Oracle® Financial Services Advanced Analytical Infrastructure

Data Quality Framework User Guide

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Oracle Financial Services Advanced Analytical Infrastructure Data Quality Framework User Guide, Release 25A

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Introduction to Data Quality Framework

Data Quality Framework consists of a scalable rule-based engine which uses a single-pass integration process to standardize, match, and duplicate information across global data.

Data Quality Framework within the Infrastructure system facilitates you to define rules and execute them to query, validate, and correct the transformed data existing in an environment. This framework includes the following components:

- Data Quality Rules - Data Quality Rules allows you to create a DQ (Data Quality) definition and perform Data Quality checks using Single column and Multi-column checks.
- Data Quality Groups - Data Quality Groups facilitates you to logically group the defined DQ definitions.

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Roles and Functions for Managing DQ Framework

The following roles and function are required to create, view and manage the Rules and Groups in DQ Framework.

Role	Action
DQACC - DQ Access	Data Quality Rule Access Role
DQADVND - DQ Advanced	Data Quality Rule Advanced Role
DQAUTH - DQ Authorize	Data Quality Rule Authorize Role
DQAUTOAUTHR - DQ Auto Authorize Rulw	Data Quality Auto Authorize Rule
DQREAD - DQ Read	Data Quality Rule Read-only Role
DQWRITE - DQ Write	Data Quality Rule Write Role

Functions	Action
DQ_SUMM - Data Quality Rule Summary	Access DQ Rule Summary
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DQ_VIW - Data Quality View Rule	View DQ Rule
DQ_GP_VIW - Data Quality View Rule Group	View DQ Rule Group
DQ_GP_DEL - Data Quality Delete Rule Group	Delete DQ Rule Group
DQ_DEL - Data Quality Delete Rule	Delete DQ Rule
DQ_AUTH - Data Quality Authorisation Rule	Authorize DQ Rule
DQ_GP_EDT - Data Quality Edit Rule Group	Edit DQ Rule Group
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DQ_PURGE - DQ Rule Purge	Purge the DQ Rule
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DQ_GP_EXEC - Data Quality Execute Rule Group	Execute DQ Rule
DQ_GP_PURGE - DQ Group Purge	Purge the DQ Group
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DQ_EXE_SUMMARY- DQ Execution Summary	Access DQ Execution Summary
DQ_EXE_ASSIGN - DQ Execution Assignment	Enable Data correction in the execution summary

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Data Quality Rules

Data Quality Rules allows you to create a DQ (Data Quality) definition using data quality checks based on single column or multiple columns of a single base table. The defined Data Quality Rules can be logically grouped and executed together.

Data Check Definitions

Data Check definitions included the Data Quality Rules help in performing data quality check and correction.

You can include the following Data quality checks in the DQ Rule.

- **Single Column Check** - You can set the Check Type to Single Column Check during DQ Rule creation. This check will perform Data Quality Check on only one column selected during Rule creation. For more details about the various Single column Checks, refer to Single Column Data Check Definitions.
- **Multi Column Check** -You can set the Check Type to Multi Column Check during DQ Rule creation. This check will perform Data Quality Check on one or more columns of a single base table, selected during Rule creation. For more details about the various Multi-column Checks, refer to Multi Column Data Check Definitions.

Single Column Data Check Definitions

Single Column Data Checks help to perform data quality check on only one column selected during DQ Rule creation.

You can include the following Data Quality checks in the DQ Rule, if the check type is set to Single Column Check.

- **Range Check -** Range Check identifies if the base column data falls outside a specified range of Minimum and Maximum value. Range check can be enabled only if the base column has date or number value.
  - Select the check-box to enable the Range check.
  - Set the warning level to **Severity**, **Warning** or **Information**.
  - If the selected Base Column is of **Date** type, select Minimum and Maximum date range. If the selected base column is of **Number** type, enter the Range value. You can specify numeric, decimal, and negative values for number Data type.
  - Check the Inclusive check-box, to include the specified date/value during the data check.
  - Click **Edit** to add specific filter expressions, as additional conditions. For more information, refer to Creating Expressions.
  - Select the **Assignment** option. The Assignment option is enabled only if Warning/ Information is selected as the Warning level.
    * Select the Assignment Type from the drop-down list. For more information, see Assignment Types.

        * Specify the **Assignment Value**.
        * Select the **Message Severity** as 1 or 2 from the drop-down list.
        * Select a pre-defined Message to be displayed from the drop-down list.
          To enter a specific message other than the listed pre-defined messages, select **Custom Message**, in the Message drop-box and enter the required **Custom Message**.

