STIBO SYSTEMS
MASTER DATA MANAGEMENT

# USER GUIDE

## Automatic Classification

2025.1 – March 2025

# Table of Contents


**Table of Contents** ..... **2**

**Automatic Classification** ..... **4**

Manual Classification ..... 4

Automatic Classification ..... 4

**Initial Setup for Automatic Classification** ..... **5**

Create a Rule Set Asset Type ..... 5

Configure the Auto Classification Component Model ..... 5

**Creating Automatic Classification Rules** ..... **9**

Creating Rule Sets ..... 9

Editing Rule Sets ..... 9

Allow Rules and Link Rules ..... 12

Allow Rules ..... 12

Link Rules ..... 12

Creating and Editing Rules ..... 12

Adding Rule Conditions ..... 14

Multiple Conditions and Multiple Values ..... 15

Editing Rules on Target Objects ..... 15

Properties for Skipping Rules that Remove References and Links ..... 15

**Using Automatic Classification with Bulk Updates** ..... **16**

To Create a Collection ..... 16

To Create a Bulk Update Configuration ..... 16

Running a Bulk Update Configuration ..... 17

**Using Automatic Classification with Business Actions** ..... **19**

Create a Business Action for Automatic Classification ..... 19

Use a Business Action to Classify Products ..... 19

Run Automatic Classification on Approval ..... 20

# Automatic Classification

There are multiple approaches to the classification of objects:

- You can organize objects hierarchically in a primary hierarchy (the blue product hierarchy).
- You can organize objects in a classification hierarchy (the yellow hierarchy).
- You can organize objects in an Entity hierarchy (the white hierarchy)
- You can use a reference to connect objects.

You can apply classifications manually on individual objects, but you can also apply them automatically on many objects at one time.

## Manual Classification

You can move an object manually within its primary hierarchy, link it into a classification, or connect it to another object using a reference. This approach works well for small sets of objects. However, for large sets of objects, manual classification is a time-consuming and error-prone task.

For more information about how to manually classify objects, refer to **Object Types and Structures** in the **System Setup** documentation.

## Automatic Classification

You can create a set of rules that are used to classify objects automatically. This approach requires that you create one or more rule sets, but once the rule sets have been defined, you can classify many objects automatically with minimal effort.

You can only apply automatic classification to product and entity objects. Products and entities can be moved automatically within their primary hierarchy, and they can be linked automatically into classification hierarchies. References can be maintained automatically if they originate from a product or an entity. It is, for example, possible to maintain product-to-product references, product-to-asset references, entity-to-asset references, and so on.

If you want to apply automatic classification to many objects, you can use a bulk update operation, which can be scheduled as well.

It is also possible to automatically classify individual objects using a business action operation. Support for business actions means that automatic classification can also be integrated into a workflow or activated during import.

As an example, when new products are imported, a configuration can automatically classify them in a website hierarchy or a classification hierarchy based on a standard taxonomy like ETIM or UNSPSC.

For more information, refer to **Initial Setup for Automatic Classification** topic.

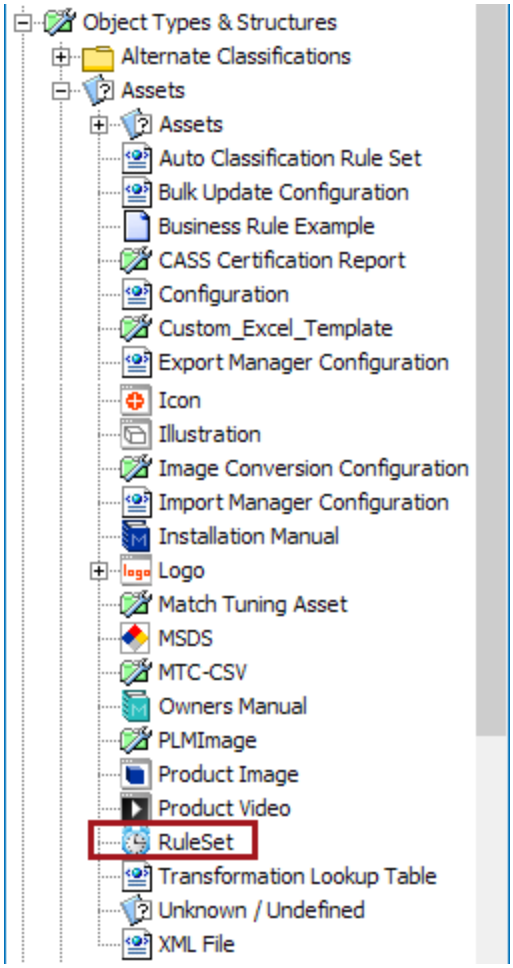
# Initial Setup for Automatic Classification

To be able to use automatic classification, you first create a rule set asset type and then set up the automatic classification component model in System Setup.

## Create a Rule Set Asset Type

1. In **System Setup**, expand **Object Types & Structures**.
2. Right-click **Assets**, and then choose **New Object Type**.
3. Enter an **ID** and a **Name** for the asset type, and then click **Create**.

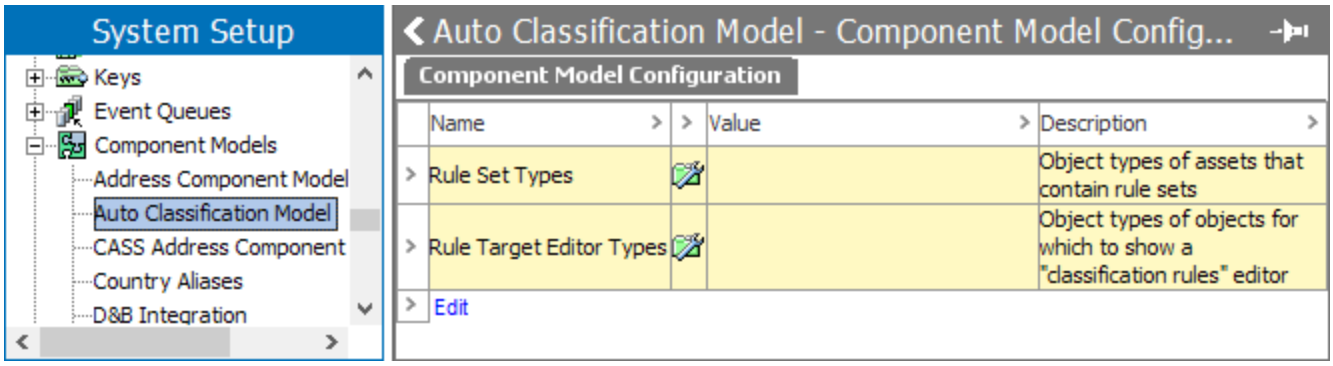
The rule set asset type is now listed among the other asset types in the system. If you want to distinguish the rule set from other asset types, you can create a special icon for the rule set.



