IBM Producer Lifecycle and Credential Management
Version 2.0.5

Installation and Configuration Guide

IBM

Product Information

This document applies to IBM Producer Lifecycle and Credential Management Version 2.0.5 and may also apply to subsequent releases.

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Contents

Introduction

This document is intended for the use with IBM® Producer Lifecycle and Credential Management Version 2.0.5.

Producer Lifecycle and Credential Management provides a single platform that insurance customers can use for producer and agency onboarding, producer and agency administration, producer self-service, hierarchy management, credential management, and credential validation.

Audience

This guide is intended for administrators who are installing and configuring Producer Lifecycle and Credential Management.

Finding information

To find documentation on the web, including all translated documentation, access IBM® Knowledge Center (http://www.ibm.com/support/knowledgecenter).

Publication date

This document was published on November 29, 2016.

Accessibility features

Accessibility features help users who have a physical disability, such as restricted mobility or limited vision, to use information technology products. IBM HTML documentation has accessibility features. PDF documents are supplemental and, as such, include no added accessibility features. For information about these features, see "Accessibility features," on page 47.

Forward-looking statements

This documentation describes the current functionality of the product. References to items that are not currently available may be included. No implication of any future availability should be inferred. Any such references are not a commitment, promise, or legal obligation to deliver any material, code, or functionality. The development, release, and timing of features or functionality remain at the sole discretion of IBM.

Chapter 1. Installation overview

The IBM® Producer Lifecycle and Credential Management installation package contains the files that you need to install and configure the application as well as the rules and processes required to run workflows.

Producer Lifecycle and Credential Management is run as a Microsoft Windows service. After you configure the service to point to your database, you must start the Producer Lifecycle and Credential Management service.

The workflow rules and processes used by Producer Lifecycle and Credential Management must be imported into JBoss Drools Guvnor.

Installation preparation

Before you install IBM® Producer Lifecycle and Credential Management, you must download the software that is required to run the application.

You must create an empty database for Producer Lifecycle and Credential Management by using Microsoft SQL Server. The first time that you log in to the application, the default tables and reference data are loaded into the database.

To run workflow and business rules in Producer Lifecycle and Credential Management, you must download and deploy JBoss Drools Guvnor and JBoss jBPM Designer on your web application server. These two applications work together as the workflow rules engine for the Producer Lifecycle and Credential Management application.

To review an up-to-date list of environments supported by Producer Lifecycle and Credential Management, such as operating systems, browsers, web servers, database servers, and application servers, see Software Requirements (http://www.ibm.com/support/docview.wss?uid=swg27047756)

Pre-installation checklist

Before you can open the IBM® Producer Lifecycle and Credential Management application, you must download and install the software that is required to run the application.

You must install the following products:

JBoss Drools Guvnor 5.5.0
> This is required to store workflows and business rules used in Producer Lifecycle and Credential Management.

JBoss jBPM Designer 2.4
> This integrates with the Guvnor application to add and edit workflows used in Producer Lifecycle and Credential Management.

Web application server
> This is used to deploy the Guvnor and Designer WAR files. Some examples of a web application server include Apache Tomcat, WebSphere®, and JBoss.

Oracle Java™ Software Development Kit or Java Runtime Environment or Java Development Kit 8.0
This is required to run the web server application.

Microsoft SQL Server 2008 R2 or 2008 SP3 or 2012
This is required to create and store the database used by Producer Lifecycle and Credential Management.

Installing Java 8

To use Java 8 with IBM® Producer Lifecycle and Credential Management and Guvnor, you must update some configuration settings in both applications.

Procedure

1. Install Java 8 on the server.

   Note: If you are running different versions of Java on the server, you can override the `wrapper.conf` file to use the absolute path reference to Java 8.

   a. Open the `wrapper.conf` file and change the **`wrapper.java.command`** parameter to the full path of Java 8.

      For example, type `wrapper.java.command = C:\/Program Files\/Java\/jre1.8.0_66\/bin\/java.exe`

      Escape any slashes as in the following example: `wrapper.java.classpath.1 = .\/lib\/*.jar`

2. Update the Guvnor library by performing the following steps:

   a. Download the `ecj-4.4.2.jar` file from the following link:

      http://mvnrepository.com/artifact/org.eclipse.jdt.core.compiler/ecj/4.4.2

   b. Stop the Drools service on Tomcat 6.

   c. Go to Tomcat 6 on the server.

   d. Go to `%APACHE_LOCATION%\webapps\drools-guvnor\WEB-INF\lib`.

   e. Delete the `ecj-3.5.1.jar` file.

   f. Copy the `ecj-4.4.2.jar` file into the folder.

   g. Start the Drools service on Tomcat 6 again.

   h. Run Build Package.

3. Change any "switch" statements to "if" statements.

   If there are any Drools rules that utilize the "switch" statement, they must be updated to use an "if" statement. In version 2.0.3, the core rules have been updated. Make sure any user-defined rules are also updated.

What to do next

For information on upgrading your database with Java 8 installed, see "Upgrading with Java 8" on page 44.

Installing Microsoft SQL Server

You must install Microsoft SQL Server and create a database for IBM® Producer Lifecycle and Credential Management.

About this task

Important: If at any time you restart the database server, you must also restart the IBM PLCM service. If the IBM PLCM service is not restarted, an error message is displayed in the Producer Lifecycle and Credential Management application.

Procedure

1. Go to the Microsoft website (http://microsoft.com) and download Microsoft SQL Server 2008 R2.
2. Install the software.
3. In SQL Server Configuration Manager, under **SQL Server Network Configuration** > **Protocols for MSSQLSERVER**, make sure that **TCP/IP** protocol is enabled.
4. In SQL Server Configuration Manager, under **SQL Server Network Configuration** > **SQL Server Services**, make sure that the **SQL Server Browser** service is running.
5. If you made changes in SQL Server Configuration Manager, restart the server.

What to do next

You must use Microsoft SQL Server Management Studio to create a database for Producer Lifecycle and Credential Management.

Database creation

You must create a database in Microsoft SQL Server to store data for the IBM® Producer Lifecycle and Credential Management application.

When you create the database, you must add a user identifier that is used only by the Producer Lifecycle and Credential Management application to access the Producer Lifecycle and Credential Management tables. The application user identifier must have administrator rights to the Producer Lifecycle and Credential Management database.

To manage environments when there are multiple Producer Lifecycle and Credential Management databases on the same database server, you can name each database PLCM and add a suffix that indicates the type of environment that is contained in the database. For example, you can name your development database PLCM_DEV and your production database PLCM_PROD.

There is no initial size required for the Producer Lifecycle and Credential Management database; however, do not restrict the database to a specific size.

Microsoft SQL Server database permission requirements

IBM® Producer Lifecycle and Credential Management does not require administrative access to the database server, but database ownership rights must be granted in order to access your database.

When you create a database to be used by Producer Lifecycle and Credential Management, make sure that Producer Lifecycle and Credential Management is set up as the database owner (dbo). If it is not possible to grant dbo rights, a user with the following minimum permission requirements must be added:

- Connect
- Create table

- Create view
- Execute
- Select
- Delete
- Insert
- Update
- View database state

Important: Granting Producer Lifecycle and Credential Management dbo rights is preferred.

The migration tool needs the database userID to be added to the BulkAdmin Server Role for the import to function successfully. The database administrators must set up this permission.

Installing JBoss Drools Guvnor

JBoss Drools Guvnor must be installed and deployed to configure workflows and business rules for IBM® Producer Lifecycle and Credential Management.

Procedure
1. Go to the JBoss website (http://download.jboss.org/drools/release/5.5.0.Final/guvnor-distribution-5.5.0.Final.zip).
2. Download JBoss Drools Guvnor 5.5.0.
3. Rename the JBoss Drools Guvnor WAR file that matches your application server to `drools-guvnor.war`.
4. Deploy the WAR file on your application server.

What to do next

By default, Guvnor does not enforce a password check. To enforce authentication, you must configure Guvnor to use an appropriate user directory. For more information, see the Guvnor documentation at http://docs.jboss.org/drools/release/5.5.0.Final/drools-guvnor-docs/html/ch14.html.

You must install JBoss jBPM Designer to integrate with JBoss Drools Guvnor.

Installing JBoss jBPM Designer

JBoss jBPM Designer integrates with JBoss Drools Guvnor and is used to add and edit processes for IBM® Producer Lifecycle and Credential Management.

Procedure
1. Go to the JBoss website (http://sourceforge.net/projects/jbpm/files/designer/designer-2.4/).
2. Install JBoss jBPM Designer 2.4.
3. Rename the WAR file `designer.war`.
4. Deploy the `designer.war` file on your application server.

What to do next

Open JBoss Drools Guvnor and create a package to store the workflows and business rules for Producer Lifecycle and Credential Management. The workflows

and rules files that are used in Producer Lifecycle and Credential Management must be imported after you set up JBoss Drools Guvnor and jBPM Designer.

Installing the IBM Producer Lifecycle and Credential Management software

After you install and configure the required software, you can install IBM® Producer Lifecycle and Credential Management.

Procedure

1. Double-click the Producer Lifecycle and Credential Management `setup.exe` file.
2. Follow the steps in the installation wizard.

Results

The Producer Lifecycle and Credential Management installation files are saved to your computer.

Related tasks:

"Upgrading the application" on page 45
You must install the new version of the IBM® Producer Lifecycle and Credential Management Windows service to upgrade the application.