- **Null Value Check** -Null Value Check checks identifies if there is any null value in the selected column.
    – Select the check-box to enable the Null Value check.
    – Set the warning level to **Severity**, **Warning** or **Information**.
    – Click **Edit** to add specific filter expressions, as additional conditions.
    – Select the **Assignment** option. The Assignment option is enabled only if Warning/ Information is selected as the Warning level.
        * Select the Assignment Type from the drop-down list. For more information, see Assignment Types.
        * Specify the **Assignment Value**.
        * Select the **Message Severity** as 1 or 2 from the drop-down list.
        * Select a pre-defined Message to be displayed from the drop-down list.
          To enter a specific message other than the listed pre-defined messages, select **Custom Message**, in the Message drop-box and enter the required **Custom Message**.
- **Blank Value Check** -Null Value Check checks identifies if there is any entry in the selected column is blank.
    – Select the check-box to enable the Blank Value check.
    – Set the warning level to **Severity**, **Warning** or **Information**.
    – Click **Edit** to add specific filter expressions, as additional conditions.
    – Select the **Assignment** option. The Assignment option is enabled only if Warning/ Information is selected as the Warning level.
        * Select the Assignment Type from the drop-down list. For more information, see Assignment Types.
        * Specify the **Assignment Value**.
        * Select the **Message Severity** as 1 or 2 from the drop-down list.
        * Select a pre-defined Message to be displayed from the drop-down list.
          To enter a specific message other than the listed pre-defined messages, select **Custom Message**, in the Message drop-box and enter the required **Custom Message**.
- **Data Length Check** -Data Length Check checks for the length of the base column data using a minimum and maximum value and identifies if it falls outside the specified range.
    – Select the check-box to enable the Data Length check.
    – Set the warning level to **Severity**, **Warning** or **Information**.
    – Enter the Minimum and maximum values for validation.
    – Click **Edit** to add specific filter expressions, as additional conditions.

- **Duplicate Check** - Duplicate Check can be used when a combination of column is unique and identifies all the duplicate data of the base table in terms of the columns selected for the duplicate check.
  - Select the check-box to enable the Duplicate Check.
  - Set the warning level to **Severity**, **Warning** or **Information**.
  - Click **Edit** to add specific filter expressions, as additional conditions.
  - Click **Edit** and select the required column to be added to the **Column List**, for duplicate check validation.
- **Custom Check/Business Check**- Custom Check/Business Check is a valid SQL query to identify the data with the query specified as the Custom/business SQL. You can define the SQL, but the Select clause of the query has to follow the order as specified in the template of the Custom Check panel.
  Sample Template : `"SELECT 'N_COUNTRY_SKEY' PKNAMES, N_COUNTRY_SKEY PK1, null PK2, null PK3, null PK4, null PK5, null PK6, null PK7, null PK8, V_COUNTRY_DESC ERRORCOL FROM DIM_COUNTRY WHERE N_COUNTRY_SKEY >50"`
  - Select the check-box to enable the Custom Check.
  - Set the warning level to **Severity**, **Warning** or **Information**.
  - Enter the SQL Query to perform the custom check.
- **Column Reference/Specific Value Check** - Column Reference / Specific Value Check compares the base column data with another column of the base table or with a specified direct value using the list of pre-defined operators.
  - Select the check-box to enable the Column Reference check.
  - Set the warning level to **Severity**, **Warning** or **Information**. Column reference check can be enabled only if the base column has date or number value.
  - Select the **Mathematical Operator** from the drop-down list.
  - Select the **Filter Type** as one of the following:
    - Select **Specific Value** and specify the Value. You can specify numeric, decimal, and negative values for number Data type.
    - Select **Another Column** and select Column Name from the drop-down list.
  - Click **Edit** to add specific filter expressions, as additional conditions.
  - Select the **Assignment** option. The Assignment option is enabled only if Warning/ Information is selected as the Warning level.
    - Select the Assignment Type from the drop-down list. For more information, see Assignment Types.
    - Specify the **Assignment Value**.
    - Select the **Message Severity** as 1 or 2 from the drop-down list.
    - Select a pre-defined Message to be displayed from the drop-down list.
      To enter a specific message other than the listed pre-defined messages, select **Custom Message**, in the Message drop-box and enter the required **Custom Message**.
- **List of Value -** List of Value Check verifies the values where a dimension / master table is not present. This check identifies if the base column data is not matching with any value or code specified in a list of values.
  - Select the check-box to enable the List of Value check.