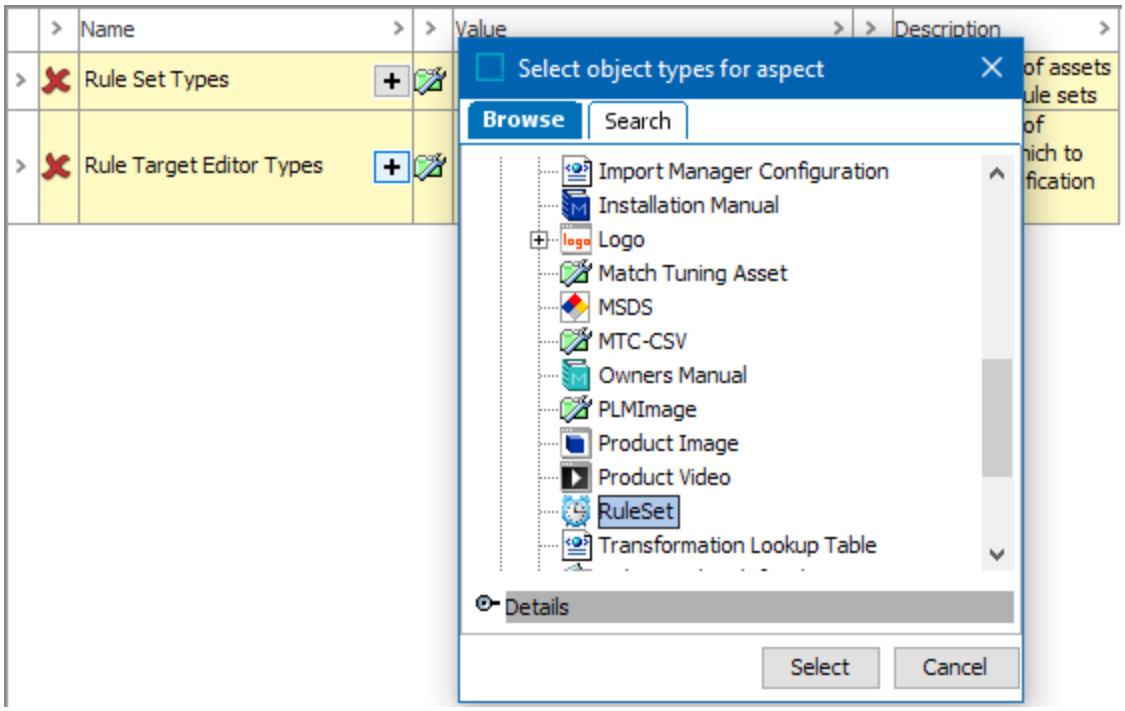

## Configure the Auto Classification Component Model

Specify that assets that use this specific asset type are rule sets. You do this in the automatic classification component model.

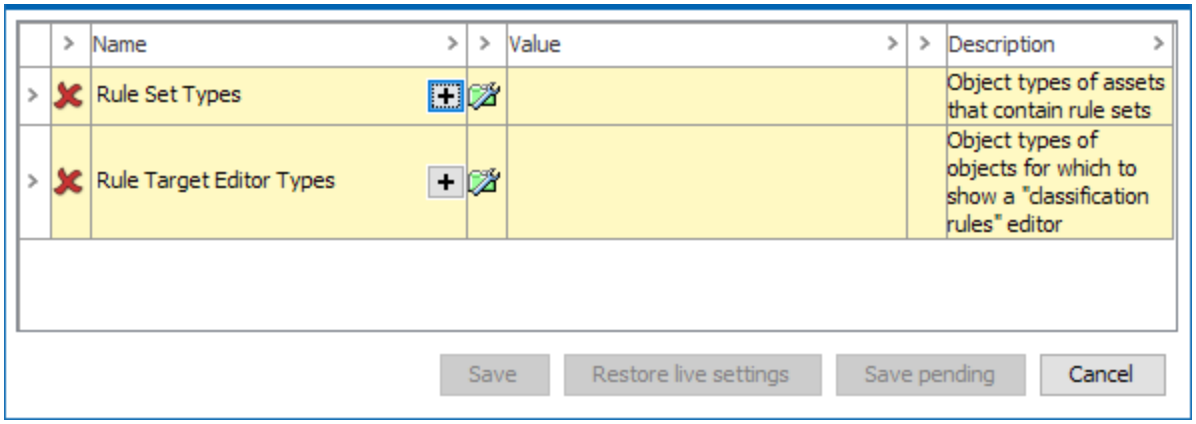
1. In **System Setup** expand **Component Models**, and then select **Auto Classification Model**.



