORA-02089: COMMIT is not allowed in a subordinate session
at com.ibm.ws.scheduler.TaskStoreImpl.createTables(TaskStoreImpl.java:2708)
```

This happens because WebSphere fails to create the tables.

To resolve the problem, create the scheduler tables using \<WASROOT>/Scheduler/createSchemaMod1\<YOUR_DB>.ddl

To check timer service properties:

1. Expand *Servers* > *Server Types* > *WebSphere application servers*.
2. Click *[your_server]*.
3. Under *Container Settings*, expand *EJB Container Settings* and click *EJB timer service settings*.

1.3 Disabling Update of the Database Schema of a Data Type Model

To prevent update of database schema when you upload a data-type model, you have the following options:

- Disable schema update on the LSPS server altogether from **PDS** or from a **database or JMX client**.
- Disable schema update for a particular **shared record** or **relationship** on their *DB Mapping* tab.

1.4 Application User Interface

1.4.1 Browser displays an error when accessing the application.

Clean cache of your browser.

1.4.2 Browser remains blank after login.

Delete the browser cookies.

1.4.3 The session of the Application User Interface is expired.

Make sure your browser does not use out-of-date cookies and cached data: **Clean the cookies and cached data.**

1.4.4 The user remains logged in even after the session timeout period has lapsed.

Make sure your **IspsVaadinApp** servlet in the web.xml of the Application User Interface contains the `closeIdleSessions` parameter:

```
<!-- Vaadin servlet -->
<servlet>
  <servlet-name>IspsVaadinApp</servlet-name>
  ...
  <init-param>
    <param-name>closeIdleSessions</param-name>
    <param-value>true</param-value>
  </init-param>
</servlet>
```

This prevents Vaadin from sending heartbeats to the server after the session-timeout period. The session timeout is set in minutes in web.xml.

1.5 PDS

1.5.1 Icons are missing in the top toolbar of PDS on my Linux machine.

This is caused by Eclipse issue [497705](#). To remedy the situation, create a new PDS launcher:

```
#!/bin/bash
export SWT_GTK3=0
./lsps-design_64
```

1.6 Modeling

1.6.1 I accidentally deleted the methods file.

Right-click the module and go to **Restore from Local History**.

1.6.2 There is no Decision Table Definition option in the menu.

Go to **Window > Perspective > Reset Perspective**.

1.6.3 When should a Module be executable?

An executable Module can become a model instance, while a non-executable module is intended as a resource and cannot be instantiated: If you have a module where you define the data model only (like in the model in the MVC pattern), it is not intended for execution. Hence it does not require the execution flag.

Note that if you import an executable module to another executable module, and you instantiate the importing module (the parent), the imported executable module will be instantiated as part of the model instance.

1.6.4 There are validation problems even though the expressions are correct.

- In the GO-BPMN Explorer, right-click the module with the problem and select **Validate**.
- Clean the project: on the main menu, go to **Project -> Clean**

1.6.5 I cannot access a local variable in another local variable.

Make sure that the variable is in a context the other variable can access. If working with local variables of the same context, make sure the variable is already initialized: variables are initialized in the order they are defined in (make sure, the variables are not sorted alphabetically when using the Outline view).

1.6.6 How do I load and work with a file from my workspace.

- To work with a file, load it to the File record:

```
def File file := getResource(module -> "my-module", path -> "file.pdf");
//to access the content binary: file.content.toString("UTF-8")
```

- To work with a file *in a form*, load it into a FileResource object with the `getResource()` function:

```
new FileResource({ -> getResource("form_components", "output/myfile.txt")})
```

- To get the text content of a File, use the `toString()` function on the content of File:

```
toString(file.content, "UTF-8")
```

1.6.7 An expression returns only the last collection item, last list item or last set item.

Check if you are not using a semi-colon (;) instead of a comma (,) as a separator of the collection items: the system returns the last expression as the collection content.

Typical case of a misplaced semi-colon

```
new CategoryDataSeries([
  //semi-colon at the end of the following line causes that
  //only the next line is returned as the content
  //of the collection:
  new CategoryDataSeriesItem("Pears", 1, 5);
  new CategoryDataSeriesItem("Apples", 2, 6);
]);
```

1.6.8 I want to create a model instance from an expression.

If you want to create a model instance from an expression, call the `createModelInstance()` function:

```
createModelInstance(true, thisModel(), mySharedRecord := new MyRecord() , null);
```

When creating multiple instances, consider creating them asynchronously to prevent timeout of the transaction and its subsequent rollback.