- Set the warning level to **Severity**, **Warning** or **Information**.
- Select **Input Values** and specify the List of Values. You can specify numeric or String values.
- Click **Edit** to add specific filter expressions, as additional conditions.
- Select the **Assignment** option. The Assignment option is enabled only if Warning/ Information is selected as the Warning level.
  * Select the Assignment Type from the drop-down list. For more information, see Assignment Types.
  * Specify the **Assignment Value**.
  * Select the **Message Severity** as 1 or 2 from the drop-down list.
  * Select a pre-defined Message to be displayed from the drop-down list.
    To enter a specific message other than the listed pre-defined messages, select **Custom Message**, in the Message drop-box and enter the required **Custom Message**.

- **Referential Integrity Check** - Referential Integrity Check identifies all base column data which has not been referenced by the selected column of the referenced table. Here, the reference table and columns are user specified.
  - Select the check-box to enable the Referential Integrity Check.
  - Set the warning level to **Severity**, **Warning** or **Information**. Column reference check can be enabled only if the base column has date or number value.
  - Select the **Table** (Referential Integrity Check dimension table) from the drop-down list. The base table selected under the Select grid is excluded from the drop-down list.
  - Select the Column from the drop-down list. The list displays those columns that have the same Data Type as that of the Base Column selected under Select grid.
  - Select the **Is Composite Key** check-box if the base column is part of a Composite Key.
  - Click **Edit** to add specific filter expressions, as additional conditions.

Multi Column Data Check Definitions

Multi Column Data Check definitions help in data quality checks and correction of one or more columns of a single table, selected during Rule creation.

Assignment Types

To populate the Assignment Type details, select any of the below Assignment Type option from the dropdown list and do the following:

- **No Assignment** - This assignment is selected by default and does not have any target column update, but the message details are pushed.
- **Direct Value** - Enter the **Assigned Value**. You can specify number, date or string values, as required.
- **Another Column** - Select the required Column as **Assigned Value** from the drop-down list.
- **Expression** - Specify the required expression in the Specify Expression Page. For more information, refer to Creating Expressions.

Creating Expressions

You can define an expression in the Expression Builder to combine two selected tables.

The expression builder includes the following sections:

- **Entities -** consists of the Entities folder with the list of tables that you selected from the Entity Groups folder. Double-click the Entities folder to view the selected dimension tables (Product and Segment tables).
- **Functions** – The 2 types of functions are,
  - **Database Functions** - consists of functions that are specific to databases.
  - **User Defined Functions -** use these functions along with Operators to specify the join condition.
- **Operators** - Consists of the function operators categorized into folders. The various types of operators are,
  - **Arithmetic -** +, -, %, * and /
  - **Comparison** - '=', '!=', '< >', '>', '<', >=, <=,'IN', 'NOT IN', 'ANY', 'BETWEEN', 'LIKE', 'IS NULL', and 'IS NOT NULL'.
  - **Logical** - 'NOT', 'AND' and 'OR'
  - **Set** - UNION, UNION ALL, INTERSECT and MINUS
  - **Other** - The Other operators are 'PRIOR', '(+)', '(' and ')'.

To specify the join condition:

1. Select the **Entity** of the fact table to which you want join the dimension entities.
2. Select a **Function** depending on the database type.
3. Select the **Operator** you want to use for the join condition.
4. Select the **Second Entity** from the Entities pane that you want to join with the first entity. You can also select more than one table and link to the fact table.

   The defined expression is displayed in the Expression pane. Click **Reset** to reset the values.
5. Click **OK**.

   The defined expression is validated as per the selected table and entity definition and on successful validation, it is added to the DQ Rule.

DQ Rules Summary

The Data Quality Rule Summary page contains the list of user-defined Data Quality Rules with details such as Name, Status, Folder, Is Executed, Version, Is Grouped, Check Type and Base table.

Refer to the following procedure to view DQ Rules Summary and the relevant details:

- Click **Data Quality Rules**, to access the Data Quality Rules Summary.

  The Data Quality Rules Summary page with the following details is displayed.
  - **Name** - The Unique Identifier Name of the Data Quality Rule.
  - **Status** - The Approval status of the specific rule.