Installation files

The IBM® Producer Lifecycle and Credential Management application comes with several installation files.

The release folder contains the files that are necessary to configure and run the application and to set up rules and workflows in Drools Guvnor. These workflows and rules are used by Producer Lifecycle and Credential Management.

Table 1. Installation files.

Installation file name	Description
`installService.bat`	This service must be started to log into the application.
`PLCMObjects.jar`	This file contains the objects used by Producer Lifecycle and Credential Management rules and processes and must be imported into Drools Guvnor.
`PLCMRules.drl`	This file contains the rules and processes required for Producer Lifecycle and Credential Management workflows and must be imported into Drools Guvnor.
`<plcm workflow>.bpmn2` files	These files contain the workflows required by Producer Lifecycle and Credential Management and must be imported into Drools Guvnor.

Reinstalling the application

If you must reinstall IBM® Producer Lifecycle and Credential Management when Drools and JBPM are already installed in the environment, then the `plcmPkg` folder must be deleted.

Procedure

1. Open JBoss Drools Guvnor.
2. In the **Knowledge Base** section, expand **Packages**.
3. Click the `plcmPkg`.
4. On the **plcmPkg** tab, click **File** > **Archive**.
5. In the **Administration** section in the left pane, click **Archive**.
6. Select the `plcmPkg` and click **Permanently delete package**.

Chapter 2. Service configuration

The IBM® Producer Lifecycle and Credential Management service must be configured to point to your database and Guvnor before you can open the application.

In addition to configuring access to the database, you can configure the `application.conf` file to complete the following tasks:
- set the default language
- configure mail settings
- configure settings for the License Metric report

You can also configure the `wrapper.conf` to complete the following tasks:
- initiate SSL
- set memory space

Related tasks:

"Upgrading the application" on page 45
You must install the new version of the IBM® Producer Lifecycle and Credential Management Windows service to upgrade the application.

Configuring access to your database

You must configure the IBM® Producer Lifecycle and Credential Management Windows service to point to your Microsoft SQL Server database.

Before you begin

Make sure that you have created a Microsoft SQL Server database.

Procedure

1. Navigate to the following location: `C:\IBM PLCM\plcmservice\conf`

   Important: This is the default location. If you installed Producer Lifecycle and Credential Management to another location, the file path is different.

2. Open the `application.conf` file.

3. Configure the **db.sql.url** value to point to your database.

   Important: If you have special characters in any of the following values, you must comment out the special characters by using double quotation marks ("). For example, if your password is s3cr*t, type s3cr"*"t as the value.

   You must edit the following values:

   SERVER_ADDRESS
   > The host name of the computer where Microsoft SQL Server is installed.

   1433 The default Microsoft SQL Server port. You might need to edit the port number if you connect to a named instance. Use Microsoft SQL Server Configuration Manager to check the port number.

databaseName
> The name of the database that you created for Producer Lifecycle and Credential Management in Microsoft SQL Server.

instance
> The name of your Microsoft SQL Server instance.

4. Set the `db.sql.user` value to the user who has access to the Microsoft SQL Server account that has appropriate rights to access the database.

5. Set the `db.sql.password` value to the password of the user who has access to the Microsoft SQL Server account that has appropriate rights to access the database.

6. Save the file.

What to do next

You must start the Producer Lifecycle and Credential Management service for the changes to take effect.

Configuring access to JBoss Drools Guvnor

To store workflows and rule definitions that are used by IBM® Producer Lifecycle and Credential Management, you must configure access to JBoss Drools Guvnor.

Before you begin

You must download and install JBoss Drools Guvnor 5.5.0 and deploy it by using a web application server. In Guvnor, you must create a package to store the workflows and rule definitions for Producer Lifecycle and Credential Management.

Procedure

1. Navigate to the following location: `C:\Program Files\IBM PLCM\plcmservice\ conf`

   Important: This is the default location. If you installed the application to another location, the file path is different.

2. Open the `application.conf` file.

3. In the `Drools configuration` section, edit the following values:

rules.packageURL
> This value must point to the JBoss Drools Guvnor package binary that contains the workflows and rule definitions for Producer Lifecycle and Credential Management. To find the value, in Guvnor, select the package you created, click the **Edit** tab, and view the URL next to the **URL for packaging binary** link.

rules.PoJoModelURL
> This value must point to the URL to download the model set. This value must be configured to reload rules in Producer Lifecycle and Credential Management. To find the value, in Guvnor, select the package you created, click the **Edit** tab, and view the URL next to the **POJO Model** link.

rules.ChangeSetURL
> This value must point to the URL for the change set. This value must be configured to reload rules in Producer Lifecycle and Credential

Management. To find the value, in Guvnor, select the package you created, click the **Edit** tab, and view the URL next to the **Change Set** link.

rules.user
This is the user who has access to the package that contains the workflows and rule definitions for Producer Lifecycle and Credential Management. By default, this is admin. If you changed the default authentication of Guvnor, use the user ID that you configured instead.

rules.password
This is the password of the user who has access to the package that contains the workflows and rule definitions for Producer Lifecycle and Credential Management. By default, this is admin. If you changed the default authentication of Guvnor, use the password that you configured instead.

4. Save the file.

What to do next

You must restart the Producer Lifecycle and Credential Management Windows service for the changes to take effect.

Configuring the language

You can set the language that is used in the IBM® Producer Lifecycle and Credential Management application.

About this task

If you specify two or more languages in the configuration file, the language that is used is based on the browser's language. The following languages are available:

- English: en
- German: de-DE
- Spanish: es-ES
- French: fr-FR
- Italian: it-IT
- Japanese: ja-JA
- Brazilian Portuguese: pt-BR
- Chinese Simplified: zh-CN
- Chinese Traditional: zh-TW

To update the reference data that comes with the Producer Lifecycle and Credential Management application to the specified language, you must run the appropriate script file.

Procedure

1. Navigate to the following location: C:\IBM PLCM\plcmservice\conf

   Important: This is the default location. If you installed Producer Lifecycle and Credential Management to another location, the file path is different.
2. Open the application.conf file.
3. Set the **application.langs** value to the language that you want to display in the application.

4. Save the file.

What to do next

To update the reference data that comes with the Producer Lifecycle and Credential Management application, you must run the appropriate language script. The language script files can be found on the IBM Client Success Portal (https://varicent.support.ibmcloud.com). You must restart the Producer Lifecycle and Credential Management service for the changes to take effect.

Configuring mail settings

For IBM® Producer Lifecycle and Credential Management to automatically send emails to users, mail settings must be configured.

Before you begin

Obtain the details of your company's mail server from your system administrator.

To enable emails in Producer Lifecycle and Credential Management, see "Enabling email notifications" on page 22.

Procedure

1. Navigate to the following location: `C:\Program Files\IBM PLCM\plcmservice\ conf`

   Important: This is the default location. If you installed the application to another location, the file path is different.
2. Open the `application.conf` file.
3. Edit the following section:

   ```
   # EMAIL configuration
   clientName="<name>"
   smtp.host="<localhost>"
   #All below parameters are optional for Email configuration
   smtp.port=<25>
   smtp.ssl=<no>
   smtp.tls=<no>
   smtp.user="<user name>"
   smtp.password="<secret>"
   ```
4. Save the file.

What to do next

You must restart the Producer Lifecycle and Credential Management service for the changes to take effect.

Configuring the migration delimiter

You can set the delimiter that is used in exported migration files in the IBM® Producer Lifecycle and Credential Management `application.conf` file.

Procedure

1. Navigate to the following location: `C:\IBM PLCM\plcmservice\conf`

   Important: This is the default location. If you installed Producer Lifecycle and Credential Management to another location, the file path is different.

2. Open the `application.conf` file.

3. Set the **migration.column.delimiter** value to the delimiter that you want to use between columns in exported files.

   This can be a character or set of characters. The delimiter must be unique. It cannot exist in any of the data being exported or imported.

4. Save the file.

What to do next

You must restart the Producer Lifecycle and Credential Management service for the changes to take effect.

License metric tracking

License metric tracking is enabled by default in IBM® Producer Lifecycle and Credential Management, which tracks metrics relevant to the licensing policy such as the number of administrator users and the number of active agencies, branches, and producers. This information helps determine if the current usage of Producer Lifecycle and Credential Management is within license entitlement levels and can prevent potential license violations.

License tracking details are gathered by specifying configuration properties in the `application.conf` file, and the data that is gathered is displayed in the License Consumption Report that is saved in the following directory: `C:\IBM PLCM\plcmservice\logs`.

Configuring your license tracking details

You can set the configuration properties to gather data that relates to license terms for the IBM® Producer Lifecycle and Credential Management application.

About this task

License metric tracking is enabled by default.

Procedure

1. Navigate to the following location: `C:\IBM PLCM\plcmservice\conf`

   Important: This is the default location. If you installed Producer Lifecycle and Credential Management to another location, the file path is different.

2. Open the `application.conf` file.

3. Navigate to the `License Metric Settings` section.

4. You can specify the following configuration properties, which enable administrators to gather the required data:

Configuration property	Description
`license.metric.enable`	Set the value to `false` if you do not want to collect license metric data.
`license.metric.scheduledTime`	Set the time at which you want the metric values to be generated everyday. The time must be set in the following format: hh:mm:ss
`license.metric.plcm.dir`	Set the absolute source directory.

