Search documentation

Appian

Constants

Appian 7.6

A **constant** is a literal value you save to the system with a user-defined name, description, definition, and central location. You can reuse a constant throughout the system.

Changing the value of a constant immediately updates the constant in all process models that use it. For example, at a rental company the minimum can be set to 21 through a global constant. This constant can then be updated to 18 and all subsequent evaluations of the minimum rental-age automatically use the updated value.

To use a constant with an application object, it needs to be added to the object's application.

Constants do not belong to a specific process model, report, or channel. All constants are stored within the Rules and Constants folder of the Applica Designer or a user-defined sub-folder.

See also: Process Variables

Rules Tab

The **Rules** tab in the Application Designer displays the constants and constant folders for which you have **Viewer** rights.

Each folder displays a constant's name, description, creator, last modified date/time, and version number.

- Select a column header to sort by that column.
- Select a checkbox for a constant to view actions you can take on it.

Available Actions

Depending on your rights within a constants folder, the following actions are available from the toolbar to take on a constant or constant folder:

Click	To ...
Up One Level	Go up to the folder above your current folder.
New Folder	Create a new subfolder under your current folder.
Create an Expression Rule	Open the Create New Query Rule page.
Create a Query Rule	Open the Create a Query Rule page.
Create a Constant	Open the Create New Constant page.
Move	Move the selected constant or folder from one location to another. • Constants folders must remain within the parent Rules and Constants folder.
Delete	Delete the selected constant.
Security	Update or define access levels for the selected constant or folder.

Quick Links

From the Rules tab, the following quick links always appear in the left navigation bar:

- **Create an Expression Rule**- Opens the Create New Query Rule page.
- **Create a Query Rule** - Opens the Create a Query Rule page.
- **Create New Constant** - Opens the Create New Constant page.
- **Import Rules and Constants** - (Deprecated) Constants can only be imported or exported as part of an application. See also: Importing an Application
- **Root Folder Security** - Opens the Configure Security for Rules and Constants window to modify security for all constants.
- **Starred Rules and Constants** - Displays the rules, constants, and folders you starred as favorites.

Searching

From the Rules tab, there are two ways you can locate constants:

1. Using the **Search** field.
   - All rules and constants for which you have at least Viewer rights that match the text you enter display in a drop-down menu.
   - Select an item from the drop-down to open it.
2. **Browsing** through the Rules and Constants folder structure.
   - This can be done through the folder tree in the left navigation bar or the list view.
   - Select an item from the tree or list view to open it.

Starring

You can star constants and constant folders to mark for quick access. These objects appear when you select Starred Rules and Constants in the left-navigation of the Rules tab.

To mark a constant or folder as starred, click the star icon next to its name.

- The icon changes from clear to gold.

To remove an item from the starred list, click the gold star so it displays as clear again.

Calling

Constants execute similar to process variables. There are two ways you can add constants to an expression field value:

1. From the **Rules & Constants** tab in the Expression Editor, select a constant and add it to the Expression Editor Canvas.
   - Only constants and constant folders for which you have at least Viewer rights display in the Expression Editor.
   - Rest your pointer on a constant to display a description of the constant and the constant data type.
2. Directly reference the constant on the Expression Editor Canvas or in an expression field. To avoid potential naming conflicts with other process variables or constants, indicate the domain

   cons!myObject

NOTE: Users that do not have Viewer rights to a constant are still able to execute it by directly referencing it in an expression field or Expression Editor Canvas if they are aware of the constant name.

Creating

The process of creating a constant is similar to creating a process variable.

You can only create a constant in the constant folders for which you have **Editor** or **Administrator** rights.

To create an constant, complete the following:

1. From the **Rules** tab, click the **Create a Constant** quick link.
   - The **Create a Constant** page displays.
2. Enter a unique name in the **Name** field.
   - This name must be unique among expression rules, query rules, and constants. See below: **Reserved Names**
   - Only letters, numbers, and underscores are accepted.
   - A constant name cannot exceed 50 characters in length.
3. In the **Data Type** field, enter a data type for the constant.
   - The following options are available:
     - Boolean
     - Community
     - Data Store Entity
     - Date
     - Date and Time
     - Document
     - Document or Folder
     - Email Address
     - Email Recipient
     - Folder
     - Group

- Knowledge Center
- Number (Decimal)
- Number (Integer)
- Page
- Record Type
- Text
- Time
- User
- User or Group

4. In the Multiple field, select this checkbox if you want to store an array of values. You can type multiple values into a field in the following manner with commas to separate a list of items:
   - For example: `"a","b","c","d"`
5. (Optional) In the **Value** field, set a default value for the variable.
   - If the data type can accept multiple values, each value must be separated by a semi-colon.
6. (Optional) In the **Description** field, enter a brief description for the constant.
7. In the **Save In** field, browse and select or enter in the destination folder of the constant.
8. Click **Save Constant** to save the new constant.

Reserved Names

The following constant names are reserved for report metrics, and must not be used.

- Completion
- is_process_ontime
- is_process_overdue
- is_task_favorite
- is_task_ontime
- is_task_overdue
- Lag
- NetCompletion
- NetLag
- NetWork
- process_completion_time
- process_deadline
- process_ee_id
- process_start_time
- process_status
- pm_avg_completion
- pm_avg_lag
- pm_avg_work
- task_assignee_owner
- task_assignment_time
- task_attributed_to
- task_avg_completion
- task_avg_lag
- task_avg_work
- task_completion_time
- task_deadline
- task_ee_id
- task_status
- total_completion_time
- total_lag_time
- total_work_time
- Work

Editing

To edit a constant, open it from the Rules tab. If you have **Editor** or **Administrator** rights to it, the detail page displays in Edit mode.