  - **Approval** - The Rule is approved and ready for execution. The approved rules can be grouped further for execution.
  - **Pending for Approval** - The rule requires approval and can be executed only after approval.
  - **Draft** - A defined rule is set to**Draft** status until it is submitted for approval by the creator.
  - **Rejected** - The rejected rules are sent back to the creator with the Approver comments.
- **Folder** - The folder associated with the rule.
- **Version** - The current active version of the rule.
  When a new definition is created, it will be saved as version 1 and once it is authorized, it will be in Active status. After you modify any DQ Rule and save, it will be saved with version as highest available version +1. For example, if you modify a DQ Rule of version 2 and the highest version available is 4, after you save the definition, its version becomes 5. Only the latest version will be in Active status.
- **Check Type** - Select one of the following check types:
  - **Single Column Check** - define conditions based on individual checks on a single column. For more information, refer to Single Column Data Check Definitions.
  - **Multi Column Check** - define conditions based on multiple columns of a single base table. These checks are not pre-defined and can be specified (user-defined) as required. For more information, refer to Multi Column Data Check Definitions.
- **Base Table** - The base table within the environment, associated with the rule.
- **Created By** - The login name of the user who created the rule.
- **Created Date** - The rule creation date.
- **Action** - Click **Action**, to view, approve, reject edit, or delete the rule.

To search for a particular rule, enter the first few letters of the rule name in the Search column.

You can also sort the rule summary based on the Status, Folder name, check type, record status, Rule name and Select table.

To sort the Summary based on the Status, click **Status** in the Search bar, and select the required status.

Creating DQ Rule

You can create a Data Quality Rule Definition by specifying the DQ Definition details along with the entity details and the type of data quality check to be performed on the selected base table. You can also define the required search conditions to query and correct the transformed data.

1. To create a DQ Rule, click **Add Rule** on the DQ Rules Summary.

   The Data Quality Rules page with DQ Group Details and DQ Rules Mapping tab is displayed.

2. Click **Start**, to enter the following basic details for the new DQ Rule.

   - **Name** - The unique identifier name for the rule.
     The name should start with alphabet and should not be more than 50 characters.

     Blank space ( ), **Underscore (_)** and **Hyphen (-)** are allowed as special characters.
   - **Description -** The description/details for the rule.

The description should start with alphabet and should not be more than 250 characters.

- **Folder -** Select the folder present in the current environment, to be associated with the rule.
- **Check Type -** Select one of the following check types for the rule.
  - **Single Column -** Select Single column to perform data quality check only on one column. For more information, refer to Single Column Data Check Definitions.
  - **Multi-Column -** Select Multi-Column to perform data quality check on more than one column in a single table. For more information, refer to Multi Column Data Check Definitions.
- **Access-type -** Select one of the following Access types.
  - **Read-only -** only the creator can edit the rule. Other users can only view the rule.
  - **Read-Write -** all users can view, modify any fields (including Access Type), and also delete the DQ Rule.
- Check **Auto DQ Group Required** option, to create a new DQ group, for this Rule. The new group will be associated only with the created DQ rule. The group name will be set as <DQ_Rule_Name_group>, and this group will have only Read-only access.
- Check **Auto Assignment**, to execute the rule, and also perform the assignment.

> **Note:**
>
> The Auto Assignment is applicable only to the Auto DQ Group.

- Click **Continue** to proceed with the Entity Selection page.

3. Enter/select the following entities:
   - **Table** - Select the basic table on which the rule is executed.
   - If the rule is a single-column rule, select the **Base Column**, to be included for the rule execution. Base column will not be present for Multi-Column rule.
     You can search table and columns based on their physical and logical names, using the toggle button.
   - Select the **Identifier Columns** required to execute the rule.
     The default primary key fields present in the selected entity table are automatically added as identifier columns. They cannot be deleted.
     - To select multiple columns, click **Edit**.
     - Select the required columns from the **Available Members** pane and move them to **Selected Members** pane.
   - Click **Edit**, to include the filter expression.
     The **Specify Expression** page is displayed. For more information refer to Creating Expressions.
     - Select the entities to be included in the filter expression and click **OK**.
4. Click **Continue**, to proceed with the **Data Check Definitions**.
5. Select the required Data Check Definitions, to validate the data.

   Enter/select the required information for each Data Check Definition. For more information about each Data check type, refer to Data Check Definitions.

6. Click **Submit**, to submit the new DQ Rule for approval.

   The DQ Rule is saved with the status **Pending for Approval**, in the Rules Summary and a confirmation message is displayed.

   While creating the DQ Rule, you can also click **Save As Draft**, to save the new incomplete DQ Rule at any point of time and resume the process at a later point. A confirmation message is displayed, after the draft is saved successfully.