Configuration property	Description
`license.metric.output.dir`	Set the location (relative directory) to which the IBM Software License Metric Tag files are saved.
`license.metric.logger.file.size`	Set the maximum size of the SLMT file.
`license.metric.logger.file.number`	Set the maximum number of SLMT file outputs per software instance.

5. Save the file.

What to do next

You must start the Producer Lifecycle and Credential Management service for the changes to take effect.

Integration with IBM License Metric Tool

IBM® Producer Lifecycle and Credential Management generates IBM Software License Metric Tag (SLMT) files. Versions of IBM License Metric Tool that support IBM Software License Metric Tag can generate License Consumption Reports. Read this section to interpret these reports for Producer Lifecycle and Credential Management.

By default, the IBM Software License Tag files are saved in the following directory: `C:\IBM PLCM\plcmservice\logs`. For more information about configuring SLMT file settings, see "Configuring your license tracking details" on page 11.

Each Producer Lifecycle and Credential Management instance generates an IBM Software License Metric Tag file. The values in the file are refreshed every 24 hrs by the Batch Processor. The following metrics are monitored:

Connection
> The **Connection** metric can have the following subtypes:
>
> **FINRA**
> > This metric displays a value of "1" if the Producer Lifecycle and Credential Management application is connected to FINRA. If there is no connection, a value of "0" is displayed.
>
> **NIPR** This metric displays a value of "1" if the Producer Lifecycle and Credential Management application is connected to NIPR. If there is no connection, a value of "0" is displayed.

Authorized User
> The number of advanced business users who have security authorizations to configure reference data, workflow queues, and user-defined fields or user-defined sections in Producer Lifecycle and Credential Management.

Eligible Participant
> The number of distinct PartyIds configured with active eligible product records that are being tracked on the current system day.

Changing the name of the cookie

You can change the name of the IBM® Producer Lifecycle and Credential Management cookie that is stored in your web browser. This enables you to connect to multiple Producer Lifecycle and Credential Management instances if you have given each instance a unique cookie name.

Procedure

1. Navigate to the following location: `C:\IBM PLCM\plcmservice\conf`

   Important: This is the default location. If you installed Producer Lifecycle and Credential Management to another location, the file path is different.
2. Open the `application.conf` file.
3. Set the `play.http.session.cookieName` value to a unique name for this instance.

Configuring SSL settings

In IBM® Producer Lifecycle and Credential Management, you can configure SSL to establish an encrypted link. This enables Producer Lifecycle and Credential Management on both HTTP and HTTPS.

About this task

Producer Lifecycle and Credential Management uses Java keys to configure SSL certificates and keys. After you have created your keystore, you can configure Producer Lifecycle and Credential Management to use the keystore.

Procedure

1. Navigate to the following location: `C:\IBM PLCM\plcmservice\conf`

   Important: This is the default location. If you installed Producer Lifecycle and Credential Management to another location, the file path is different.
2. Open the `wrapper.conf` file.
3. Navigate to the `Configure these parameters for SSL` section.
4. Uncomment the following lines:
   ```
   wrapper.java.additional.7=-Dhttps.port=443
   wrapper.java.additional.8=-Dplay.server.https.keyStore.path=
   wrapper.java.additional.9=-Dplay.server.https.keyStore.password=

   wrapper.java.additional.10=-Djava.security.properties="./conf/security.properties"
   ```
5. Configure the following values:

   Dhttps.port
   > The port to which you want Producer Lifecycle and Credential Management to listen for HTTPS protocol.

   -Dplay.server.https.keyStore.path
   > The path to the keystore containing the private key and certificate.

   -Dplay.server.https.keyStore.password
   > The password to the keystore.
6. Optionally, the following values can be uncommented and configured if the values are different from the default settings:

   -Dplay.server.https.keyStore.type
   > The key store type. By default, it is set to JKS.

   -Dplay.server.https.keyStore.algorithm
   > The key store algorithm. By default, it is set to the platforms default algorithm.
7. Save the file.

What to do next

You must restart the Producer Lifecycle and Credential Management Windows service for the changes to take effect.

Disabling HTTP protocol

You can disable HTTP access to the IBM® Producer Lifecycle and Credential Management server.

Procedure

1. Navigate to the following location: `C:\IBM PLCM\plcmservice\conf`

   Important: This is the default location. If you installed Producer Lifecycle and Credential Management to another location, the file path is different.
2. Open the `wrapper.conf` file.
3. Navigate to the `Listening port number for the service` section.
4. Change the `wrapper.java.additional.5=-HTTPd.port` value to `disabled`.
5. Save the file.

What to do next

You must restart the Producer Lifecycle and Credential Management Windows service for the changes to take effect.

Configuring operating time zone

Administrators can configure the operating time zone for IBM® Producer Lifecycle and Credential Management. This is useful when the cloud server time zone differs from the desired operating system time zone.

Procedure

1. Navigate to the following location: `C:\IBM PLCM\plcmservice\conf`

   Important: This is the default location. If you installed Producer Lifecycle and Credential Management to another location, the file path is different.
2. Open the `wrapper.conf` file.
3. Uncomment the following line: `wrapper.java.additional.13=-Duser.timezone=EST`
4. Set the value to the required time zone.

Increasing memory space

If IBM® Producer Lifecycle and Credential Management runs out of memory space, you can increase the space of the permanent generation heap and Java heap size in the `wrapper.conf` file.

Procedure

1. Navigate to the following location: `C:\IBM PLCM\plcmservice\conf`

   Important: This is the default location. If you installed Producer Lifecycle and Credential Management to another location, the file path is different.
2. Open the `wrapper.conf` file.

3. Increase the **wrapper.java.additional.6=-XX:MaxPermSize** value to **1024m**.
4. Increase the value of the **wrapper.java.maxmemory** parameter.
5. Save the file.

What to do next

You must restart the Producer Lifecycle and Credential Management Windows service for the changes to take effect.

Configuring a client proxy server

If IBM® Producer Lifecycle and Credential Management generates a timeout exception when trying to invoke the National Insurance Producer Registry (NIPR) web service, external Background Check web services to initiate a background check, or other client or external vendor web services, the client may have a proxy server configured in the environment that Producer Lifecycle and Credential Management integrates with to invoke web services. The `wrapper.conf` file must be modified to add settings for the proxy server.

About this task

Procedure

1. Navigate to the following location: `C:\IBM PLCM\plcmservice\service installer`

   Important: This is the default location. If you installed Producer Lifecycle and Credential Management to another location, the file path is different.
2. Open the `wrapper.conf` file.
3. Add the following lines to the file:

   ```
   wrapper.java.additional.11=-Dhttps.proxyHost=<IP address>
   wrapper.java.additional.12=-Dhttps.proxyPort=<Port #>

   wrapper.java.additional.13=-Dhttp.proxyHost=<IP address>
   wrapper.java.additional.14=-Dhttp.proxyPort=<Port #>
   ```
4. Save the file.

What to do next

You must restart the Producer Lifecycle and Credential Management Windows service for the changes to go into effect.

Installing the service

You must install the IBM® Producer Lifecycle and Credential Management Windows service to run the application.

About this task

Important: If at any time you restart the database server, then you must also restart the IBM PLCM service. If the IBM PLCM service is not restarted, an error message is displayed in the Producer Lifecycle and Credential Management application.

Procedure

1. Navigate to the following location: `C:\IBM PLCM\plcmservice\service installer`

   Important: This is the default location. If you installed Producer Lifecycle and Credential Management to another location, the file path is different.
2. Right-click the `installService.bat` file and select **Run as administrator**.

What to do next

The service is installed as **IBM PLCM**. You must open the Services window and start the **IBM PLCM** service.

Setting the service to start automatically

After making the required changes to the IBM® Producer Lifecycle and Credential Management configuration files, you must start the Producer Lifecycle and Credential Management Windows service.

About this task

You can set the startup type of the Producer Lifecycle and Credential Management service to automatic.

Procedure

1. Click **Control Panel** > **Administrative Tools** > **Services**.
2. In the **Services** panel, select **IBM PLCM Service**.
3. Right-click and select **Properties**.
4. Select **Automatic** as the startup type.
5. Start the service.

Viewing the exception log

If there are any exceptions when you run IBM® Producer Lifecycle and Credential Management, you can view them in the `plcm.log` file.

Procedure

1. Navigate to the following location: `C:\IBM PLCM\plcmservice\logs`

   Important: This is the default location. If you installed Producer Lifecycle and Credential Management to another location, the file path is different.
2. Open the `plcm.log` file.

Opening the application

You can log in to the IBM® Producer Lifecycle and Credential Management application after you make changes to the configuration files and start the service.

Procedure

1. Navigate to the following location: `http://<localhost>:9000/PLCM/logon`

   Where **localhost** is the name or IP address of your server, and **9000** is the port number configured in the `wrapper.conf` file. By default, the port number is set to 9000.

2. In the **User Name** field, type `admin`.
3. In the **Password** field, type `aaaaaA!`.
4. Click **Login**.

Chapter 3. System configuration settings

Administrators can configure access to third party applications from IBM®
Producer Lifecycle and Credential Management as well as customize the
appearance of the application and map any user-defined workflows to default
workflows.

The following third party applications can be configured to work with Producer
Lifecycle and Credential Management:

NIPR integration

If you have a contract with NIPR, Producer Lifecycle and Credential
Management can integrate directly with NIPR. Real-time calls are made
from Producer Lifecycle and Credential Management to the NIPR Producer
Database to obtain license and appointment data. Producer Lifecycle and
Credential Management sends requests for new appointments and
termination of appointments and receives files of license renewals,
revocations, suspensions, alerts, and other license or appointment changes.

