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| Test Script  SAP S/4HANA - 18-09-20 | public |
| Predictive Analytics Model Training - Finance (30K) |

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# Purpose

A model describes and explains the relationships that exist between the dataset and the target to allow predictions. One model can contain several model versions, but only one version can be active at a time. The active version is used to do the predictions.

In the detail steps of training a model, as an example, we use the Check Assigned Liquidity Items predictive scenario. For other predictive scenarios, the procedures are similar, but you can use our example and adapt it to other scenarios.

This document is the central document for training predictive analytics models in Finance area. And this document is the prerequisite of Finance-related predictive scenarios.

This document provides a detailed procedure for testing the scope item after solution deployment, reflecting the predefined scope of the solution. Each process step is covered in its own section, providing the system interactions (that is, test steps) in a table view. Steps that are not in scope of the process but are needed for testing are marked accordingly (see the Test Step column). Customer-project-specific steps must be added.

At current release, SAP delivered following predictive scenarios:

1: Check Assigned Liquidity Items: based on historical data, the system tries to propose liquidity item base on machine learning algorithm. Cash manager or cash management specialist could check the proposed and assigned liquidity items and do manual adjustment.

If you want to utilize this predictive scenario, adopt Cash Management Full, which requires an additional license for SAP Cash Management powered by SAP HANA. If you use Basic Cash Management, you could not use this predictive scenario. When using SAP S/4HANA, Finance Cloud Edition, you also could not use this predictive scenario, as that edition only contains Basic Cash Management.

# Prerequisites

This section summarizes all the prerequisites for conducting the test in terms of systems, users, master data, organizational data, other test data and business conditions.

## System Access

The test should be conducted with the following system:

|  |  |
| --- | --- |
| System | Details |
| System | Accessible via SAP Fiori launchpad. Your system administrator provides you with the URL to access the various apps assigned to your role. |

## Roles

If you want to train the models, Analytics Specialist role should be assigned to work with Predictive Models.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name (Role) | ID (Role) | Description (Space) | ID (Space) | Log On |
| Analytics Specialist | SAP\_BR\_ANALYTICS\_SPECIALIST |  |  | Please ask your system administrator to assign to the testers |

## Preliminary Steps

### Business Conditions

Purpose

As an option, you can create business data for testing or you could use existing data. If you would like to create ones, the following documents described how to create them for your reference.

|  |  |
| --- | --- |
| ID | Predictive Scenario |
| J59 - Accounts Receivable | Check Assigned Liquidity Items. |
| J60 - Accounts Payable | Check Assigned Liquidity Items. |
| J78 - Advanced Cash Operations | Check Assigned Liquidity Items. |

### Required Knowledge

#### Data Science

Purpose

You should have basic Data Science knowledge, so you could better use the predictive models and gain better performance.

Also, as a Data Science, you should be aware the data quality of the training data. For example, if data is balance or not, training data should at least have a proper amount to feed to the model.

You as a Data Science should be able to tune the model and filter data to get better prediction quality. The models itself couldn’t guarantee the performance, the experts who use it are.

Get yourself familiar with popular predictive artist is beneficial, and here we list some of the algorithms for your reference:

* Random Decision Tree
* Linear Regression / Logistic Regression
* Classification and Regression Trees
* k-nearest neighbors
* K-means

# Overview Table

The scope item consists of several process steps provided in the following table.

If your system administrator has enabled spaces and pages on the SAP Fiori launchpad, the homepage will only contain the essential apps for performing the typical tasks of a business role.

You can find all other apps not included on the homepage using the search bar.

If you want to personalize the homepage and include the hidden apps, navigate to your user profile and choose Settings > App Finder .

|  |  |  |  |
| --- | --- | --- | --- |
| Process Step | Business Role | Transaction / App | Expected Results |
| [Train Predictive Model](#unique_8) [page ] 6 | Analytics Specialist | Predictive Models (F1837) | The model is trained successfully. |
| [Consume the Predictive Models](#unique_9) [page ] 9 |  |  | Use could refer related documents to check the result. |

# Test Procedures

This section describes test procedures for each process step that belongs to this scope item.

## Train Predictive Model

SAP S/4HANA is shipped with preconfigured Predictive Scenarios to help customer run an intelligence enterprise. As each predictive model is specific to customer, the model must first be trained on customer historical data before it can start to produce predictive proposal.

You can use Predictive Models (F1837) to administrate the life cycle of a predictive model with your own data. Train a model to produce a model version, retrain model versions, validate, and activate predictive models in order to return a predictive result.

Please refer to the documentation on SAP Help Portal to perform the steps and gain more detailed information like the Model Status and Model Version Report.

[SAP S/4HANA](https://help.sap.com/s4hana) > English (under Product Assistance) > Cross Components > Analytics > Predictive Analytics integrator (PAi) > Predictive Models App .

### Models

A Model describes and explains the relationships that exist between the dataset and the target to allow predictions. One Model could contain several model versions, but only one version can be active at a time. The active version is the one used to do the predictions.