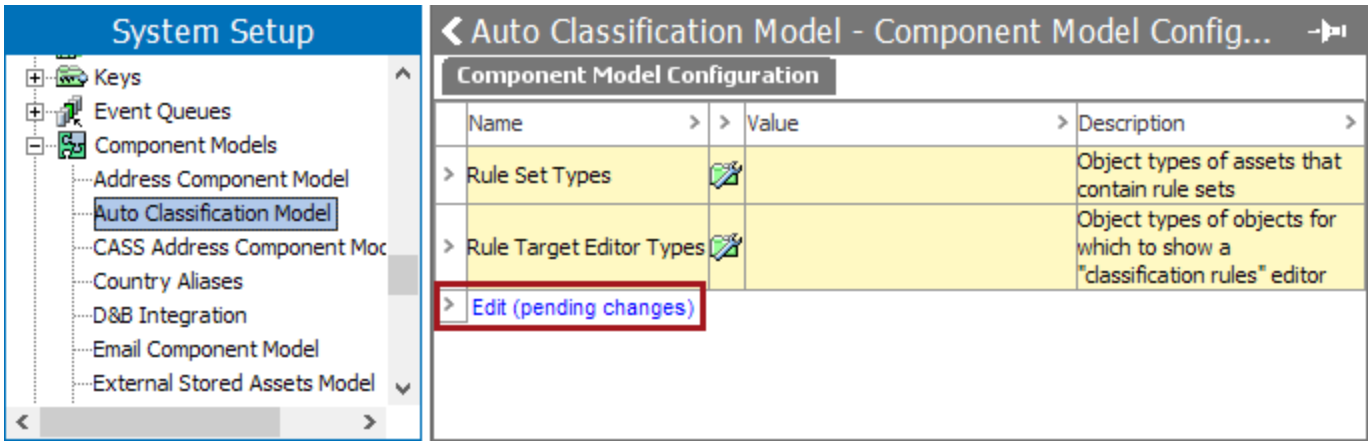

2. Click **Edit**. The **Edit Component Model Configuration** is displayed.
3. Click the plus button (+) next to **Rule Set Types**.




4. Browse or search for the rule you just created, and then click **Save / Save pending**. **Save pending** will save the current configuration even if there is some errors. The user can correct the error and then **Save** it completely.

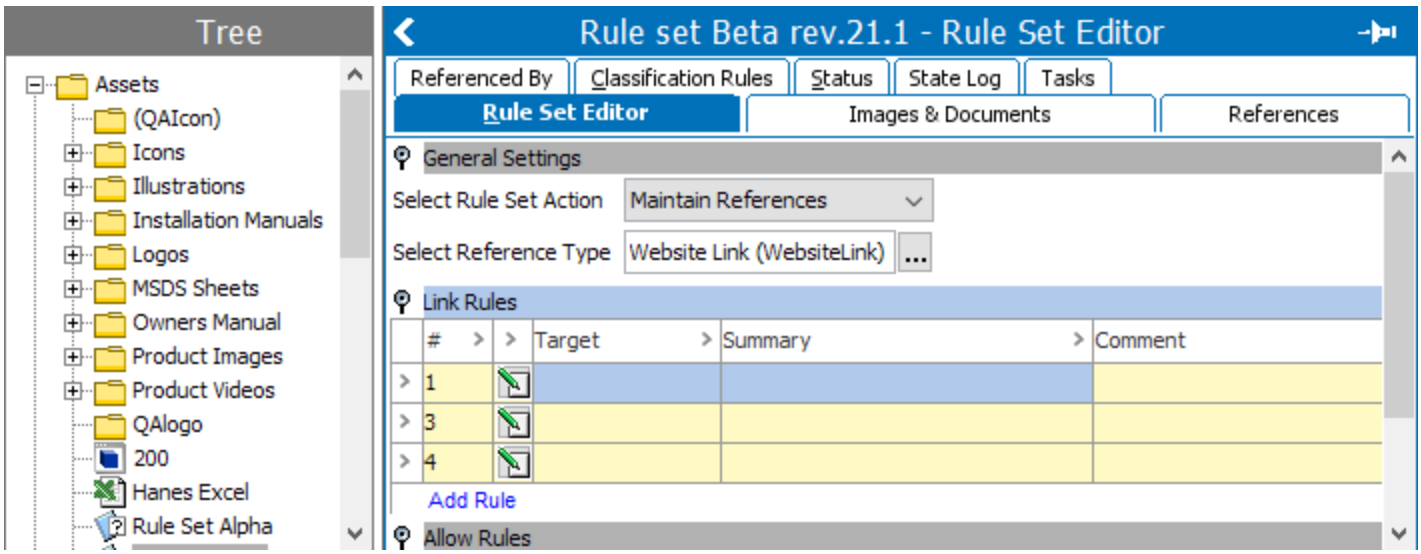



When selecting the **Restore live settings**, a user edits the configuration and clicks on '**Save pending**.' The configuration will be saved, and the '**Edit**' link is now displayed as '**Edit (Pending changes)**' as shown below.




**Note:** The 'Restore live settings' button will not be active.

5. Once the Rule set is defined in the Component Model, a **Rule Set Editor** tab is displayed on the asset which holds the automatic classification configuration in the Tree tab. The **Rule Set Editor** tab, displays all the parameters to further define the rules.




6. If you want to display the rules that apply to target objects of a specific object type, click the +icon (+) next to **Rule Target Editor Types**. Search or browse for the relevant objects, click **Select** and then click **Save**.

   When the component model is set up this way, a **Classification** tab is displayed when a relevant target object is selected in the **Tree**. On the **Classification** tab, all rules that apply to the selected target object are displayed.

For more information, refer to the **Creating Automatic Classification Rules** topic in this documentation.

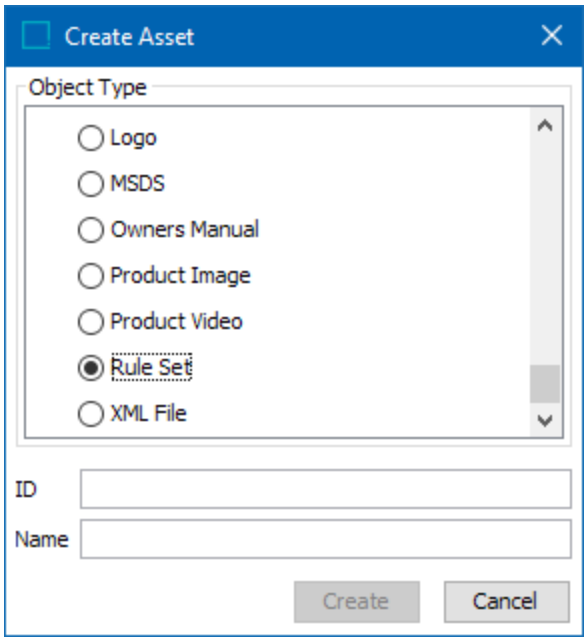
# Creating Automatic Classification Rules

The creation of automatic classification rules is a two-step process where you first create a Rule Set and then the Rules.

