Creating and Applying Rules in Informatica Analyst
Abstract
You can use rules to define the conditions that you want to apply to the data when you run a profile. You apply rules to cleanse and standardize the data within a profile. This article shows how to create and apply rules in Informatica Analyst.

Supported Versions
- Informatica Data Quality 9.0 - 9.0.1

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Rules Overview
A rule is business logic that defines conditions applied to data when you run a profile. You can add a rule to the profile to cleanse, modify, or validate the data in the profile.

You can create an expression rule or apply a predefined rule to a profile to modify the data in the profile columns. You can make a rule reusable to use it within other profiles.

After you examine the data, you can determine which rule to add to the profile. For example, you can add a rule because you want a cleansed version of one or more of the data object columns. You can add a lookup rule that provides information that the source data does not provide. You can add a rule to validate the correctness of a cleansing rule that you intend to use in a data quality or data integration project.

For example, you can create an expression rule named IsValidCustomerID within the profile created for a Customer table. The IsValidCustomerID rule looks at the percentage of records with valid customer numbers. The IsValidCustomerID rule that appears in the profile considers all non-numeric customer numbers to be invalid. You can select the output field of the IsValidCustomerID rule and profile the Customer table again to view valid customer numbers in the CustomerID column.

Rule Types
You can add rules after you create a profile. You can add predefined rules to a profile or create expression rules to add to a profile. After you create an expression rule, you can make it reusable.

Add rules to a profile by selecting a predefined rule or create an expression rule.

You can create or apply the following rule types for a profile:
- **Expression rules.** Use expression functions and columns to define rule logic. Create expression rules in the Analyst tool.
- **Predefined rules.** Includes system-defined, user-defined, and reusable rules. System-defined rules are packaged with the content installer for the Developer tool and can appear as reusable rules in the Analyst tool. Rules that are created in the Developer tool as mapplets can appear in the Analyst tool as user-defined rules. An analyst can create an expression rule and promote it to a reusable rule that other analysts can use in multiple profiles.

After you add a rule to a profile, you can choose to run the profile again for the rule column. The Analyst tool displays profile results for the rule column. You can modify the rule and run the profile again to view changes to the profile results.

The output of a rule can be one or more virtual columns. The virtual columns exist only in the profile results. The Analyst tool profiles the virtual columns. For example, you use a predefined rule that splits a column that contains first and last names into FIRST_NAME and LAST_NAME virtual columns. The Analyst tool profiles the FIRST_NAME and LAST_NAME columns.

**Note:** If you delete a rule object that other object types reference, the Analyst tool displays a message that lists the object types being referenced. Determine the impact of deleting the rule before you choose to delete it.

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**Expression Rules**

Expression rules use expression functions and columns to define rule logic. Create expression rules and add them to a profile in the Analyst tool.

Use expression rules to modify or validate values for columns in a profile. You can create one or more expression rules to use in a profile.

Expression functions are SQL-like functions used to transform source data. The Analyst tool provides the following types of functions that you can use to create expression rule logic:

- Character
- Conversion
- Data Cleansing
- Date
- Encoding
- Financial
- Numerical
- Scientific
- Special
- Test

Use the **New Rule Wizard** to create an expression rule and add it to a profile. You must open a profile before you create an expression rule. When you create an expression rule, you configure the name and description for the rule and configure the rule logic using expression functions and columns as parameters. You can then include the rule in profile results and configure sampling options.

The **New Rule Wizard** includes an expression editor. Use the expression editor to add expression functions, configure columns as input to the functions, validate the expression, and configure the return type, precision, and scale.

The output of an expression rule is a virtual column that uses the name of the rule as the column name. The Analyst tool profiles the virtual column. For example, you use an expression rule to validate a ZIP code. The rule returns 1 if the ZIP Code is valid and 0 if the ZIP code is not valid. Informatica Analyst profiles the 1 and 0 output values of the rule.

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**Creating an Expression Rule**