```
foreach Integer i in 1..100 do
  createModelInstance(false, getModel("myModule"), null)
end
```

1.6.9 I want to create a model instance over an entity.

If you want to create a model instance over an entity, pass the shared Record to the `createModelInstance()` function:

```
createModelInstance(true, thisModel(), mySharedRecord := new MyRecord() , null);
```

You can then get the Record with a `getProcessEntity(MyRecord)` function call.

1.6.10 I want to get all todos of a model instance.

To get to-dos of a model instance, create a query with the model instance as its parameter that return the Todo type and define a condition that will exclude to-dos of other model instances, for example, `todoIterator.model↔ InstanceId == modelInstanceParameter.id;`

1.6.11 What is the difference between the Upload As and Run As module command?

- **Upload As** compiles and uploads the selected module and its module imports to the LSPS Module Repository of the server your PDS is connected to. In PDS, the modules uploaded to the server are managed in the **Module Management view** of the Management perspective.
- **Run As** does the same and in addition creates a model instance of the executable module. Hence this option is not available for modules that are no executable since these cannot be instantiated. In PDS, the model instance that have been executed by the server can be managed from the **Model Instances view** of the Management perspective.

1.6.12 Data Types

1.6.12.1 How do I get all shared records of a type without creating a query?

Use the `findAll()` function of the Standard Library to get all the shared records of a particular type. Also note you can use the `countAll()` function to get the number of the shared records.

1.6.12.2 Proxy Writes Directly to Database or Does not Merge.

- Make sure the proxy object really is a proxy with the `isProxy()` call.
- In Forms forms, make sure the proxies are created before they are used; for example, use the `preCreateWidget()` method to create the proxies.
- Check if your record name does not collide with a system record name.

1.6.12.3 Warning "Missing database index on foreign key" on a Data Relationship

Create indexes for foreign keys on the data relationship ends: select the relationship and in the Properties view, define the indexes on the Indexes tab. Alternatively, you can generate them automatically: in the Outline view, on the Tree tab, click the root node *Data Types* and in its Properties view click the **Generate Indexes** button.

How Was the Database Schema of My Module Updated?

You can find information on how the schema was changed in the **Module Management** view of the Management Perspective: click the Schema Update Scripts tab.

1.6.12.4 Model upload fails with a hibernate exception.

Check whether the data type model meets the following:

- The hierarchy uses "Each record to own table".
- The top record has no property, only primary key.
- There is a record with one-to-set relation to the top record.
- The relation is one-directional.
- The relation is sorted according to the primary key of the top record.

This occurs due to an issue in Hibernate. To work around it, do one of the following:

- Add a property to the top record.
- Remove sorting on the relationship.
- Make the relationship bi-directional (the top record will have a property)

1.6.13 UI Forms

This section contains frequently asked questions concerning the forms created with the resources of the ui module of the Standard Library.

1.6.13.1 My local form variable has incorrect value.

If you are assigning a value to your variable in an `InitListener`, make sure the component with the `InitListener` is actually displayed. `InitEvents` are fired only on component display.

1.6.13.2 I cannot change properties of a listener.

Make sure the `Listener` is defined by `expression` option on the *Expression* tab is *not* selected.

1.6.14 Forms

This section contains frequently asked questions concerning the forms created with the resources of the forms module of the Standard Library.

1.6.14.1 Font Awesome icons disappeared, are missing or display incorrectly.

Since the support for font awesome has been deprecated by Vaadin, it is now delivered as part of the extensions of the vaadin project. If you are using your custom theme, include the `@include lsp-extensions-at-root;` statement in your `styles.scss` to remedy the situation.

1.6.14.2 A component ignores a size setting.

If a component ignores such calls as `setWidthFull()`, `setWidthWrap()`, `setHeightFull()`, `setHeightWrap()`, it is probably due to default style settings in the theme.

For example, if you call `setWidthFull()` on a `TextArea`, the width will retain its width. Such default settings are provided to prevent cases where the component is not displayed unless its size is explicitly specified, for example, if you had a text area in a layout and the layout would wrap its content and the text area would fill its parent (this is equivalent to a `setWidthFull()` call).

To adapt the size of your component, create a custom theme and set the size of the component style as required.

Example of a text area scss that fills the parent and has a minimum width