FINRA integration

If you subscribe to the FINRA webEFT Form Filing service, Producer
Lifecycle and Credential Management can submit files with U4, U4
Amendment, and U5 forms to FINRA. Data from FINRA, such as exam
results, exam windows, and state registrations, can be uploaded.

DTCC integration

If you subscribe to the DTCC service and receive DTCC Training Update
and Training Expiration records from external firms, Producer Lifecycle
and Credential Management can upload continuing education,
appointment, contract, and producer details received from DTCC.

CMIS integration

If you have a CMIS document management system or other third party
management system, you can configure Producer Lifecycle and Credential
Management to store any uploaded documents in the document
management system.

Customizing the application branding

Home office users can customize the IBM® Producer Lifecycle and Credential
Management application banner.

Procedure

1. Click **System Operations** > **System Config Settings**.
2. On the **Theme** tab, click the **Edit** icon.
3. Click **Browse** to upload an image that you want to display on the application
   banner.

   The image must be less than 2 MB and must be in the format of a JPEG or
   PNG file.
4. Complete the required fields.
5. Click **OK**.

Adding National Insurance Producer Registry configuration settings

You can configure access to the National Insurance Producer Registry (NIPR) database from IBM® Producer Lifecycle and Credential Management.

Procedure

1. Click **System Operations** > **System Config Settings**.
2. On the **NIPR** tab, click the **Edit** icon.
3. From the **NIPR Config Indicator** drop-down list, select **Yes**.
4. Complete the following fields:

Field	Description
NIPR Customer Number	The customer number that is provided to you by NIPR.
NIPR Customer PIN	The customer PIN that is provided to you by NIPR.
NIPR Customer ID	The customer ID that is provided to you by NIPR.
NIPR PDB URL	The URL of the NIPR database.
NIPR Batch Prefix	The batch prefix that is provided to you by NIPR.
NIPR Email Address	The NIPR email address.
Payment Account Identifier	The bank account registered with NIPR for processing state appointments.
Payment Type	The payment type that is associated with the **Payment Account Identifier** field.
NIPR FTP Server	This is required to access the state appointment files from NIPR.
NIPR FTP Username	The user name used to log in to the NIPR FTP server.
NIPR FTP Password	The password used to log in to the NIPR FTP server.
Inbound File Directory	The name of the directory for inbound files.
Outbound File Directory	The name of the directory for outbound files.
Alert Service URL (Host part)	URL for alert service. Required to receive alerts from NIPR.
Appointment Auto Back-Date	Set this value to **Yes** to have Producer Lifecycle and Credential Management automatically back date appointments being sent to NIPR with the grace period allowed by the state. Set this value to **No** to have Producer Lifecycle and Credential Management send over appointments to be effective on the current system date.
Subscription Name	This is the name of the NIPR alert subscription.

5. Click **OK**.

Adding Financial Industry Regulatory Authority configuration settings

You can configure access to the Financial Industry Regulatory Authority (FINRA) database from IBM® Producer Lifecycle and Credential Management. With the use of a scheduling tool, Producer Lifecycle and Credential Management can then import and export data to and from FINRA.

Before you begin

You must be a member of FINRA and subscribe to the FINRA download service or the form filing service or both.

Procedure

1. Click **System Operations** > **System Config Settings**.
2. On the **FINRA** tab, click the **Edit** icon.
3. From the **FINRA Config Indicator** drop-down list, select **Yes**.
4. Complete the following fields:

Field	Description
FINRA User ID	The user ID used to access the FINRA server.
FINRA Password	The password used to access the FINRA server.
FINRA FTP Server	The address of the FINRA server.
Download Service Directory	The directory where you can access the files.
EFT Download Service Indicator	Select **Yes** if you subscribe to the FINRA download file service. After a U4 is filed for a producer, Producer Lifecycle and Credential Management receives daily feeds of changes to the FINRA credentials of the producer. For example, exam windows and state registrations for a producer is sent to Producer Lifecycle and Credential Management from FINRA.
EFT Form Filing Service Indicator	Select **Yes** if you subscribe to the form filing service. This allows you to terminate or register a producer to sell securities with your firm.

5. Click **OK**.

Adding Depository Trust & Clearing Corporation configuration settings

You can configure access to the Depository Trust & Clearing Corporation (DTCC) database from IBM® Producer Lifecycle and Credential Management. With the use of a scheduling tool, Producer Lifecycle and Credential Management can then obtain continuing education, contract, state appointment, and producer details from DTCC.

Procedure

1. Click **System Operations** > **System Config Settings**.
2. On the **DTCC** tab, click the **Edit** icon.
3. From the **DTCC Config Indicator** drop-down list, select **Yes**.

4. Complete the following fields:

Field	Description
DTCC LNA Indicator	If you subscribe to the DTCC LNA service, select **Yes**.
DTCC Money Settlement Indicator	If you subscribe to the DTCC Money Settlement service, select **Yes**. This service can integrate with Producer Lifecycle and Credential Management to send commission and incentive results to the application.
DTCC User ID	The user ID required to access the DTCC services.
DTCC Password	The password required to access the DTCC services.
DTCC FTP Server	The URL of the DTCC FTP server.

5. Click **OK**.

Enabling email notifications

For IBM® Producer Lifecycle and Credential Management to automatically send emails to users, mail settings must be configured in the application.

Procedure

1. Go to **System Operations** > **System Config Settings**
2. Click the **Email** tab.
3. Click **Edit**.
4. From the **Email Configuration Indicator** drop-down list, select **Yes**.
5. From the **Enable Emails** drop-down list, select **Yes**.
6. In the **From Email** field, type the email address from which you want the emails to be sent.

   This value is usually set to the administrator's email address.
7. Click **OK**.

Producer settings

When configuring IBM® Producer Lifecycle and Credential Management, you must configure settings that are required to create, onboard, and modify producers and producer details.

The following settings for producers can be configured in the Producer Lifecycle and Credential Management application:
- liability coverage settings
- generation of multiple appointments for a single product
- credential contract restrictions
- pre-hiring
- onboarding kit cancellation and rejection constraints
- login settings
- currency, percentage, and name formats

Configuring liability coverage settings

You can configure the liability coverage carrier settings that are available in the IBM® Producer Lifecycle and Credential Management application.

Procedure

1. Go to **System Operations** > **System Config Settings**.
2. Click the **Party** tab.
3. Navigate to the **Party Configuration Settings** section and click **Edit**.
4. From the **Party Configuration Indicator** drop-down list, select **Yes**.
5. In the **Carrier Link** field, type the link to the insurance carrier that is providing liability coverage.
6. In the **Carrier Name** field, type the name of the insurance carrier that is providing liability coverage.
7. In the **Company Name** field, type the name of the company of the insurance carrier that is providing the liability coverage.
8. Click **OK**.

Enabling generation of multiple appointments for single product

In IBM® Producer Lifecycle and Credential Management, you can generate multiple appointments for Life, Variable, Health or Property and Casualty products by enabling the **Default Combined Appointments** setting in the application.

Procedure

1. Go to **System Operations** > **System Config Settings**.
2. Click the **Party** tab.
3. Navigate to the **Party Configuration Settings** section and click **Edit**.
4. From the **Party Configuration Indicator** drop-down list, select **Yes**.

   For example, if a producer has LOAs for Life, Health, and variable products for an LVH state, and the producer only selects Life when adding appointments, then all three appointments are automatically created. The same applies in reverse, when removing appointments.

   If the **Party Configuration Indicator** is set to **No** in the example above, only the Life appointment is created.
5. From the **Default Combined Appointments** drop-down list, select **Yes**.
6. Click **OK**.

Configuring credential contract restrictions

In the IBM® Producer Lifecycle and Credential Management application, you can set the **Credential Contract Restriction** indicator to **No** if you want all appointments to be created at the producer level.

About this task

By default, the **Credential Contract Restriction** indicator is set to **Yes**. This allows home office users to choose to create appointments at either the producer level or contract level. You can set this indicator to **No** to ensure all appointments are associated with producers only and not a specified producer contract.

Procedure

1. Go to **System Operations** > **System Config Settings**.
2. Click the **Party** tab.
3. Navigate to the **Party Configuration Settings** section and click **Edit**.
4. From the **Party Configuration Indicator** drop-down list, select **Yes**.
5. From the **Credential Contract Restriction** drop-down list, select **No**.
6. Click **OK**.

Enabling pre-hiring

To pre-hire producers in IBM® Producer Lifecycle and Credential Management, you must enable pre-hiring in the application.

Procedure

1. Go to **System Operations** > **System Config Settings**.
2. Click the **Party** tab.
3. Navigate to the **Contract Configuration Settings** section and click **Edit**.
4. From the **Contract Configuration Indicator** drop-down list, select **Yes**.
5. From the **Enable Pre-Hire** drop-down list, select **Yes**.
6. Click **OK**.

Configuring onboarding kit cancellation and rejection constraints

In the IBM® Producer Lifecycle and Credential Management application, you can set the number of days that an onboarding kit can remain in the pending or inactive state before it is canceled.

About this task

If the value of any constraint is set to zero, then Producer Lifecycle and Credential Management ignores that type of onboarding kit cancellation.