Before you start to create a Rule Set, verify that you have created a Rule Set asset type and configured the automatic classification component model. For more information, refer to the **Initial Setup for Automatic Classification** topic in this documentation.

## Creating Rule Sets

1. In the **Tree**, right-click the classification where you want to store your new Rule Set, and then choose **New Asset**. The **Create Asset** dialog appears.




2. Select the relevant asset Rule Set type.
3. Enter an **ID** and a **Name** for the asset, and then click **OK**.

You now have an empty Rule Set. Upon configuring the Auto Classification component model to the current Rule Set type, it has a **Rule Set Editor** tab. This is where you specify the automatic classification Rules. If this tab is not displayed, verify that you have configured the asset Rule type properly.

Steps for configuring the Auto classification component model to the current Rule Set type are outlined in the **Initial Setup for Automatic Classification** topic in this documentation.

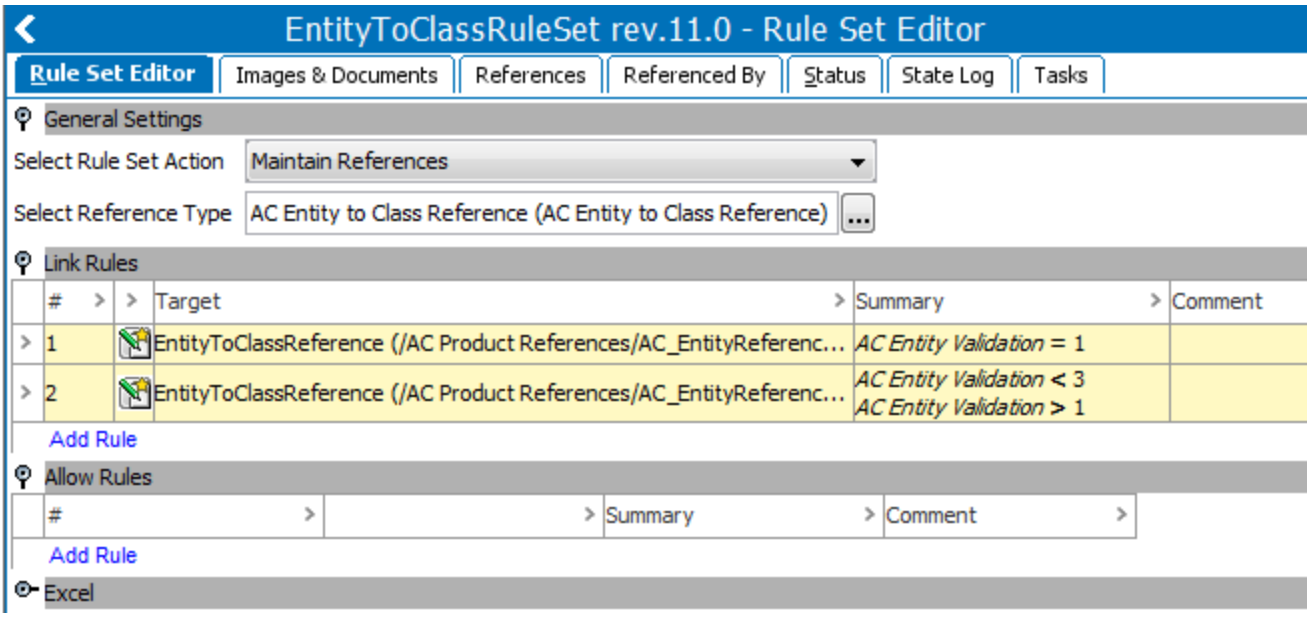
## Editing Rule Sets

The Rule Set Editor is the primary tool for editing of Rule Sets. A Rule Set contains general settings, Link Rules and Allow Rules.

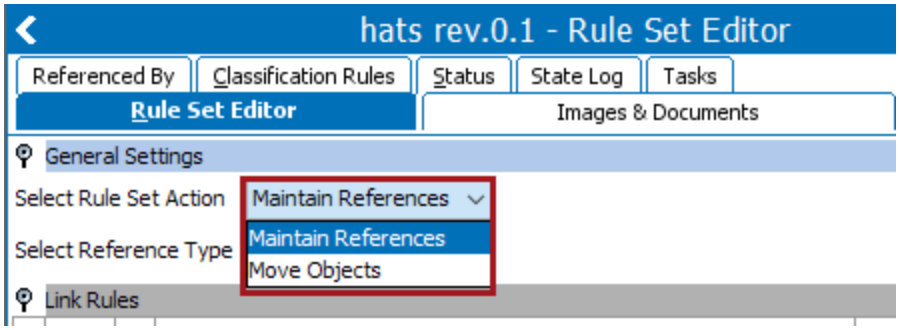
The Select Rule Set Action, together with the selected Reference (/Link) Type, will determine how the Rule Set is used.

**Note:** Loading a large number of autoclassification rules can take a long time. The flipper starts closed and the rules are not loaded before the flipper is opened.

Showing a table with too many autoclassification rules can cause the workbench to run out of memory. The number of rules shown in a table is limited by the property **AutoClassification.RuleTable.MaximumNumberOfRows**, which defaults to 3500.