   The new Rule added to the DQ Rules Summary, and is set to **Draft** Status in the DQ Rules Summary.

> **Note:**
>
> If the user has **DQAUTOAUTH** Role assigned, the Rule will be auto-approved.

Editing DQ Rules

You can update all the definition details except for the Definition Name, Check Type, Table, and the Base Column selected.

You can only edit the DQ rules that are set to **Draft, Approved** and **Rejected** status. You cannot edit the rules that are set to **Pending for Approval** status.

To edit the required Data Quality Rule definition details:

1. Click **Action** adjacent to the DQ Rule to be modified.
2. Click **Edit**, to modify the DQ Rule.
3. Click **Start** to edit the **DQ Rule Details**.
4. Modify the description and click **Continue** to proceed with editing the Entity Selection details.

   You can also click **Save as Draft**, to save the changes and proceed with Submission later.
5. Modify the Filter expression and click **Continue** to proceed to **Data Check Definitions** page.
6. Add/remove the data checks required during rule execution and click **Submit**, to submit the modified rule for approval.

   The rule is updated and added to the DQ Rules Summary. A confirmation message is displayed.
   The Rule is set to **Pending for Approval** state.

> **Note:**
>
> If the user has **DQAUTOAUTH** Role assigned, the Rule will be auto-approved.

Approving/Rejecting a Data Quality Rule

An authorizer can approve a user-defined Data Quality Rule definition or reject an inappropriate DQ Definition listed within the Data Quality Rule Summary.

You should be mapped to DQ Authorizer function role to approve or reject a DQ Definition.

> **Note:**
>
> You can only approve those DQ Rules that are set to **Pending for Approval** status. If the user has **DQAUTOAUTH** Role assigned, the DQ rule will be auto-approved.

To view a Data Quality rule, and approve/ reject Data Quality rule:

1. Click **Action** adjacent to the DQ Rule to be approved/rejected.
2. Click **Preview**, to view the DQ Rule.

   All the details pertaining to the selected rule is displayed.
3. Click **Approve/Reject**, after reviewing the rule.
4. Enter valid reason for approval or rejection.
5. Click **Approve/Reject**.

   The DQ Rule is approved/rejected and a confirmation message is displayed.

Bulk Approving/Rejecting Data Quality Rules

An authorizer can approve multiple user-defined Data Quality Rule definitions or reject an inappropriate DQ Definition listed within the Data Quality Rule Summary.

You should be mapped to DQ Authorizer function role to approve or reject a DQ Definition.

> **Note:**
>
> You can only approve those DQ Rules that are set to **Pending for Approval** status. If the user has **DQAUTOAUTH** Role assigned, the DQ rule will be auto-approved.

> **Note:**
>
> When you initiate bulk approval/rejection, all the selected rules are approved/rejected based on the user input. If you want to stop the approval/rejection of one specific rule, cancel the whole process and restart again.

To view several Data Quality rules, and approve/ reject them:

1. Filter Rule Summary, to view only the rules with **Pending For Approval** Status.

   All the rules that need be approved/rejected are displayed.
2. Select the rules for approval/rejection.

   You can select all the rules displayed in a page, by clicking the check box next to the **Name** header. To select all the rules in the Summary, with **Pending** Status, select **Click All Rules in Summary** link.
3. Click **View Details**, to view the Rule details of all the selected rules.

   All the rule details, and base table for the selected rules are displayed. Review the details and add appropriate comments and click **OK**.

You can also **Proceed without Viewing** the details.

4. Click **Approve/Reject**.

   The selected DQ Rules are approved/rejected and a confirmation message is displayed.

Deleting a Data Quality Rule

You can remove the Data Quality Rule definition(s) that are not grouped in the Data Quality Framework. A grouped and non-executed Data Quality Rule definition can still be deleted by unmapping the same from all the associated group(s).

To delete a DQ Rule:

1. Click **Action** adjacent to the DQ Rule to be approved/rejected.
2. Click **Delete**, to delete the DQ Rule.

   The selected rule is set to **Pending for Approval** status and is deleted after approval.

> **Note:**
>
> If the user has **DQAUTOAUTH** Role assigned, the Rule will be auto-deleted.

Purging a Data Quality Rule

You can delete a Data Quality Rule definition permanently from the setup.

You can purge only those DQ Rules that are deleted after approval.