Procedure

1. Go to **System Operations** > **System Config Settings**.
2. Click the **Party** tab.
3. Navigate to the **Contract Configuration Settings** section and click **Edit**.
4. From the **Contract Configuration Indicator** drop-down list, select **Yes**.
5. In the **Onboarding Cancellation - Pending Rejection** field, type the number of days that an onboarding kit can remain in the pending state before it is rejected.
6. In the **Onboarding Cancellation - Complete Kit** field, type the number of days that users have to complete their onboarding kits before they are canceled.
7. In the **Onboarding Cancellation - Not Active** field, type the number of days that an onboarding kit can remain in the inactive state before it is canceled.
8. Click **OK**.

Configuring login settings

You can set the authentication options available when creating a new IBM® Producer Lifecycle and Credential Management user and you can set the number of time users can attempt to log in to the application before they are locked out.

Procedure

1. Go to **System Operations** > **System Config Settings**.
2. Click the **Party** tab.
3. Navigate to the **Login Configuration Settings** section and click **Edit**.
4. From the **Login Configuration Indicator** drop-down list, select **Yes**.
5. Select **Yes** in one or all of the following drop-down lists:

Choice	Description
Show PLCM	This shows the default authentication method when creating a producer, which is Producer Lifecycle and Credential Management.
Show LDAP	This shows LDAP as an authentication method when creating a producer. For more information on configuring LDAP for use with Producer Lifecycle and Credential Management, see "Configuring LDAP authentication" on page 41.
Show Client Registration	If you have a client portal registration system that adds and tracks user IDs and passwords, then you can select to display client registration as an authentication method when you add a producer.
Show NA	This shows "NA" as an authentication option when creating a new producer.

6. In the **Max Login Fail Count** field, type the maximum number of times users can fail to login before they are locked out.
7. Click **OK**.

Configuring currency, percentage and name formats

You can set the currency and percentage formats and country code used in the IBM® Producer Lifecycle and Credential Management application.

About this task

You can configure a custom currency and percentage format that overrides the format set by the locale on the client-side server.

Table 2. Currency and percentage configuration

Field	Description	Examples
Currency Pattern	This defines the way in which a number is converted to represent a currency amount. The value of this parameter specifies the number of decimal places that you want to display in the currency amount. If the number to be converted has more than the specified number of decimal places, the number is rounded in the result string. If the value remains as the default value of c, then the currency format is defined by the locale set on the client-side.	If the client-side locale is set to English-US and the currencyPattern is set to c0, then 1234.567 becomes $1,235. If the client-side locale is set to German, and the currencyPattern is set to c3, then 1234.567 becomes 1.234,567 €.
Currency Symbol	This value replaces the locale's default currency symbol.	If the locale is set to German, where the currency symbol is displayed after the currency number, and the currencySymbol is set to USD, then 1.23 becomes 1,23 USD.
Percentage Pattern	This multiplies a number by 100 and defines the way in which the percentage is displayed. The value of this field specifies the number of decimal places that you want to display in the percentage. If the value remains as the default value of p, then the percentage format is defined by the locale set on the client-side.	If the client-side locale is set to English-US and the percentagePattern is set to p0, then 0.222 becomes 22 %. If the client-side locale is set to German, and the percentagePattern is set to p3, then 0.22 becomes 22,000 %.

Configuring your country code sets the format of producer names in Producer Lifecycle and Credential Management tables. If the country is set to either Japan (JPN) or China (CHN), then the producer names are displayed with the last name followed by the first name. Also, when adding or editing producer names on the **Producer Details** tab, the middle name and suffix fields are not displayed if the country is set to Japan or China. Any other language setting results in the default behavior.

Configuring your country code also sets the available fields when adding an address for a producer. For example, setting your country to Canada (CAN) ensures that the **Province** and **Postal Code** fields are displayed when adding or editing an address.

Procedure

1. Go to **System Operations** > **System Config Settings**
2. Click the **Party** tab.
3. Scroll down to the **Format Configuration Settings** section and click **Edit**.
4. From the **Format Configuration Indicator** drop-down list, select **Yes**.
5. Set the **Currency Pattern** to the value that defines the number of decimal places for the currency.
6. Set the **Curreny Symbol** to the value that defines the currency type.
7. Set the **Perentage Pattern** to the value that defines the number of decimal places for the percentages.
8. Set the **Country Code** to the code of your country.
9. Click **OK**.

Configuring background check settings

You can configure the links to the background check vendors that are available in the IBM® Producer Lifecycle and Credential Management application as well as configure automated background checks.

Procedure

1. Go to **System Operations** > **System Config Settings**.
2. Click the **BackgroundCheck** tab.
3. Click **Edit**.
4. From the **Background Check Configuration Indicator** drop-down list, select **Yes**.
5. You can configure the following options:

Option	Description
Automated Check Indicator	When this value is set to **Yes**, automated background checks are configured, the **Auto** option is displayed in drop-down menus on the **Background Check** tab, and the **Pass Pending Auto Approve** option is displayed in the **Background Check Status** field.
OFAC File Location	The file path of the saved import file from the Office of Foreign Assets Control (OFAC).
Vendor Site	The URL of your preferred background check vendor.
OFAC Site Address	The URL of the OFAC site.
eVerify Site Address	The URL of the eVerify site.
HR Screening Site Address	The URL of the human resources screening site.
FINRA Gateway Site Access	The URL of the Financial Industry Regulatory Authority (FINRA) site.
Vector One Site Address	The URL of the Vector One site.

6. Click **OK**.

Mapping user-defined workflows

To run correctly, all user-defined workflows must be mapped to the corresponding IBM® Producer Lifecycle and Credential Management workflow.

About this task

Your Producer Lifecycle and Credential Management release comes with many prebuilt workflows. The rules in these workflows can be modified to suit your organization's business processes.

When you modify workflow rules, add a prefix to the rule name to identify the rule as user-defined, for example, UD_initiateIndividualOrSubProducerDRL

Procedure

1. Go to **System Operations** > **System Config Settings**.
2. Click the **Workflow** tab.
3. Click **Add**.
4. From the **PLCM Workflow ID** drop-down list, select the workflow that corresponds to the new user-defined workflow that you created.
5. In the **Replacement Workflow ID** field, type the name of the user-defined workflow that you created.
6. Click **OK**.

Integration with document management system

IBM® Producer Lifecycle and Credential Management can be configured to send any documents uploaded through the application to a third party document management system for storage.

Producer Lifecycle and Credential Management can be integrated with Content Management Interoperability Services (CMIS) or another third party document management system.

Configuring document management system settings

To store documents in a document management system, you must first configure settings in IBM® Producer Lifecycle and Credential Management.

Procedure

1. Go to **System Operations** > **System Config Settings**.
2. Click the **DocumentStore** tab.
3. Click **Edit**.
4. In the **Document Store Config Indicator** field, select **Yes**.
5. In the **Document Store Type** field, select the type of document storage you want to use.

Document Store Type	Description
CMIS	Select this option if you want to use Content Management Interoperability Services (CMIS) to store documents uploaded in Producer Lifecycle and Credential Management.

Document Store Type	Description
Other	Select this option if you want to a different document management system to store documents uploaded in Producer Lifecycle and Credential Management.

6. If you selected **CMIS**, type the information into the required fields to connect to CMIS.
7. If you selected **Other**, in the **Document Store Interface Implementation** field, type the implementation of the IDocumentStore interface that you use to store documents in another third party document store system.

Operations configuration

In IBM® Producer Lifecycle and Credential Management, you must configure settings to enable the migration, mass changes, and mass onboarding features.

Configuring the migration directory

In IBM® Producer Lifecycle and Credential Management, you must configure the directory from which you want migration files to be imported.

Before you begin

If the application server is not running on the same machine as the database server, you must create a folder on a shared drive that will contain the migration files. The shared drive must have a separate folder for migration of each environment, such as `Dev`, `Test`, and `Production`. Map the shared drive on both the application server running the PLCM service and the database server running the PLCM SQL Server database. Make sure that the drives will automatically be mapped if the server is restarted. You must also grant full control to the migration folder for the userID that is used to run the PLCM service on the application server as well as the userID that is executing Microsoft SQL Server on the database server.

Procedure

1. Go to **System Operations** > **System Config Settings**.
2. Click the **Operations** tab.
3. Click **Edit**.
4. From the **Operations Configuration Indicator** drop-down list, select **Yes**.
5. In the **Migration Directory** field, type the location of the migration folder.

   If an absolute path, such as `C:\\plcm\\migration`, is not specified, then the folder is created relative to the Producer Lifecycle and Credential Management installation location. The Microsoft SQL Server database must have access to this migration folder during the import process.
6. Click **OK**.

Configuring import mass change settings

You must configure the batch size and directory for running staging table imports in IBM® Producer Lifecycle and Credential Management.

Procedure

1. Go to **System Operations** > **System Config Settings**.
2. Click the **Operations** tab.
3. Click **Edit**.
4. From the **Operations Configuration Indicator** drop-down list, select **Yes**.
5. Configure the following values:

Values	Description
Import Stage Data Directory	The directory where the stage table data import file is located.
Import Stage Data Batch Size	The batch size to be used in a bulk insert of stage table data. Set this value to 0 or -1 to disable bulk inserts and insert records into the database one at a time.

6. Click **OK**.

Configuring synchronization with IBM Incentive Compensation Management

You must configure the workspace folder to synchronize uploads from IBM®
Producer Lifecycle and Credential Management to IBM® Incentive Compensation
Management.