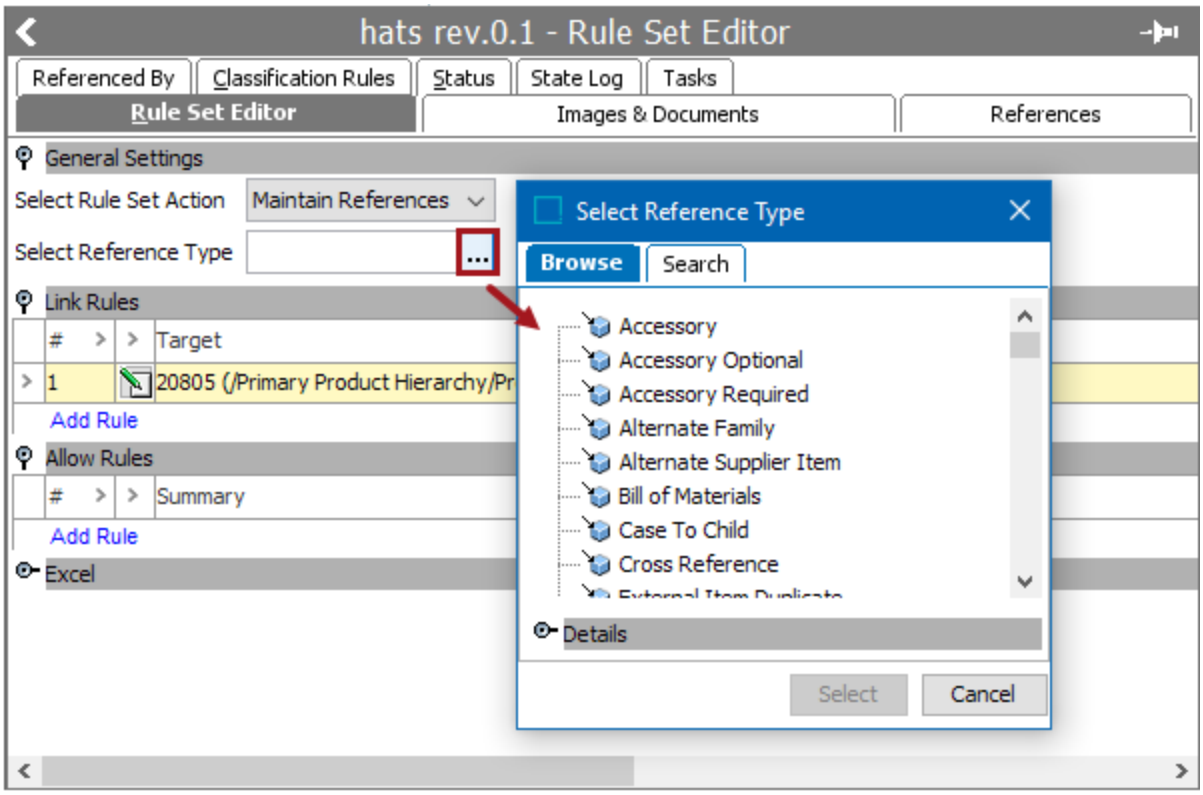

1. In the **Rule Set Action** list, you select the type of classification action the Rule Set supports. There are two options:




   - **Move Objects:** Use this action to move objects within their primary hierarchy so that, for example, an object gets a new parent. This action can only be applied to products and entities.
   - **Maintain References:** Use this action to maintain references, including references for linking products into the classification hierarchy.

The **Maintain Reference** action may create new references as well as delete existing ones if they are no longer required by the Rule Set.

2. If you have selected **Maintain References**, you must select a reference type by clicking on the **Select Reference Type** ellipse button.




The selected reference type controls what kind of references the Rule Set maintains. When an object is classified automatically, new references required by the Rule Set are created using the specified reference type. Similarly, existing references of the specified reference type are deleted if they are not required by the Rule Set.

If you do not specify a **Reference Type**, the Rule Set will only work with certain legacy bulk update operations and business action operations.

**Important:** We recommend that a reference type is used exclusively for either manual classification or automatic classification.

Automatic classification supports several reference types including product-to-classification link types for linking products into the classification hierarchy and common reference types that allow products or entities as source objects such as product-to-product reference types, product-to-asset reference types, entity-to-asset reference types, and so on.

## Allow Rules and Link Rules

A Rule Set can contain Link Rules and Allow Rules, and each Rule contains a set of Rule conditions. An object and a Rule are matched when the object meets all conditions of the Rule.

### Allow Rules

- Use Allow Rules to establish high-level criteria for the objects that you want to be classified automatically. An object is automatically classified under the following conditions:

  A) There are no Allow Rules in the Rule Set.

  - or-

  B) The object matches at least one Allow Rule. Allow Rules are never strictly necessary, but they are useful to define assortments. For example, one Allow Rule allows "red jeans", another allows "funny hats", and so on. If a product is not a pair of red jeans or a funny hat, it will not be classified, even if it matches a Link Rule.

### Link Rules

Use Link Rules to specify the conditions under which an object should be linked to a specific target object. Link Rules are the most common kind of Rules. A Rule Set must contain at least one Link Rule, otherwise no objects will be classified. A Link Rule refers to a target object. The target object is either a new parent object, which is the case when objects are moved, or a destination object, which is the case when references are maintained.

In short, a Link Rule is a Rule that specifies the conditions for:

- Linking a product to a specific classification
- Creating a reference to a specific object
- Establishing an object to become the new parent for an object to which the Rule Set is applied

An object is automatically classified under the following conditions:

A) The object matches one or more of the Allow Rules in the Rule Set if there are any.

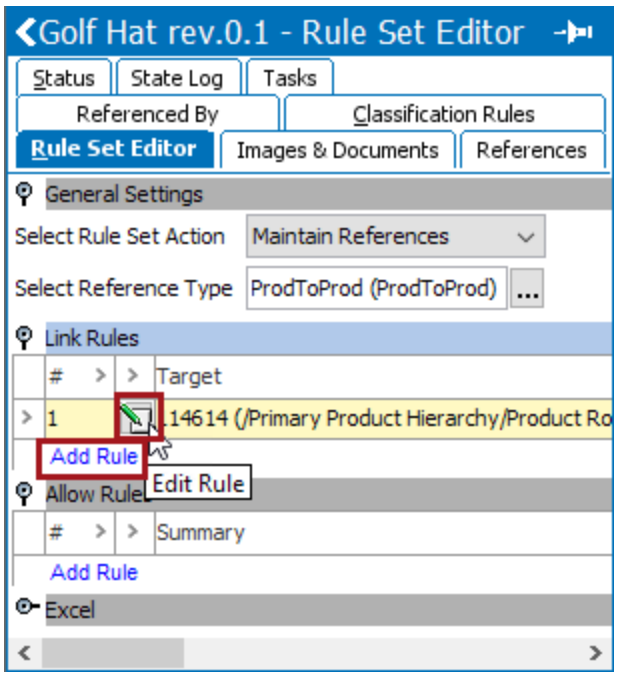
-and-

B) The object matches the Link Rule.