Use the **New Rule Wizard** to create an expression rule and add it to a profile. Create an expression rule to modify or validate values for columns in a profile.
1. In the Navigator, select the project or folder that contains the profile that you want to add the rule to.
2. In the **Contents** panel, click the profile to open it.
   The profile appears in a tab.
3. Click **Actions > Add Rule.**
   The **New Rule** window appears.
4. Select **Create a rule.**
5. Click **Next.**
6. Enter a name and optional description for the rule.
7. Optionally, choose to promote the rule as a reusable rule and configure the project and folder location.
   If you promote a rule to a reusable rule, you or other users can use the rule in another profile as a predefined rule.
8. In the **Functions** tab, select a function and click the right arrow to enter the parameters for the function.
9. In the **Columns** tab, select an input column and click the right arrow to add the expression in the **Expression** editor. You can also add logical operators to the expression.
10. Click **Validate.** You can proceed to the next step if the expression is valid.
11. Optionally, click **Edit** to configure the return type, precision, and scale.
12. Click **Next.**
13. In the **Columns** panel, select the columns you want to profile. The columns include any rules you applied to the profile. Optionally, select **Name** to select all columns.
   The Analyst tool lists the name, datatype, precision, and scale for each column.
14. In the **Sampling Options** panel, configure the sampling options.
15. In the **Drilldown Options** panel, configure the drilldown options.
16. Click **Save** to create the rule or click **Save & Run** to create the rule and then run the profile.

### Creating an Expression Rule from Profile Results

You can run a profile on a data object and create an expression rule based on selected value frequencies for profile columns. You cannot create an expression rule from a virtual column in the profile. The rule uses the value frequencies from the profile results to create the rule syntax.

1. In the Navigator, select the project or folder that contains the profile that you want to add the rule to.
2. Click the profile to open it.
   The profile appears in a tab.
3. In the **Column Profiling** view, select a column and select the value frequencies for the column data in the **Values** view.
4. Click **Actions > Add Rule.**
   The **New Rule** window appears.
5. Select the option to **Create a new Value Frequency Rule.**
6. Click **Next.**
7. Enter a name and optional description for the rule.
8. Optionally, choose to promote the rule as a reusable rule and configure the project and folder location.
   If you promote a rule to a reusable rule, you or other users can use the rule in another profile as a predefined rule.
9. The Analyst tool adds the expression rule for the value frequencies you selected in the Expression editor.
Optionally, in the Functions tab, select a function and click the right arrow to enter the parameters for the function. In the Columns tab, select an input column and click the right arrow to add the expression in the Expression editor. You can add logical operators to the expression.

10. Click Validate. You can proceed to the next step if the expression is valid.

11. Click Next.

12. In the Columns panel, select the columns you want to profile. The columns include any rules you applied to the profile. Optionally, select Name to include all columns.

   The Analyst tool lists the name, datatype, precision, and scale for each column.

13. In the Sampling Options panel, configure the sampling options.

14. In the Drilldown Options panel, configure the drilldown options.

15. Click Save to create the rule or click Save & Run to create the rule and then run the profile.

### Predefined Rules

Predefined rules are rules created in the Developer tool or provided with the Developer tool and the Analyst tool. Apply predefined rules to the Analyst tool profiles to modify or validate source data.

Predefined rules use transformations to define rule logic. You can use predefined rules with multiple profiles. In the Model repository, a predefined rule is a mapplet with an input group, an output group, and transformations that define the rule logic.

You can apply the following types of predefined rules:

- **System-defined.** Packaged with the content installer for the Developer tool and can appear as reusable rules in the Analyst tool.
- **User-defined.** Created in the Developer tool as a mapplet and validated as a rule. Can appear as reusable rules in the Analyst tool.

Use the New Rule Wizard to apply a predefined rule to a profile. You must open a profile before you apply a predefined rule. When you apply a predefined rule, you configure the name and description for the rule and configure the columns in the profile or reference tables as parameters for the rule. You can then include the rule in profile results and configure sampling and drilldown options.

### Applying a Predefined Rule

Use the New Rule Wizard to apply a predefined rule to a profile. When you apply a predefined rule, you select the rule and configure the input and output columns for the rule. Apply a predefined rule to use a rule promoted as a reusable rule or use a rule created by a developer.

1. In the Navigator, select the project or folder that contains the profile that you want to add the rule to.

2. Click the profile to open it.

   The profile appears in a tab.

3. Click Actions > Add Rule.

   The New Rule window appears.

4. Select the option to Apply a Rule.

5. Click Next.

6. In the Rules panel, select the rule that you want to apply.

   The name, datatype, description, and precision columns appear for the Inputs and Outputs columns in the Rules Parameters panel.

7. Click Next.
8. In the Inputs section, select an input column. The input column is a column name in the profile.
9. Optionally, in the Outputs section, configure the label of the output columns.
10. Click Next.
11. In the Columns panel, select the columns you want to profile. The columns include any rules you applied to the profile. Optionally, select Name to include all columns.
   The Analyst tool lists the name, datatype, precision, and scale for each column.
12. In the Sampling Options panel, configure the sampling options.
13. In the Drilldown Options panel, configure the drilldown options.
14. Click Save to apply the rule or click Save & Run to apply the rule and then run the profile.

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