Procedure

1. Go to **System Operations** > **System Config Settings**.
2. Click the **Operations** tab.
3. Click **Edit**.
4. From the **Operations Configuration Indicator** drop-down list, select **Yes**.
5. In the **Sync Workspace Folder** field, type the name of the folder that is used for synchronization with Incentive Compensation Management.
6. Click **OK**.

Chapter 4. Workflow and rule configuration

The workflows and rules that are required to run IBM® Producer Lifecycle and Credential Management must be imported into JBoss Drools Guvnor and configured to work the Producer Lifecycle and Credential Management application.

Workflows are required to run processes in Producer Lifecycle and Credential Management, such as the initiation of producer onboarding. The workflows contain business rules.

Workflow descriptions

Several workflows are included as part of the IBM® Producer Lifecycle and Credential Management release.

The following list outlines the descriptions of the workflows that are included with your Producer Lifecycle and Credential Management release:

plcm.AgencyTermination
> This workflow is invoked when an authorized home office user selects to terminate an agency or agency contracts. It processes the agency termination, terminates all active contracts associated with the agency, and sends email notifications of the agency termination. This workflow can be modified to send agency termination messages to downstream systems that require real-time notifications.

plcm.CancelOnboardingKit
> This workflow is invoked when an agency manager or home office user selects to cancel the onboarding of a new agent. It can be modified to send cancellation messages to downstream systems that require real-time notifications.

plcm.CompleteContinuingEducation
> This workflow is invoked when an active producer submits a continuing education renewal course, such as general annuity training and long term care training, that is routed to the home office user for review and approval. If the producer is pending and submits the course during the onboarding process, this workflow is not invoked.

plcm.CompleteEOCoverage
> This workflow is invoked when an active producer submits an errors and omissions policy renewal that is routed to the home office user for review and approval. If the producer is pending and submits the errors and omissions data during the onboarding process, this workflow is not invoked.

plcm.CompleteOnboardingKit
> This workflow is invoked when a producer submits an onboarding kit. The workflow determines routings for review and approval, creates workflow tasks, and sends email notifications to the first reviewer. This workflow can be modified to send messages of pending producers to downstream systems that require real-time notifications. If you use the pre-hire feature, the workflow is modified to call background check web services to initiate the background check.

plcm.InitiateOnboardingKit

This workflow is invoked when a home office user or agency manager creates a new producer or new producer contract. It assigns contract and producer codes, assembles the onboarding kit, and sends emails and alerts to the producers to notify them to complete their onboarding kits.

plcm.InitiateOnboardingDualContract

This workflow is invoked when a new contract that requires dual contract approval is created.

plcm.NodeAssignmentChange

This workflow is invoked whenever a node assignment is added, deleted, or updated.

plcm.ProducerEndSuspendLOA

This workflow is invoked when a home office user or agency manager reactivates a producer who has been suspended or was on a leave of absence. This workflow can be invoked by the manageProducerLifecycle web service to automatically start when a producer meets production requirements during the suspension period. This workflow reactivates the producer and sends email notifications of the reactivation. It can be modified to send a message of reactivation to downstream systems that require real-time notifications.

plcm.ProducerReinstate

This workflow is invoked when a home office user selects to reinstate a terminated producer. It processes the reinstatement and sends email notifications of the restatement. This workflow can be modified to send messages of reinstatement to downstream systems that require real-time notifications.

plcm.ProducerSuspendLOA

This workflow is invoked when a home office user or agency manager suspends a producer or starts a leave of absence for a producer. It can also be invoked from the manageProducerLifecycle web service and can be automatically started when a producer does not meet production requirements. This workflow processes the suspension or leave of absence and sends email notifications. It can be modified to send messages of the suspension or leave of absence to downstream systems that require real-time notifications.

plcm.ProducerTermination

This workflow is invoked when a home office user or agency manager terminates a producer or terminates one or more producer contracts. It can also be invoked from the manageProducerLifecycle web service and can be automatically started when a producer does not meet production requirements. This workflow processes the termination and sends email notifications. It can be modified to send messages of the termination to downstream systems that require real-time notifications.

plcm.ReviewContinuingEducation

This workflow is invoked when a home office user approves continuing education renewals or courses submitted by an active producer. It records the approval of the course, updates the continuing education status and credential summary of the producer, and sends email notifications of rejections back to the producer.

plcm.ReviewDualContractRequest
    This workflow is invoked whenever the user submits an action from one of the following dual contract tasks: Review Dual Contract Request or Transfer to New Agency.

plcm.ReviewEOCoverage
    This workflow is invoked when a home office user approves errors and omission coverage renewals submitted by an active producer. It records the approval of the errors and omission coverage and sends emails of rejections back to the producer.

plcm.ReviewOnboardingKit
    This workflow is invoked when an agency manager or home office user completes a review of an onboarding kit. It updates the status of the onboarding kit.

    - If it is approved, the workflow executes rules to determine the next reviewer of the onboarding kit, generates workflow tasks, and sends emails to the reviewers. If there are no additional reviewers, the workflow activates the onboarding kit.

    - If it is pending rejection, the workflow sends email notifications that include instructions for appealing the rejection based on credit score information, which is needed for the Fair Credit Reporting Act compliance.

    - If it is rejected, the workflow sends email notifications to the producer.

    - If it is canceled, the workflow sends email notifications.

    - If it is returned for resubmission, the workflow creates alerts and sends email notifications to the producer to resubmit the onboarding kit.

    This workflow can be modified to send notifications of the activation, rejection, or cancellation to downstream systems that require real-time notifications. It can also be modified to call background check vendor web services to initiate the background check after the agency manager has completed the review.

plcm.backgroundCheckResults
    This workflow is invoked for each background check result that is received in a file from an external vendor. It sends a notification that the results have been received to home office analysts so that they can review the results.

plcm.eAcknowledgment
    This workflow is invoked when there is a contract change to an active contract. It determines whether additional electronic acknowledgments must be signed and generates alerts and email notifications to the party who needs to electronically acknowledge the contract change.

Importing rules

After you install JBoss Drools Guvnor and jBPM Designer, you must create a package in Drools Guvnor. This is required to import the workflows rules for IBM® Producer Lifecycle and Credential Management.

Before you begin

Make sure you have installed JBoss Drools Guvnor, JBoss jBPM Designer, and Producer Lifecycle and Credential Management.

Procedure

1. Open JBoss Drools Guvnor.
2. In the **Knowledge Bases** section, click **Create New** > **New Package**.
3. Select the **Import from drl file** option.
4. Click **Browse** and navigate to the location to which you saved Producer Lifecycle and Credential Management during the installation.

   By default, it is located in the following directory: `C:\IBM PLCM\guvnor-imports\rules`.
5. Select the `PLCMRules.drl` file.
6. Click **Import**.

   By default, this creates a package that is called `plcmPkg` that contains all the rules required for Producer Lifecycle and Credential Management workflows.
7. Click **File** > **Save Changes**.

What to do next

You must upload the file that contains the business objects that are used in the workflows for Producer Lifecycle and Credential Management.

Importing workflow objects

Use JBoss Drools Guvnor to upload the objects that are required by IBM® Producer Lifecycle and Credential Management workflows.

Before you begin

Make sure that you have installed JBoss Drools Guvnor, JBoss jBPM Designer, and Producer Lifecycle and Credential Management.

Procedure

1. Open JBoss Drools Guvnor.
2. In the **Knowledge Bases** section, click **Create New** > **Upload POJO Model jar**.
3. Leave the **Create new** option selected.
4. Give the model a name.
5. Leave the **Create in Package** option selected.
6. Click **OK**.
7. Click **Browse** and select the `PLCMObjects.jar` file located in your installation folder.

   By default, it is located in the following directory: `C:\Program Files\IBM PLCM\guvnor-imports`
8. Click **Upload**.

   The objects in the JAR file are imported into Drools Guvnor.
9. Click **File** > **Save and Close**.
10. Click **Check In**.

What to do next

You must import the file that contains the processes that are used in Producer Lifecycle and Credential Management.

Importing processes

Use JBoss Drools Guvnor to upload the processes that are required for IBM®
Producer Lifecycle and Credential Management.

Before you begin

Make sure that you install JBoss Drools Guvnor, JBoss jBPM Designer, and
Producer Lifecycle and Credential Management.

Procedure

1. Open JBoss Drools Guvnor.
2. In the **Knowledge Bases** section, click **Create New** > **New BPMN2 Process**.
3. Leave the **Create new** option selected.
4. Give the process a name, such as the name of the workflow that you are
   importing.
5. Leave the **Create in Package** option selected.
6. Make sure that the package that you created is selected in the list.
7. Click **OK**.

   This creates an empty process.
8. Click **Tools** > **Import from BPMN2**.
9. Click **Browse** and select the `.bpmn2` file that is located in the Producer
   Lifecycle and Credential Management installation folder.

   By default, the files are located in the following directory: `C:\Program
   Files\IBM PLCM\guvnor-imports\workflows`. Make sure that you select the file
   that matches the process name.
10. Click **Import**.
11. Click **File** > **Save and close**.
12. Click **Check in**.
13. Import each process in the folder in the same way.

Configuring workflows

Use JBoss Drools Guvnor to build a package to create a snap shot that IBM®
Producer Lifecycle and Credential Management can access.

Before you begin

On the **Edit** tab, make sure that you save the changes to the package and click the
Validate configuration button.