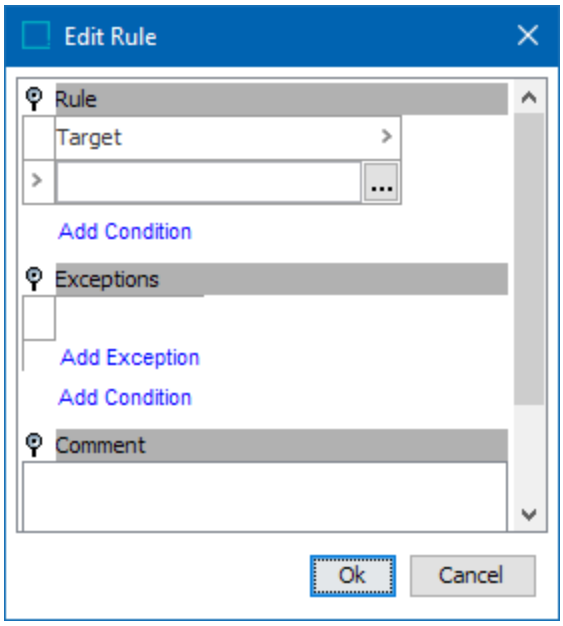
**Note:** If you are new to automatic classification, we recommend that you start by creating Rule Sets that only contain Link Rules. Rule sets that only contain Link Rules are more flexible to work with, and they are also often easier to understand.

## Creating and Editing Rules

1. In the Tree, select the relevant Rule Set (asset).
2. On the **Rule Set Editor** tab, click **Add Rule**, or click the **Edit** button to edit an existing Rule.



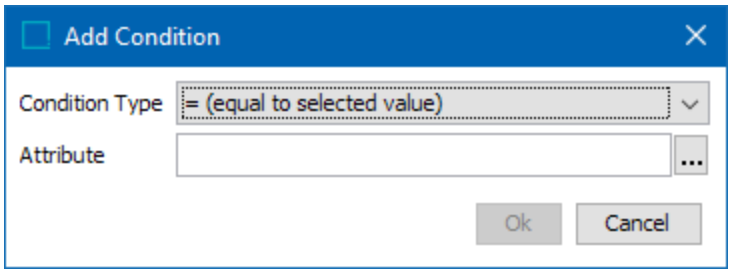

3. In the **Edit Rule** dialog, you can perform the following tasks:
   - Specify a link target. This only applies to Link Rules.
   - Add conditions to a Rule.
   - Add exceptions to a Rule.
   - Add a Rule comment.



### Adding Rule Conditions

You can apply any number of Rule conditions to a Rule.

1. In the **Edit Rule** dialog, click **Add Condition**.
2. Select a **Condition Type** and browse or search for an **Attribute** if relevant.




The condition type indicates the type of expression that must resolve to true for the condition to be met. Most condition types must be configured with an attribute. However, the Type and Below conditions do not require an attribute.

| Condition | Description |
|---|---|
| = | equal to selected value |
| < | less than selected value |
| > | greater than selected value |
| <= | less than or equal to selected value |
| >= | greater than or equal to selected value |
| != | not equal to selected value |
| Type | product is of selected type |
| Below | product is below selected product in the primary product hierarchy |

**Note:** Attribute Conditions Types ('=,' '<,' '>,' '<=,' '>=,' '!=') **can** be OR'ed. Node-Based Condition Types ('Type' 'Below') **cannot** be OR'ed. Also note that Rule Sets are under revision control. When the Rule Set is applied, it is possible to select whether the approved version of the Rule set should be used.

### Multiple Conditions and Multiple Values

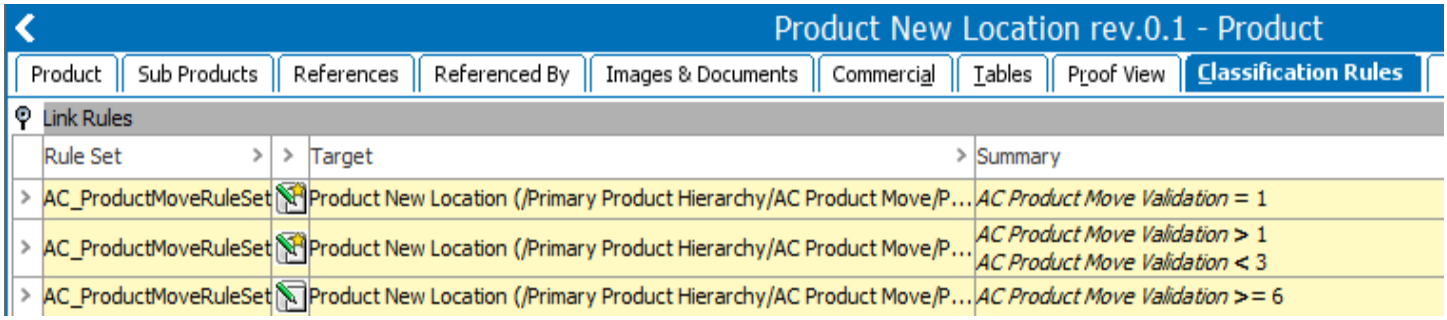
A Rule can have one or more conditions. An object must match all conditions of a Rule to match the Rule. For example, it is possible to define a Rule where "product class must equal jeans and product color must equal black."

Each individual condition can have one or more Rules, and an attribute can have one or more values. If multiple values are applied, they work as alternatives. This means that a condition is met if the expression is true for at least one of the alternatives. For example, it is possible to define a condition where "the product class must equal jeans or shoes or ...."

## Editing Rules on Target Objects

In some situations, it is useful to view and edit classification Rules from the target object. To be able to view Rules from the target object, you specify in the automatic classification component model on which object type you want to be able to edit the Rules. For more information, refer to the **Initial Setup for Automatic Classification** topic in this documentation.

When you select a relevant object, you can edit the Rule targets on the **Classification Rules** tab. It shows all Link Rules that refer to the selected target.




On the Rule target are Link Rules that belong to different Rule Sets. This is not possible on the standard Rule Set Editor, which only shows link Rule of one Rule Set. Allow Rules are not displayed because they have no target.

## Properties for Skipping Rules that Remove References and Links

In the sharedconfig.properties file, the property AutoClassification.SkipIfRulesDoNotAllow enables the Automatic Classification functionality to skip objects that do not meet the Rules. This is done to prevent the links from being updated to no references since these objects are not meeting the current automatic classification requirements.