To delete a DQ Rule:

1. Click **Action** adjacent to the deleted DQ Rule.
2. Click **Purge**, to delete the DQ Rule from the setup.

   The selected rule is is deleted permanently after confirmation.

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Data Quality Groups

Data Quality Groups facilitates you to logically group the defined DQ Definitions .

DQ Group Definitions can be executed through Scheduler Services. For more information, refer to Adding a DQ Check Task .

DQ Groups Summary

The Data Quality Groups Summary displays the list of user-defined Data Quality Groups with the other details such as Name, Folder, Creation Date, Created By, Last Modification Date, Last Modified By, Last Run Date, and Last Run Status. .

You can create and execute DQ Group definitions and view, modify, copy, refresh, or delete DQ Group definitions within the Data Quality Groups Summary.

- Click **Data Quality Groups**, to access the Data Quality Groups Summary.

  The Data Quality Rules Summary with the following details is displayed.

  - **Name** - The Unique Identifier Name of the Data Quality Group.
  - **Status** - The Approval status of the specific group.
    - **Approval** - The group is approved and ready for execution.
    - **Pending for Approval** - The group requires approval and can be executed only after approval.
    - **Draft** - A defined group is set to **Draft** status until it is submitted for approval by the creator.
    - **Rejected** - The rejected rules are sent back to the user with the Approver comments.
  - **Version** - The current active version of the group.
    When a new definition is created, it will be saved as version 1 and once it is authorized, it will be in Active status. After you modify any DQ Group and save, it will be saved with version as highest available version +1. For example, if you modify a DQ Group of version 2 and the highest version available is 4, after you save the definition, its version becomes 5. Only the latest version will be in **Active** status.
  - **Folder** - The folder associated with the group.
  - **Created Date** - The group creation date.
  - **Created By** - The login name of the user who created the Group.
  - **Last Run Date** - The last date on which the DQ Group was executed.
  - **Last Run Status** - The last execution state if the specific DQ Group.
    - **Success** - The last execution of the selected DQ Group was completed successfully.
    - **Failed** - The last execution did not complete.
    - **NA** - The DQ Group was not executed.

- **Action** - Click **Action**, to view, approve, reject, edit, execute, delete, or view the dependency of the group.

  To search for a particular group, enter the first few letters of the group name in the Search column.

  You can also sort the groups summary based on the Status, Folder name, record status and group name.

Creating DQ Groups

You can create a DQ Group definition by defining the DQ Definition details and mapping the required DQ Rules which are authorized and approved within the system.

The DQ Group definition is flexible and purpose driven. Groups can be created for different subject areas such as Credit and Market or it can be application specific like Basel II, Economic capital.

1. To create a DQ Group, click **Add Group** in the DQ Group Summary.

   The Data Quality Group page with DQ group Details and DQ Rules Mapping tab is displayed.

2. Click **Start**, to enter the following basic details for the new DQ Group.

   - **Name** - The unique identifier name for the groups.
     The name should start with alphabet and should not be more than 50 characters.

     Blank space ( ), **Underscore (_)** and **Hyphen (-)** are allowed as special characters.

   - **Folder** - Select the folder present in the current environment, to be associated with the group.

   - **Description** - The description/details for the group.
     The description should start with alphabet and should not be more than 250 characters.

   - Check **Auto Assignment**, to execute the group, and also perform the assignment.

   - **Access-type** - Select one of the following access types.

     – **Read-only** - Only the creator can edit the group. Other users can only view the group.

     – **Read-Write** - All users can view, modify any fields (including Access Type), and also delete the DQ Group.

3. Click **Continue** to proceed with the Data Rules Mapping page.

   The list of available rules are displayed in the Data Rules Mapping page.

4. Select the Rules to be added to the new DQ Group.

5. Click **Submit**, to submit the new DQ Group for approval.

   The DQ Groups is saved with the status **Pending for Approval**,in the Group Summary and a confirmation message is displayed.

   While creating the DQ Group, you can also click **Save As Draft**, to save the new incomplete DQ Group at any point of time and resume the process at a later point. A confirmation message is displayed, after the draft is saved successfully.

   The new Group added to the DQ Groups Summary, and is set to **Draft** Status in the DQ Groups Summary.

> **Note:**
>
> If the user has **DQAUTOAUTH** Role assigned, they can save and approve the DQ Group, immediatly after creating it.

Editing DQ Groups

You can modify all the details of a saved Data Quality Group Definition, except the Group name.