Procedure

1. Open JBoss Drools Guvnor.
2. Open the package that contains the Producer Lifecycle and Credential
   Management rules.
3. Click **File** > **Save**.
4. On the **Edit** tab, click **Build package**.
5. Note the **URL for package binary** link.
6. Navigate to the `application.conf` file.

By default, it is located in the following directory: `C:\Program Files\IBM PLCM\plcmservice\conf`.

7. In the `Drools configuration` section, edit the following value to match the **URL for package binary** link that you noted in step 4:

   `rules.packageURL="http://localhost:8080/drools-guvnor/rest/packages/ plcmPkg/binary"`

8. Save the `application.conf` file.
9. Restart the Producer Lifecycle and Credential Management Windows service.

Reloading rules

In IBM® Producer Lifecycle and Credential Management, you can reload rules and workflows.

About this task

When you reload rules, the JAR file that has been imported into Guvnor is read and imported into Producer Lifecycle and Credential Management. If the rules are reloading while a user requests access to rules, the old rules are run until the reloading is complete.

You must have the appropriate permissions to perform this task and settings must be configured in the `application.conf` file. For more information on configuring the settings to reload rules, see "Configuring access to JBoss Drools Guvnor" on page 8.

Note: You must not rename the `plcmObjects.jar` file when uploading it into Guvnor. If this file is renamed, the rules cannot be initialized.

Procedure

Go to **System Operations** > **Reload Rules**.

Chapter 5. Authentication and sign-on

Various communication and authentication options are available when you configure Open SSO or LDAP for IBM® Producer Lifecycle and Credential Management authentication.

Single sign-on configuration

IBM® Producer Lifecycle and Credential Management supports single sign-on authentication through an identity provider. When single sign-on is configured, users can log in to one system and gain access to multiple systems.

If you are not logged in to Producer Lifecycle and Credential Management and single sign on (SSO) is configured, then the application checks to see if you are logged in to the identify provider (IdP). If you are not logged in to the IdP, the IdP redirects you to the SSO page to log in.

If you are logged into the SSO provider, then your user name is checked against Producer Lifecycle and Credential Management immediately. If your user name matches, you are granted access to Producer Lifecycle and Credential Management without being required to log in.

When you log out of Producer Lifecycle and Credential Management, a log out request is sent to the IdP that logs you out of the application and invalidates the Producer Lifecycle and Credential Management session. This also logs you out of any other application that you are logged in to using the SSO system.

Generating and extracting your own keystore

If the communication between the IdP and IBM® Producer Lifecycle and Credential Management must be encrypted, you must create a keystore and generate private and public keys for Producer Lifecycle and Credential Management to access the IdP.

Before you begin

You must create a keystore and a private and public key that Producer Lifecycle and Credential Management can use to encrypt requests to the IdP. You can create a keystore with the Java Keytool utility that comes with any standard JDK distribution.

Procedure

1. Open the command prompt window with administrator rights and switch the directory to the location of the Java Keytool utility.

   For example, type the following text: `cd C:\Program Files\Java\jre1.8\bin`

2. Generate a keystore file and a public and private key by typing the following command in the command prompt window: `keytool -genkeypair -alias <alias-name> -keypass <your-password> -keystore <keystore-file>`

   For example, type `keytool -genkeyair -alias ibm-plcm -keypass changeit -keystore ibmplcm-keys.jks`

   The keystore file is saved in the same directory as you typed in step 1.

3. Extract the public key that is used by the IdP to decrypt requests from Producer Lifecycle and Credential Management by typing the following command in the command prompt window: `keytool -export -keystore <keystore-file> -alias <alias-name> -file <public-key-file>`

   For example, type `keytool -export -keystore ibmplcm-keys.jks -alias ibm-plcm -file ibm-plcm-public.cert`

   The public key is saved in the same directory as you typed in step 1.

Configuring single sign-on

Single sign-on via Security Assertion Markup Language (SAML) can be configured for use with the IBM® Producer Lifecycle and Credential Management application.

Before you begin

Single sign-on is initiated by a Service Provider, which is Producer Lifecycle and Credential Management. You must have an Identify Provider installed, such as Siteminder, PingFederate, or OpenAM. A keystore is required for generating digital signatures. You must set up a keystore and configure it on the Identity Provider (IdP). Open SSO provides a default test key for testing purposes. This key should not be used in production.

Procedure

1. Navigate to the following location: `C:\IBM PLCM\plcmservice\conf`

   Important: This is the default location. If you installed Producer Lifecycle and Credential Management to another location, the file path is different.

2. Open the `application.conf` file.

3. In the `#SAML Settings` section, configure the following values :.

Parameter	Description
`auth.useSAML`	Set the value to **true**.
`auth.baseUrl`	Configure the value to point to the URL that you use to access Producer Lifecycle and Credential Management. The IdP must be able to access this link from the IdP server. **Note:** OpenAM requires that you use fully qualified domain names when protecting web resources.

Parameter	Description
auth.failUrl	To redirect users to a login page after a failed SAML login attempt, you can configure this value

This parameter is used when a SAML user, who has successfully authenticated with their SAML identity provider, attempts to access Producer Lifecycle and Credential Management. If there is no matching security user in Producer Lifecycle and Credential Management, the user is redirected to the URL set by the auth.failUrl value. If no value is configured for this parameter, the user is redirected to the Producer Lifecycle and Credential Management failed login page, which includes a link to log out of the SAML SSO system. |
auth.idp.type	Set this value to the appropriate IdP name, such as "siteminder" or "openam". This value is only used for audit table purposes.
auth.idp.url	Configure this value to point to the IdP metadata link.
auth.idp.params.id	Do not change this setting.
auth.sp.jks.path	Configure this value to point to the directory where the ibmplcm-keys.jks file is located. For more information, see "Generating and extracting your own keystore" on page 37.
auth.sp.jks.pw	Set this value to the password for the keystore. For more information, see "Generating and extracting your own keystore" on page 37.
auth.sp.jks.entryid	This value is set to ibm-plcm and should not change.
auth.sp.jks.entrypw	Set this value to the password for the keystore. For more information, see "Generating and extracting your own keystore" on page 37.
auth.timeskew	Set this value to the maximum allowable time skew for checking expiring times from the IdP. This value should be relatively conservative.

4. Save the file.

What to do next

You must start the Producer Lifecycle and Credential Management service for the changes to take effect.

Related tasks:

"Setting up access for the Identity Provider" on page 40
To set up access to IBM® Producer Lifecycle and Credential Management for the Identity Provider (IdP), you must generate a metadata export file to import into the IdP.

Setting up access for the Identity Provider

To set up access to IBM® Producer Lifecycle and Credential Management for the Identity Provider (IdP), you must generate a metadata export file to import into the IdP.

Procedure

1. Log in to Producer Lifecycle and Credential Management as the admin user.
2. Generate a metadata export file by typing the following text into your browser's address field: `http://<<PLCM URL>>/PLCM/sso/metadata`
3. Provide the IdP team with the following information:
   - The generated metadata export file. This file is imported into the IdP tool.
   - The `ibm-plcm-public.cert` public key. This is required if the communication between Producer Lifecycle and Credential Management and IdP is encrypted. The public key is imported into the IdP system.
4. The IdP team performs the following steps:
   a. Import the Producer Lifecycle and Credential Management metadata export file into the IdP tool. This sets up everything that is required by the IdP to access Producer Lifecycle and Credential Management and creates an adapter that Producer Lifecycle and Credential Management can use to access the IdP.
   b. Provide the URL of the adapter created in the IdP that Producer Lifecycle and Credential Management can use to verify credentials.
   c. If the IdP encrypts the SAML header, a public key that Producer Lifecycle and Credential Management can use to decrypt the SAML header is provided.

What to do next

In the `application.conf` file, set the **auth.idp.url** value to the URL of the adapter created in the IdP for Producer Lifecycle and Credential Management. You must restart the Producer Lifecycle and Credential Management service for the changes to take effect.

Related tasks:

"Configuring single sign-on" on page 38
Single sign-on via Security Assertion Markup Language (SAML) can be configured for use with the IBM® Producer Lifecycle and Credential Management application.

Importing the public key into the keystore

If the SAML header is encrypted by the IdP, you must import the public key of the IdP provider into the IBM® Producer Lifecycle and Credential Management keystore. This is used by Producer Lifecycle and Credential Management to decrypt the SAML header.

Procedure

1. Open the command prompt window with administrator rights and switch the directory to the location of the Java Keytool utility.

   For example, switch to the following directory: `C:\Program Files\Java\jre1.8\bin`
2. Import the public key from IdP to the keystore by typing the following command in the command prompt: `keytool -importcert -alias <alias-name> -file <public-key-file> -keystore <keystore-file>`

For example, if the Siteminder team provided a file called `siteminder-public.cert`, then type `keytool -importcert -alias siteminder-public -file siteminder-public.cert -keystore ibmplcm-keys.jks`

Configuring LDAP authentication

IBM® Producer Lifecycle and Credential Management can use LDAP to define access to the application. The system calls LDAP with the user identifier and password and receives a message if the authentication is successful.

Procedure

1. Navigate to the following location: `C:\Program Files\IBM PLCM\plcmservice\conf`

   Important: This is the default location. If you installed the application to another location, the file path is different.

2. Open the `application.conf` file.

3. In the `LDAP configuration` section, edit the following values:

Parameter	Description
`ldap.server`	The location of your LDAP server.
`ldap.domain`	The domain of your LDAP server.
`ldap.port`	The port on which your LDAP server runs.