```
/* from a dedicated _textarea.scss in the sass folder */
@mixin _textarea {
  .v-textarea {
    width: 100%;
    min-width: 100px;
  }
}
/* the mixing is included in the styles.scss of the theme */
```

1.6.14.3 Add a Stylesheet File to a Module

To add a file with a style sheet to your module, do the following:

1. Create the style sheet file with your rules in your module.
2. Load the file into your form, for example, from the `Init` tab of the root component, and call `addStyleSheet()` on the file:

```
def File file := getResource(module -> thisModel().name, path -> "MyTable.css");
c.addStyleSheet(file.content.toString("UTF-8"));
```

To test the rules, you can use the `addStyleName()` component method.

1.6.14.4 Filter on a table column is not displayed.

If you are using the None value in the Filter value provider, make sure the type of the column value provide on the Detail tab of the column defines its value (in the case of Identity, the value should be set to the type, such as String).

1.6.14.5 Geolocator in the forms module is missing.

- The Geolocator component has been substituted with the `Forms.detectLocation()` method.

1.6.14.6 A document UI definition reports the error "Type mismatch. Cannot convert from <> to human::UIDefinition".

- Import the *forms* module into your module. Check if your Record name does not collide with a system Record name.

1.6.14.7 Charts ignore plot options.

If a data series does not plot correctly, consider defining the values for all properties explicitly, for example, if you are changing the color of a decimal series, apart from the color parameter, set also the *range* to `true` and *lineStyle* to `lineStyle.solid`:

```
c.setPlotOptions(new PlotOptionsLineArea(color -> new Color(0, 0, 0), lineStyle -> LineStyle.solid,
    fillColor -> new Color(230, 200, 180), range -> true));
```

1.6.14.8 Modeling ID is ignored.

This happens on the root components of the Expression component: the modeling id of the root component returned by the expression in the Expression component uses the modeling id as set on the Expression Component in its properties. Calls to `setModelingId()` on the component that is the content of the Expression component are ignored.

1.6.15 Processes

1.6.15.1 I get "A parametric process cannot be instantiated automatically." on my process

A process that has parameters cannot run without its parameters; hence, it can be instantiated only by another entity which provides the parameters. To solve the situation, display the properties of the process and on the Detail tab unselect *Instantiate Automatically*.

1.6.15.2 I want to instantiate a process from a document.

A document is not part of a model instance and process instances can exist only as part of a model instance. Hence this is not possible. However, you can create a model instance with the `createModelInstance()` call.

1.6.16 Roles

1.6.16.1 How do I check if the current user has a role?

Typically when setting access rights for to-dos and documents, you want to check if the user who is working with the application at the given moment has the required modeled role. Use the `isPersonIn()` function.

```
//Example setting of access rights:  
isPersonIn( getCurrentPerson(), common::Client() )
```

1.6.17 RESTful Webservices

I get "The restful Webservice definition is not valid. See Problems view for details." dialog box.

Close and reopen the editor.

1.6.18 Expressions

1.6.18.1 I get "The symbol <TYPE> is undefined." validation error.

Validation reports an error of an undefined symbol for an expression that should result in a Type: This happens if the type contains `<>`. To solve the problem, wrap the type in the `type()` function.

```
type(Reference<String>)
```

1.6.18.2 I want to format a Date.

- To format a Date object, call the `formatDate()` method with the date format as its parameter; the formatter uses the `DateTimeFormat` with the pattern and time zone.

```
now().formatDate("EEEEEEEEEE, MMM d", "Pacific/Auckland")
```

- To format a local date, use `format()`:

```
def LocalDate ld :=ld'2019-01-24';  
ld.format("dd.LLL.yyyy");  
//returns "24.1.2019"
```

1.7.3 Migration of MySQL fails with an exception.

When migrating the LSPS database on MySQL from an LSPS version older than [3.3.2069](#), the following exception occurs:

```
Exception in thread "main" org.flywaydb.core.api.FlywayException: Validate failed. Migration Check
-> Applied to database : -1913434156
-> Resolved locally      : 68228300
    at org.flywaydb.core.Flyway.doValidate(Flyway.java:1108)
    at org.flywaydb.core.Flyway.access$300(Flyway.java:62)
    at org.flywaydb.core.Flyway$1.execute(Flyway.java:1012)
    at org.flywaydb.core.Flyway$1.execute(Flyway.java:1006)
    at org.flywaydb.core.Flyway.execute(Flyway.java:1418)
    at org.flywaydb.core.Flyway.migrate(Flyway.java:1006)
    at com.whitestein.lsp.dbmigration.DbMigration.runFlywayCommand(DbMigration.java:274)
    at com.whitestein.lsp.dbmigration.DbMigration.migrate(DbMigration.java:141)
    at com.whitestein.lsp.dbmigration.DbMigration.main(DbMigration.java:86)
```

This happens due to the required change of the database character set to `utf8mb4` and collation to `utf8mb4↵_unicode_ci` which is a 4-byte encoding as opposed to the previously recommended `utf8` with `utf8↵_general_ci` which is a deprecated 3-byte encoding. As a result the indexes of the database had to be shortened.

To remedy the problem, run the migration with `--flyway repair` and then migrate again:

```
~/lsp-runtime-33/cli-tools $ java -jar lsp-db-migration-lsp-3.3.2069-full.jar --databaseUrl jdbc:
Nov 26, 2019 1:40:43 PM org.flywaydb.core.internal.util.logging.slf4j.Slf4jLog info
INFO: Flyway 3.2.1 by Boxfuse
Nov 26, 2019 1:40:43 PM org.flywaydb.core.internal.util.logging.slf4j.Slf4jLog info
INFO: Database: jdbc:mysql://localhost/lsp (MySQL 5.7)
Nov 26, 2019 1:40:43 PM org.flywaydb.core.internal.util.logging.slf4j.Slf4jLog info
INFO: Repair of failed migration in metadata table 'lsp'. 'LSPS_SCHEMA_VERSION' not necessary. No
Nov 26, 2019 1:40:43 PM org.flywaydb.core.internal.util.logging.slf4j.Slf4jLog info
INFO: Updating checksum of 2.6 to 68228300 ...
Nov 26, 2019 1:40:43 PM org.flywaydb.core.internal.util.logging.slf4j.Slf4jLog info
INFO: Metadata table 'lsp'. 'LSPS_SCHEMA_VERSION' successfully repaired (execution time 00:00.146s)
Nov 26, 2019 1:40:43 PM org.flywaydb.core.internal.util.logging.slf4j.Slf4jLog info
INFO: Manual cleanup of the remaining effects the failed migration may still be required.
~/lsp-runtime-33/cli-tools $ java -jar lsp-db-migration-lsp-3.3.2069-full.jar --databaseUrl jdbc:
```

1.7.4 Migration or Initialization of Database fails with an `SQLNonTransientConnectionException` exception on MySQL 8.

When migrating or initializing the LSPS database on mysql8, the process might fail with the following exception:

```
Exception in thread "main" org.flywaydb.core.api.FlywayException: Unable to obtain Jdbc connection
    at org.flywaydb.core.internal.util.jdbc.JdbcUtils.openConnection(JdbcUtils.java:56)
    at org.flywaydb.core.Flyway.execute(Flyway.java:1385)
    at org.flywaydb.core.Flyway.migrate(Flyway.java:1006)
    at com.whitestein.lsp.dbmigration.DbMigration.runFlywayCommand(DbMigration.java:274)
    at com.whitestein.lsp.dbmigration.DbMigration.migrate(DbMigration.java:141)
    at com.whitestein.lsp.dbmigration.DbMigration.main(DbMigration.java:86)
Caused by: java.sql.SQLNonTransientConnectionException: Public Key Retrieval is not allowed
    at com.mysql.cj.jdbc.exceptions.SQLException.createSQLException(SQLException.java:110)
    at com.mysql.cj.jdbc.exceptions.SQLException.createSQLException(SQLException.java:97)
    at com.mysql.cj.jdbc.exceptions.SQLExceptionsMapping.translateException(SQLExceptionsMapping.java:
    at com.mysql.cj.jdbc.ConnectionImpl.createNewIO(ConnectionImpl.java:835)
    at com.mysql.cj.jdbc.ConnectionImpl.<init>(ConnectionImpl.java:455)
```