To edit the required Data Quality Group Definition details:

1. Click **Action** adjacent to the DQ Group to be modified.
2. Click **Edit**, to modify the DQ Group.
3. Click **Start** to edit the **DQ Group Details**.
4. (Optional). Modify the description and click **Continue** to proceed with adding/deleting the rules associated with the DQ Group.
5. Add/remove the DQ Rules associated with the DQ Groups and click **Submit**, to submit the modified group for approval.

   The group is updated and added to the DQ Groups Summary. A confirmation message is displayed.
   The Group is set to **Pending for Approval** state.

> **Note:**
>
> If the user has **DQAUTOAUTH** Role assigned, they can save and approve the DQ Group, immediatly after creating it.

Approving/Rejecting a Data Quality Group

An authorizer can approve a user-defined Data Quality Group definition for further execution or reject an inappropriate DQ Definition listed within the Data Quality Rule Summary.

You should be mapped to DQ Authorizer function role to approve or reject a DQ Definition.

> **Note:**
>
> You can only approve those DQ Rules that are set to **Pending for Approval** status. If the user has **DQAUTOAUTH** Role assigned, they can save and approve the DQ Group, immediatly after creating it.

To view a Data Quality Group, and approve/ reject it:

1. Click **Action** adjacent to the DQ Groups to be approved/rejected.
2. Click **Preview**, to view the DQ Groups.

   All the details pertaining to the selected rule is displayed.

3. Click **Approve/Reject**, after reviewing the groups.
4. Enter valid reason for approval or rejection.
5. Click **Approve/Reject**.
6. The DQ Group is approved/rejected and a confirmation message is displayed.

Bulk Approving/Rejecting Data Quality Groups

An authorizer can approve multiple user-defined Data Quality Groups or reject an inappropriate DQ Groups listed within the Data Quality Group Summary.

You should be mapped to DQ Authorizer function role to approve or reject a DQ Definition.

> **Note:**
>
> You can only approve those DQ Groups that are set to **Pending for Approval** status. If the user has **DQAUTOAUTH** Role assigned, the DQ group will be auto-approved.

> **Note:**
>
> When you initiate bulk approval/rejection, all the selected groups are approved/ rejected based on the user input. If you want to stop the approval/rejection of one specific group, cancel the whole process and restart again.

To view several Data Quality groups, and approve/ reject them:

1. Filter Group Summary, to view only the groups with **Pending For Approval** Status.

   All the groups that need be approved/rejected are displayed.
2. Select the groups for approval/rejection.

   You can select all the groups displayed in a page, by clicking the check box next to the **Name** header. To select all the groups in the Summary, with **Pending** Status, select **Click All Groups in Summary** link.
3. Click **View Details**, to view the Group details of all the selected Groups.

   All the group details, and base table for the selected groups are displayed. Review the details and add appropriate comments and click **OK**.

   You can also **Proceed without Viewing** the details.
4. Click **Approve/Reject**.

   The selected DQ groups are approved/rejected and a confirmation message is displayed.

Executing DQ Groups

You can execute an approved Data quality group.

To execute a data quality group:

1. Click **Action** adjacent to the DQ Group to be modified.
2. Click **Execute** to access the **Execute Group** page.

3. Enter/select the following details:
   - The **Threshold** percentage for the maximum number of errors permissible during the DQ check. By default, this is set to 100.
   - Set **Fail If Threshold Breaches** to **TRUE**, to abort the job and not include the failure records in the DQ table, when the DQ check errors are more than the set threshold value.
     If the **Fail If Threshold Breaches** is set to **FALSE**, the DQ group will be executed and the failure records will be inserted in the DQ Result tables.
   - Set **Stop Insert on Threshold Breach** to **Y** , to the stop the execution when there is a thereshold breach. The execution will be stopped even if **Fail If Threshold Breaches** is set to **False**.
   - Enter the **Additional Parameters** required for the Run DQ Rule filtering criteria for execution in the pattern: Key#Data type#Value; Key#Data type#Value; and so on.
   - Set the **Rule Execution Connection** value. By default this is set to **Data**.
   - Set the **Result Store Connection** value. By default, this is set to **Data**.
   - Select **As of Date** to execute to DQ group.
4. After providing the required details, click **Run**, to begin the execution.

Deleting a Data Quality Group

You can remove the Data Quality Group definition(s) that are not grouped in the Data Quality Framework. A grouped and non-executed Data Quality Rule definition can still be deleted by unmapping the same from all the associated group(s).

To delete a DQ Group:

1. Click **Action** adjacent to the DQ Group.
2. Click **Delete**, to delete the DQ Group.

   The selected group is deleted after confirmation.