4. Save the file.

What to do next

You must restart the Producer Lifecycle and Credential Management Windows service for the changes to take effect.

Chapter 6. Upgrade

You can update the IBM® Producer Lifecycle and Credential Management application with the latest features.

You must take the following steps to upgrade your application:

1. Back up your database.
2. Save your `application.conf` and `wrapper.conf` files.
3. Run the Model Upgrader tool to update your database.
4. Uninstall the previous Producer Lifecycle and Credential Management Windows service.
5. Install the latest Producer Lifecycle and Credential Management Windows service.

Microsoft SQL Server database backup and restoration

A database backup duplicates all the data that is contained in the IBM® Producer Lifecycle and Credential Management database and creates a copy of the full database.

You can then recreate the entire database in one step by using the restore command. The restored database is an exact match of the database at the time the backup completed.

Backing up a database

You can use Microsoft SQL Server Enterprise Manager to back up an IBM® Producer Lifecycle and Credential Management database.

Procedure

1. Open Microsoft SQL Server Enterprise Manager.
2. Click **Tools** > **Backup Database**.
3. Select one of the following **Backup Types**:

   Complete backup
   > Makes a full backup of your database. You will almost always need to start your backup strategy with a full backup of your database.

   Differential backup
   > Stores all changes that have occurred to the database since the last full backup.

4. You can edit the backup file destination.

   By default, the backup file is stored in the following location: `C:\Program Files\Microsoft SQL Server\MSSQL\BACKUP\`.

   Tip: The database can remain online and accessible to users while the backup is created.

Restoring a database backup

In the backup file, Microsoft SQL Server stores the names and locations of the files used in the IBM® Producer Lifecycle and Credential Management database. After

the database is restored, SQL Server recreates all the necessary files and the database is restored to the point in time that the backup finished.

Procedure

1. Open Microsoft SQL Server Enterprise Manager.
2. Click **Tools** > **Restore Database**.

   The **Restore as Database** field is the name of your newly restored database. The name does not have to be identical to the name of the original (backed up) database.
3. To define your restoration parameters, select the original database name and the stored backup that you want to restore.

Using backup and restore to transfer databases between servers

You can restore a backup of an IBM® Producer Lifecycle and Credential Management database on a new server by creating a backup of a database and saving it to a location that is accessible from the server where you are performing the restoration.

Procedure

1. From the server that you want the database transferred to, open Microsoft SQL Server Enterprise Manager.
2. Click **Tools** > **Restore Database**.
3. Type the name that you want the database to be restored with in the **Restore as database** field.
4. Select the **From device** option.
5. Select **File name** and type the location of the backup file.

Upgrading with Java 8

If you have both Java 7 and Java 8 installed on your computer, you must ensure the upgrader.jar file is associated with Java 8 before upgrading your IBM® Producer Lifecycle and Credential Management database.

About this task

The upgrader.jar file is compiled with Java 8 and cannot run with Java 7. If you have both installed on your computer, you can run the upgrader.jar file from the command line or associate the upgrader.jar with your Java 8 installation.

Procedure

1. To run the Model Upgrader tool from the command line, first check the Java version by typing the following command: **java -version**. Then perform one of the following steps:
   - If the Java version is 1.8, then you can run the Model Upgrader tool by typing the following command: **java -jar "path to upgrader.jar"**
   - If the Java version is 1.7, then you can run the Model Upgrader tool by typing the following command: **"C:\Program Files\Java\jre1.8.0_66\bin\ javaw.exe" -jar "path to upgrader.jar"**
2. To make sure that you can run the Model Upgrader tool by double-clicking the upgrader.jar file, you must point the following registry keys to you Java 8 installation:

- HKEY_CLASSES_ROOT\jarfile\shell\open\command
- HKEY_LOCAL_MACHINE\SOFTWARE\Classes\jarfile\shell\open\command

Upgrading the database

Use the Model Upgrader tool to upgrade your IBM® Producer Lifecycle and Credential Management database so that it is compatible with the upgraded version of the application.

About this task

If your database and service are not running on the same version of Producer Lifecycle and Credential Management, a message is displayed on the log in screen that indicates that an upgrade is required.

Procedure

1. In your release folder, double-click the Upgrader.jar file.
2. In the **Database URL** field, enter the URL of the database server that contains the database that you want to upgrade.
3. In the **Schema Name** field, enter the type of database to which you want to connect.
4. In the **Database Name** field, enter the name of the database that you want to upgrade.
5. In the **User Name** and **Password** fields, enter the login credentials of the user who has permission to alter the database.
6. Click **Connect**.
7. Select the **Roll back all upgrade on failure** check box to roll back the version to the last successful upgrade if the upgrade fails.
8. Click **Upgrade**.

Upgrading the application

You must install the new version of the IBM® Producer Lifecycle and Credential Management Windows service to upgrade the application.

Before you begin

Run the uninstallService.bat file. By default, it is located in the following directory: C:\Program Files\IBM PLCM\plcmservice\service installer

Procedure

1. Install the new Producer Lifecycle and Credential Management Windows service.
2. Edit the application.conf and wrapper.conf files to match the saved files from the previous version.

Related concepts:
Chapter 2, "Service configuration," on page 7
The IBM® Producer Lifecycle and Credential Management service must be configured to point to your database and Guvnor before you can open the application.

Related tasks:

"Installing the IBM Producer Lifecycle and Credential Management software" on page 5
After you install and configure the required software, you can install IBM®
Producer Lifecycle and Credential Management.

Appendix. Accessibility features

IBM® Producer Lifecycle and Credential Management has accessibility features that help users who have a physical disability to use the product.

Keyboard shortcuts

IBM® Producer Lifecycle and Credential Management includes keyboard shortcuts to help you navigate the product and perform tasks.

The following keyboard shortcuts are based on U.S. standard keyboards.

Table 3. General keyboard shortcuts

Applies to	Action	Shortcut keys
General	Perform the command for an active command button.	Enter
General	Move forward to the next item in the tab index order. Cycle to the first tab index when at the end.	Tab
General	Move backward to the previous item in the tab index order. Cycle to the last tab index when at the beginning.	Shift+Tab
Check boxes	Select or clear the checkbox.	Spacebar
Menus	Navigate down a menu and select a menu item.	Down arrow and then Enter
Menus	Navigate up a menu and select a menu item.	Up arrow and then Enter
Scrolling	Scroll down.	Down arrow
Scrolling	Scroll up.	Up arrow
Zooming	Zooming in.	Ctrl and +, or Ctrl+Mouse wheel up
Zooming	Zooming out.	Ctrl and -, or Ctrl+Mouse wheel down
Zooming	Return to default zoom level.	Ctrl+0
Navigation	Reload the current page.	F5
Navigation	Move backward to the previously opened page.	Alt+Left Arrow, Backspace
Navigation	Move forward to the previously opened page.	Alt+Right Arrow, Shift+Backspace
Navigation	Stop a page from loading.	Escape
Search	Open a search box to perform a search on the current page.	Ctrl+F, F3
Search	Find the next match of the searched text on the current page.	Ctrl+G, F3
Search	Find the previous match of the searched text on the page.	Ctrl+Shift+G, Shift+F3

IBM and accessibility

See the IBM Accessibility Center for more information about the commitment that IBM has to accessibility.

The IBM Accessibility Center (http://www.ibm.com/able) is available online.

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Glossary

This glossary provides terms and definitions for the IBM® Producer Lifecycle and Credential Management software and products.

The following cross-references are used in this glossary:

- *See* refers you from a nonpreferred term to the preferred term or from an abbreviation to the spelled-out form.
- *See also* refers you to a related or contrasting term.

For other terms and definitions, see the IBM Terminology website (opens in new window).

A

appointment
: The right to sell or service the products of a specified insurance carrier in a state.

authorization
: The process of granting a user, system, or process either complete or restricted access to an object, resource, or function.

C

corporate producer
: An external corporation that is contracted to sell a carrier's products.

credential
: A course, certificate, or regulatory license that is required by either the insurance carrier or a government regulator to sell an insurance product.

D

database (DB)
: A collection of interrelated or independent data items that are stored together to serve one or more applications.

DB
: See database.

H

hierarchy
: The organization of a set of entities into a tree structure, with each entity (except the root) having one or more parent entities and an arbitrary number of child entities.

I

individual producer
: An independent broker who is contracted to sell a carrier's products or an employee of an insurance carrier who is responsible for selling a carrier's products.

L

license
: A certificate of authorization that permits an individual to sell insurance products in a state.

line of authority (LOA)
: The range of insurance products that a producer is allowed to sell under a license.

LOA
: See line of authority.

N

node
: Any element in a tree.

O

onboarding
: An approach to equipping new employees and socially integrating them into an organization.

onboarding kit
: The forms that a new employee must complete in order to set up a contract with an insurance carrier.

P

parameter (parm)
> A value or reference passed to a function, command, or program that serves as input or controls actions. The value is supplied by a user or by another program or process.

parm See parameter.

producer
> An individual or organization who sells the products of an insurance carrier.

S

sub-producer
> An employee of an external corporation who is contracted to sell a carrier's products.

W

WAR See web archive.

web archive (WAR)
> A compressed file format, defined by the Java EE standard, for storing all the resources required to install and run a web application in a single file.

workflow
> The sequence of activities performed in accordance with the business processes of an enterprise.

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