```
at com.mysql.cj.jdbc.ConnectionImpl.getInstance(ConnectionImpl.java:240)
at com.mysql.cj.jdbc.NonRegisteringDriver.connect(NonRegisteringDriver.java:199)
at com.mysql.cj.jdbc.MySQLDataSource.getConnection(MySQLDataSource.java:402)
at com.mysql.cj.jdbc.MySQLDataSource.getConnection(MySQLDataSource.java:125)
at com.mysql.cj.jdbc.MySQLDataSource.getConnection(MySQLDataSource.java:110)
at org.flywaydb.core.internal.util.jdbc.JdbcUtils.openConnection(JdbcUtils.java:50)
... 5 more
```

To remedy the situation, remove the `useSSL=false` parameter from the database URL.

1.8 Miscellaneous

1.8.1 How should I structure my project?

The recommended best practise is to structure your project as follows:

- java folder with customized Application User Interface resources (LSPS Application);
- model folder with the following GO-BPMN modules:
 - main: imports all modules and does not contain any resources itself
 - common: resources required by all parts of the process, such as, data type models, general queries and functions, constraints, cache regions, etc.
 - init: module with processes that initialize the business data, that is, create your users, assign the users respective rights, update or create persisted business data, instantiate models, etc.
 - modules with your processes and other resources;

Example project structure

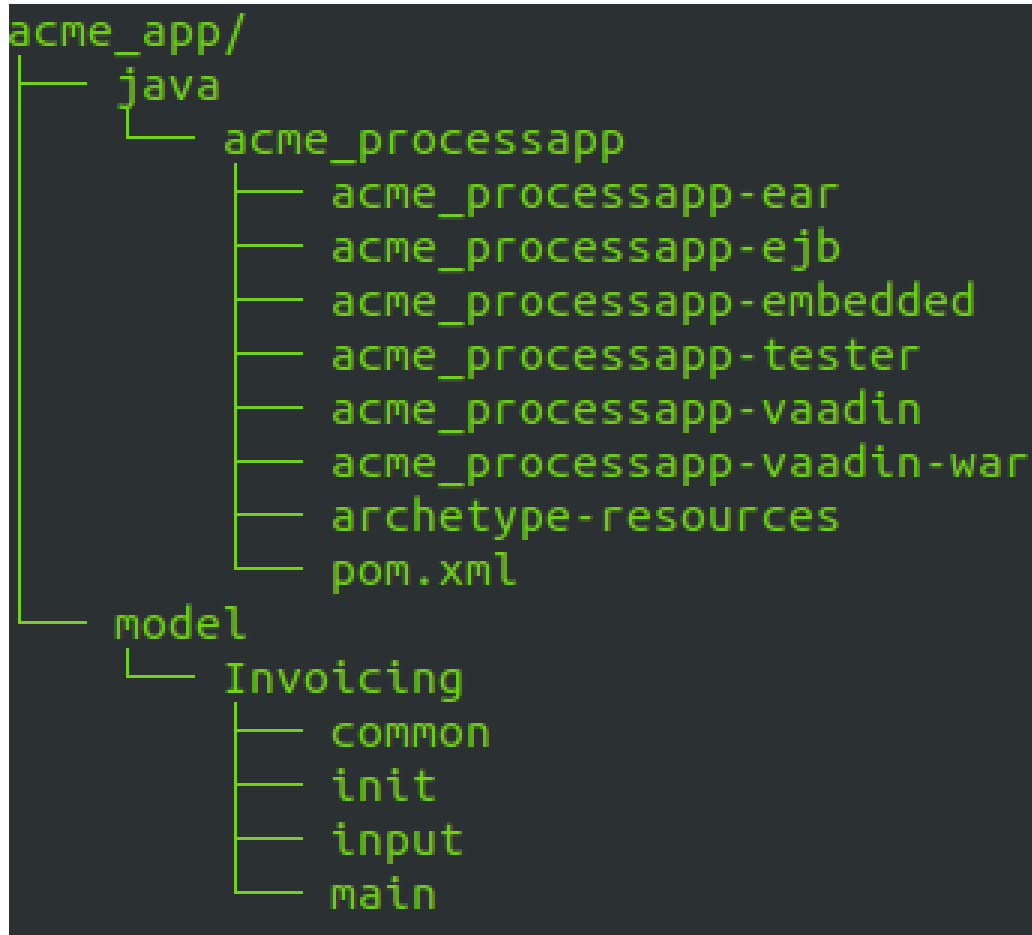


Figure 1.1 Recommended project structure

1.8.2 LSPS launcher icon is displayed incorrectly in the launcher bar in Gnome.

In the `lsps-design_64.ini` in `$PDS_HOME`, add the following **before** `vmargs`:

```
--launcher.GTK_version
```

Alternatively, add set the `SWT_GTK3` environment variable to 0:

```
export SWT_GTK3=0
```

1.8.3 To-dos and Documents is temporarily unavailable.

If a to-do or document returns an error similar to the following, **reset the to-dos** and delete the relevant documents from the database (currently no API for this action is provided).

```
Processing failed. The to-do is temporarily unavailable.
```