In the detail steps of train model, we take predictive scenario Check Assigned Liquidity Items as example, for other predictive scenario, the procedures are similar, you could use Check Assigned Liquidity Items as example and adopt to other scenarios.

At current release, SAP delivered following predictive scenarios:

|  |  |
| --- | --- |
| Name | Predictive Scenarios (Technical) |
| Check Assigned Liquidity Items | FCLM\_RDT\_CALI\_V1 |

Also, here we list some points you take caution when using those predictive scenarios.

Table 1:

|  |  |
| --- | --- |
| Predictive Scenarios Name | Caution |
| Check Assigned Liquidity Items | This scenario uses Random Decision Tress to predict the target liquidity items, you are required to have at least three target liquid items, otherwise, you could not successfully train the mode |

#### Train Model

Test Administration

Customer project: Fill in the project-specific parts.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Case ID | <X.XX> | Tester Name |  | Testing Date | Enter a test date. |
| Business Role(s) |  | | | | |
| Responsibility | <State Service Provider, Customer or Joint Service Provider and Customer> | | | Duration | Enter a duration. |

Procedure

You would like to train Model under Dedicate Predictive Scenario. Choose Corresponding Predictive Scenario and perform following test steps for each application, in current case we use below Predictive Scenario as example and you could adopt similar steps for other scenarios:

* Check Assigned Liquidity Items: FCLM\_RDT\_CALI\_V1

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test Step # | Test Step Name | Instruction | Expected Result | Pass / Fail / Comment |
| 1 | Log On | Log on to the SAP Fiori launchpad as Analytics Specialist. | The SAP Fiori launchpad is displayed. |  |
| 2 | Access the SAP Fiori app | Open the app Predictive Models (F1837). | The Predictive Models screen is displayed. |  |
| 3 | Select Predict Scenarios | Choose Predictive Scenario, like FCLM\_RDT\_CALI\_V1 and click it. | The Models are displayed. |  |
| 4 | Check Model | Choose Model Name, like CL\_FQM\_ML\_HEMI\_MODEL\_MGMT\_RDT, to check the model versions. | All Model Versions list at the right side of the page. |  |
| 5 | Train the Model | Choose radio button at left of the model name and choose Train . | Train Model page pops up. |  |
| 6 | Specify Description | Specify Model Version Description in the input box. | Model Version Description is added. |  |
| 7 | Specify Training Filters | Optionally you could add filters to data to filter data. | Filters are added. |  |
| 8 | Train | Choose Train. | Model starts to train. |  |

#### Set a Model Version to Active

Test Administration

Customer project: Fill in the project-specific parts.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Case ID | <X.XX> | Tester Name |  | Testing Date | Enter a test date. |
| Business Role(s) |  | | | | |
| Responsibility | <State the Service Provider, Customer or Joint Service Provider and Customer> | | | Duration | Enter a duration. |

Procedure

The active Model version is the version that is used to generate predictions.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test Step # | Test Step Name | Instruction | Expected Result | Pass / Fail / Comment |
| 1 | Log On | Log on to the SAP Fiori launchpad as Analytics Specialist. | The SAP Fiori launchpad is displayed. |  |
| 2 | Access the SAP Fiori app | Open the app Predictive Models (F1837). | The Predictive Models screen is displayed. |  |
| 3 | Select Version | Follow the same procedure as previous step to list all Model Versions, choose radio button at left of the desired one | The Model Version is selected. |  |
| 4 | Activate | Choose Activate. | The Model Version Status changes to Active. |  |

## Consume the Predictive Models

After successfully trained the model and have one active model version, you can check the predicted results. As the focus of this document is how to use the model, we do not go through the details of how to consume the predictive models and check the result. Instead, we here list the reference documents for detail steps:

|  |  |
| --- | --- |
| Predictive Scenario | Reference Document |
| Check Assigned Liquidity Items | You could refer scope item J78 Advanced Cash Operations and check step Adjust Assigned Liquidity Items – Anomaly Detection for detail procedures to check the results |

Typographic Conventions

|  |  |
| --- | --- |
| Type Style | Description |
| Example | Words or characters quoted from the screen. These include field names, screen titles, pushbuttons labels, menu names, menu paths, and menu options.  Textual cross-references to other documents. |
| Example | Emphasized words or expressions. |
| EXAMPLE | Technical names of system objects. These include report names, program names, transaction codes, table names, and key concepts of a programming language when they are surrounded by body text, for example, SELECT and INCLUDE. |
| Example | Output on the screen. This includes file and directory names and their paths, messages, names of variables and parameters, source text, and names of installation, upgrade and database tools. |
| Example | Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation. |
| <Example> | Variable user entry. Angle brackets indicate that you replace these words and characters with appropriate entries to make entries in the system. |
| EXAMPLE | Keys on the keyboard, for example, F2 or ENTER. |

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