> **Note:**
>
> If the user has **DQAUTOAUTH** Role assigned, the Group will be auto-deleted.

Purging a Data Quality Group

You can delete a Data Quality Group definition permanently from the setup.

To delete a DQ Group:

1. Click **Action** adjacent to the deleted DQ Group.
2. Click **Purge**, to delete the DQ Group from the setup.

   The selected Group is is deleted permanently after confirmation.

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Adding a DQ Check Task

You can add a new DQ check Task in the Scheduler Services and add the task to a Batch Definition, for execution.

For more information about adding a task to the Batch and about Scheduler Services, refer to Scheduler Services documentation.

To add new task using the Define Tasks page in Scheduler Services, perform the following steps:

1. Click **Define Tasks** from the Header panel.
2. Select the **Batch**, to add new task.
3. Click **Add**, to add a new DQ task in the **Create Task** page.
   - Complete all the generic details in the Create Task Page. For more information refer to Adding a Task.
   - Select the **Task Type** as DQ Task.
   - Select the **Group** to perform the DQ check.
   - Enter the **Threshold** percentage for the maximum number of errors permissible during the DQ check. By default this value is set to 100.
   - Set **Fail If Threshold Breaches** to **TRUE**, to abort the job and not include the failure records in the DQ table, when the DQ check errors are more than the set threshold value.

     If the **Fail If Threshold Breaches** is set to **FALSE**, the job will proceed further and the failure records will be inserted in the DQ Result tables.
   - Enter the **Additional Parameters** required for the Run DQ Rule filtering criteria for execution in the pattern: Key#Data type#Value; Key#Data type#Value; and so on.
4. Click **Save** to add the new DQ task to the selected Batch.

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Execution Summary

The Execution Summary provides the consolidated list of executed DQ batches, for the last 30 days .

You can also view the consolidated details related to the total number of records analysed, total number of passed records and the pass percentage and total number of error records and their percentage.The number of error records categorized based on the Data checks is also displayed as a pie chart.

To view the Execution Summary Details:

- Click **Execution Summary**, to access the consolidated Execution Summary.

  The Execution Summary page with the following details is displayed.

  - **Batch ID -** The Unique Identifier Name of the particular Batch in which the DQ group is added for Data Quality Check.
  - **Process Instance ID -** The unique identifier of the execution process.
  - **DQ Group** - The DQ group associated with the Batch for Data Quality check.
  - **DQ Group Desc -** The DQ group description.
  - **FICMIS Date** - FICMIS Date refers to the date with which the data for the execution would be filtered. In case the specified MIS date is not present in the target table, execution completes with the message **No Records found**.
  - **Execution Date -** The last execution date of the Batch.
  - **Scanned Records -** The total number of records scanned for Data Quality check.
  - **Erroneous Records -** The total number of records that failed the Data Quality check.
  - **Execution Status** - The DQ Batch execution status.
  - **Assignment Status -** The current Assignment status of the DQ Batch.
  - **Action** - Click **Action**, to view the Run Details of the DQ Batch.

  To search for a particular Batch, enter the first few letters of the Batch name in the Search column.

  You can also sort the Execution summary based on the Execution Date, FICMIS Date, Execution status and Group Name, Assignment Status, Batch Id and Process Instance ID.

Viewing Run Details

Execution Details page provides the information related to the Data Quality Rule and the Data Quality Check executed during a Batch Execution.

You can also view the consolidated details related to the total number of records analysed, total number of passed records and the pass percentage and total number of erro records and their percentage.
The number of error records categorized based on the Data checks is also displayed as a pie chart.

1. Click **Action** adjacent to the specific Batch.
2. Click **View Run Details**, to access the Run details of the particular Batch execution.

   The Run details of the selected Batch is displayed with the following information.

   - **Rule** - The Rule name of the executed DQ Rule.
   - **Entity** - The Table entity associated with the Rule.
   - **Column** - The column associated for Data Quality check
   - **Check Type** - The type of check performed on the Data.
   - **Consolidated Records Scanned -** The total number of records scanned.
   - **Error Records** - The total number of erroneous records.
   - **Assignment Type -** The assignment type set during the DQ rule creation.
3. Generate and download the report, and perform assignment action based on the report.

   > **Note:**
   >
   > To perform assignment, you must have the **DQ_EXE_ASSIGN** role assigned.

   After the assignment process is completed, the Assignment status of the particular DQ Batch is set to **Success**.