Whether the property is set to 'True' or 'False,' if the object does meet the Allow Rules, its references are updated to what is set in the Automatic Classification.

If this property is set to 'True,' then the Automatic Classification functionality will skip any objects that do not meet the Allow Rules and not remove any of the current links or references. If this property is set to 'False,' then the Automatic Classification functionality will delete any References / Links on objects that do not meet the Allow Rules.

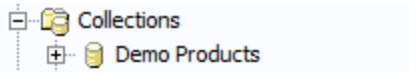
By default, this property is set to 'False.'

# Using Automatic Classification with Bulk Updates

The simplest way to perform automatic classification is to use a bulk update. Before you can do so, you must first create a collection of objects to run the bulk update on, and then you must create a bulk update configuration.

## To Create a Collection

1. On the **Search** tab, click the plus sign, and then in the **Search list** choose **Search Below**.
2. Click the ellipsis button (...), expand the **Primary Product Hierarchy**, and then select the root of the objects that you want to classify.
3. Click **Search**.
4. Click the collection icon , select a location for the collection, enter an **ID** and a **name**, and then click **Search in background** to save your collection.



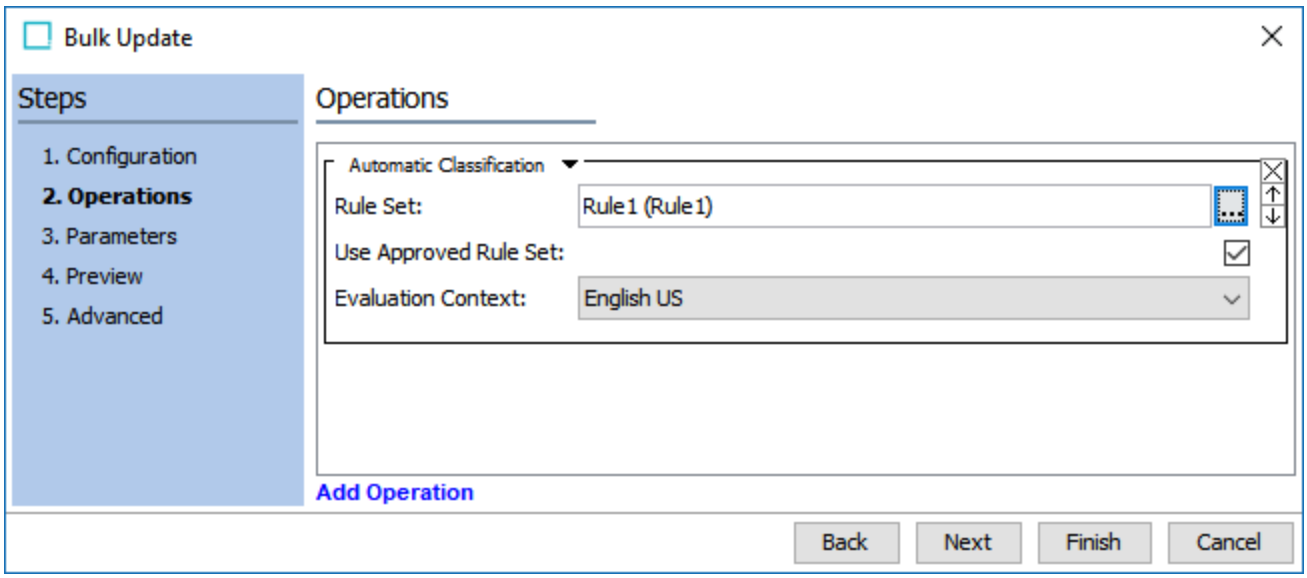

Details about creating a collection are outlined in the **Creating Collections** topic in this documentation.

## To Create a Bulk Update Configuration

The next step is to create a bulk update configuration by using the Bulk Update wizard. For detailed information about the wizard, refer to **Creating a Bulk Update** in the **Getting Started** documentation.

1. In the **Tree**, expand **Collections**.
2. Right-click the collection you just created, and choose **Run Bulk Update**. The **Bulk Update** wizard displays.
3. In step 2, **Operations**, click **Add Operation**, and then choose **Automatic Classification**.
4. In **Rule Set**, click the ellipsis button (...), and then select the **rule set** you want to use.
5. Select the **Use Approved Rule Set** checkbox if you want to use the approved version of the rule set. Otherwise the version in the main workspace will be used.
6. In the **Evaluation Context** list, select the **context** that you want the rule conditions to be evaluated in.

**Note:** Auto classification rules are not context dependent.




7. Optionally, go to step 2, **Advanced**, and save your bulk update configuration for future use, and then click **Finish**.

It is possible to run the bulk update in **Pre-Flight Mode**. This means you can run the bulk update without committing any modifications. This is useful if you just want to test a rule set.

## Running a Bulk Update Configuration

When you have completed the Bulk Update wizard, the **Background Process Status** dialog appears.

- Click **Go to Process**, to display the **Background Process** tab where you can find additional information about the process execution.

Execution Report

1 **Bulk update background process started** (Wed May 21 10:40:03 CEST 2014)
2 Context: EN All All
3 Workspace: Main
4 Commit Mode: Commit
5 Auto Approve: No
6 Collection: All
7 Configuration: CFG1
8 Read bulk update operation configuration successfully (Wed May 21 10:40:03 CEST 2014)
9 Created temporary collection: BGP_5582_tmp_fail (Wed May 21 10:40:03 CEST 2014)
10 **Applying operations to dataset** (Wed May 21 10:40:04 CEST 2014)
11 [ACP1, operation 1]: Evaluation context: Global
12 **Summary** (Wed May 21 10:40:04 CEST 2014)
13 2 objects OK. 0 objects failed.
14 1 info messages. 0 warning messages. 0 Error messages.
15 **Operations Summary** (Wed May 21 10:40:04 CEST 2014)
16 Operation 1: [Auto Classification: RS2]
17  Informational messages: 1
18  1: Evaluation context
19  Counters: 3
20  Number of objects allowed by rule set: 2
21  Number of objects satisfied by at least one link rule: 2
22  Number of references added: 2
23 End of Summary

# Using Automatic Classification with Business Actions

You can use business actions to automatically classify objects. This approach can be applied in several ways, for example, on approval, during an import, or as a part of a workflow.

The following steps show how you can classify an object automatically on approval using a business action.

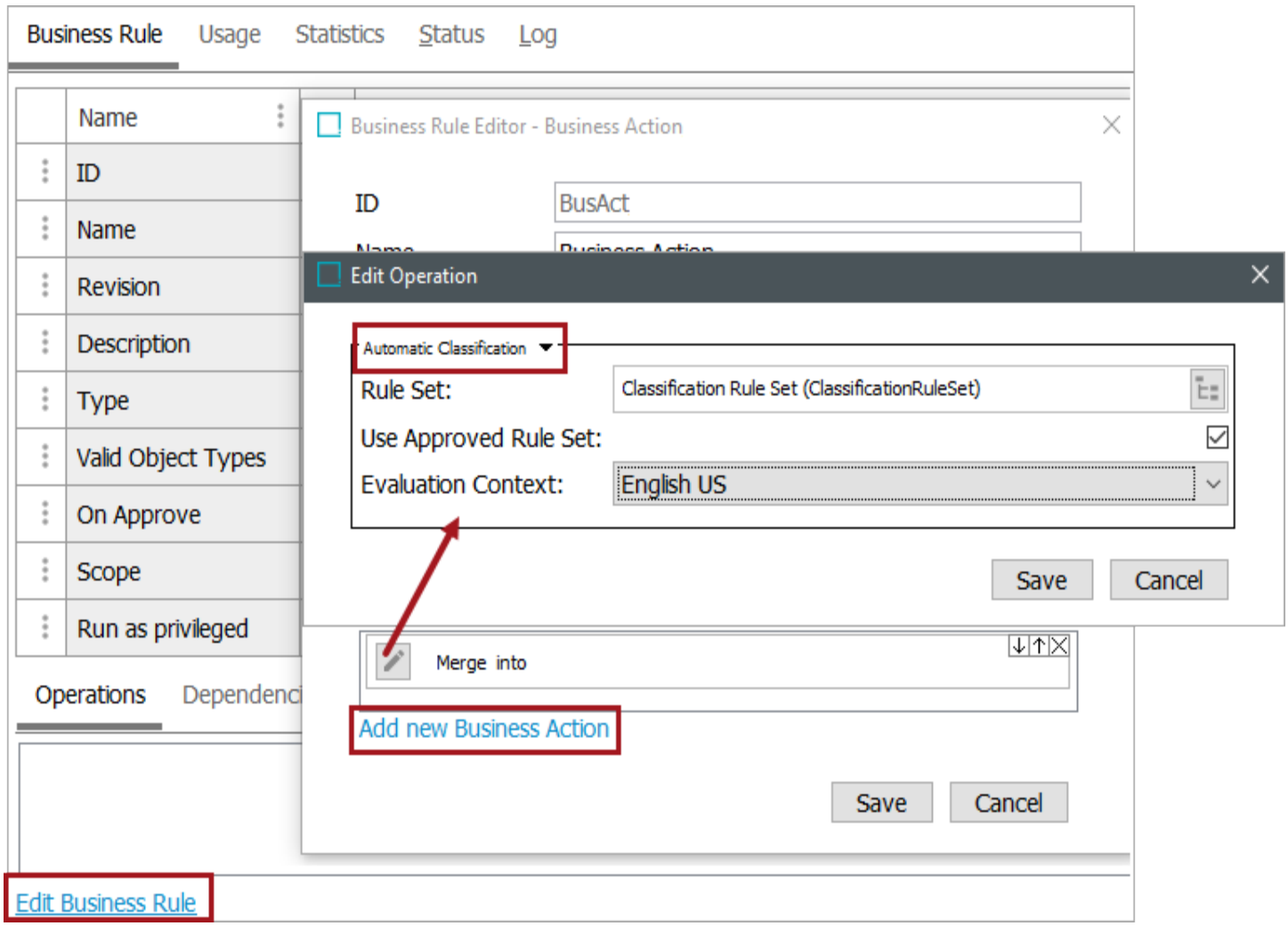
Before you can use a business action to classify objects, verify that there is a setup group that holds the business action. If not, you have to create a setup group.

## Create a Business Action for Automatic Classification

1. In **System Setup**, expand **Object Types & Structures**.
2. Right-click **Setup Group type root**, and then choose **New Object Type**.
3. Enter an **ID** and a **Name** such as Business Rules and then click **Create**.
4. Right-click the object type you just created, and then create a new object.
5. In **Object Types & Structures**, expand **Basic Object Types**, and then select the **Business Action Type** you just created.
6. On the **References** tab, click **Add Parent**.
7. In the **Select New Parent** dialog, select the setup group you just created, and then click **Select** to make it a valid parent.
8. From the **Maintain** menu, point to **Insert**, and then choose **Setup Group Root**.
9. Select the setup group object type you just created, enter an **ID** and a **Name**, and then click **Create**. An instance of the object type is created in **System Setup**.

## Use a Business Action to Classify Products

1. In **System Setup**, expand the **Business Rules** node, and select the relevant business action.
2. On the **Business Rule** tab, click on '**Edit Business Rule**' present in the left bottom corner. The '**Business Rule Editor– Business condition**' tab opens.
3. In the **Valid Object Type** field, click the ellipsis button (...), and then select the object types that you want to apply the action to.
4. In **On Approve** click the ellipsis button (...), and then select **Perform Action on Approve**.
5. In the lower left corner, click **Add New Business Action**.
6. Click the **Edit Operation** icon. The Edit Operation dialog is displayed.
7. From the dropdown, select Reference and Links > **Automatic classification**.




8. In **Rule Set**, click the ellipsis button (...), and then select the **rule set** you want to use.
9. Select the **Use Approved Rule Set** checkbox to use the approved version of the rule set. Otherwise, the version in the main workspace is used.
10. In **Evaluation Context**, select the **context** that you want the rule conditions to be evaluated in.

## Run Automatic Classification on Approval

Once you have set up and defined the automatic classification business action, when relevant products are approved they are automatically classified.