The following read-only fields display for the constant:

- **Created By**: Specifies the name of the user who created the constant and the date and time at which the constant was created.
- **Last Modified By**: Specifies the name of the user who last modified the constant and the date and time at which the constant was last modified.
- **Version**: When a new constant is created, it is assigned a version number of 1. All constant versions will have an integer designation (e.g., 1.0, 2. 3.0, etc., etc.,). Any subsequent saving of the constant will have the standard versioning integer notation and be assigned the next whole number.

See below: Version Control

You can modify any of the following properties:

- Data Type
- Multiple Option
- Value

- Description
- Save In Folder

After modifying the constant properties, review the list of Impacted Rules.

- **Impacted Rules**: Expression rules that use the constant you're currently editing as part of their definition.

If necessary, open these objects in another tab to update them based on the changes you're making to the current constant.

Click **Save New Version** to save your changes to the current constant.

When a new version is saved, all subsequent expressions and process models that utilize the constant will use the new version. No changes are automatically made to the impacted and dependent rules, but the impacted rules will also use the new version.

NOTE: Changing the data type of a constant may cause it to work improperly if it is already being used in the system.

Deleting

Deleting a constant deletes it from the rule repository and prevents users from further viewing or editing it. It is still available at process execution time.

- This allows all process models and the processes instances started from those process models to continue successfully calling the constant.

Only users with **Administrator** rights to a constant can delete it.

To delete a constant:

1. Open the folder from the Rules tab that contains the constant.
2. Select the checkbox next to the constant.
   - If you have Administrator rights, a Delete button appears on the toolbar.
3. Click the **Delete** button.

Moving

All constants must be stored within the root folder "Rules and Constants" or user-defined sub-folder.

Users with **Administration** rights to a constant or folder can move them to other folders within the root folder.

To move a constant or constants folder:

1. Open the folder from the **Rules** tab that contains the constant or constants folder.
2. Select the checkbox next to the constant or folder.

   - You can select more than one.
3. Click the **Move** button on the toolbar.

   - The **Choose Folder** dialog box is displayed listing all top-level folders directly beneath the root folder (Rules and Constants).
4. Locate the target folder and click the **Select** link.

   - You can also create a new folder if you have **Administrator** rights to its parent folder and select it.
5. Click **OK** to complete the move.

NOTE: All items assume the security rights of the target folder.

Importing

You must add constants to an application in order to export and import them.

To add constants to your application:

1. Open your application for editing.
2. Select the **Rules** Tab.
   - The list of rules, constants, and rules folders associated with the application is displayed.
3. (Optional) Click **Add - Rules and Constants Folder** and select the constants folder to associate with your application.
   - You cannot import an application constant without its associated constant folder. See also: Deployment Guidelines
4. Click **Add - Rule or Constant** and select the constant to add.
5. (Optional) Click **Close** to exit the application definition assistant.
   - Documents and associated objects are saved when they are added to the list.
   - Closing the assistant is not required to save your selections.

See also: Importing an Application

Version Control

Each time you modify and save a constant, Appian updates the constant in all fields that use it and saves a copy of the previous version.

You can revert back to a previous version at any time. All versions are accessible by users with Viewer rights to a constant.

The most recent version is the current version. Previous versions are numbered incrementally with the very first starting at number 1.

To access and revert back to a previous version:

1. From the **Rules** tab, open the constant's folder.

2. Click the constant's **Version** number to view a list of all versions.
    - This link only works if there are multiple versions of a constant.
3. Select a version's constant name to open it for editing.
4. To revert back to this version, click the **Save New Version** button.
    - It saves as the Current version.
    - You can also modify a previous version and save it as the new version without affecting an old version.

For example, you have two versions of a constant: the current version and version 1. If you open version 1, modify the constant, and click **Save New Version**, the system saves the modified version 1 as the current version, the previous current version becomes version 2, and version 1 retains its original definition.

Security

All constants must be stored within the **Rules and Constants** root folder or a user-defined sub-folder. Sub-folders and constants can inherit security from the root folder, or security can be explicitly set for each object.

Constant security defines the right to create, update, view, and delete a constant or constant folder.

- At runtime, security restrictions do not prevent users from executing these objects.

Security parameters can be defined separately for a folder and its constants. To access a constant, a user must have permission to access both the constant and the folder that contains the constant.

Root Folder

By default, only system administrators can configure the Rules and Constants root folder security.

To modify the security settings for the root folder, complete the following:

1. From the **Rules** tab, select Root Folder Security from the left-side navigation.
    - The **Configure Security for Rules and Constants** dialog box displays.
2. To modify the default security setting, select a different option from the drop-down for the initial statement.
    - This setting applies to all users expect those associated with a specific security setting.
3. To add a security setting specific for a user or group, click **Add Users and Groups**.
    - The **Choose Users and Groups** dialog box displays.
4. Select one or more users or groups and click **OK**.
5. Select the type of rights to give to the selected users and groups.
6. Click **Save Changes**.

Sub-Folders

Security settings for sub-folders can only be modified by users with **Administrator** rights to the folder.

To modify the security settings of a sub-folder, complete the following:

1. From the **Rules** tab, select the parent folder for the sub-folder.
2. Select the checkbox next to the sub-folder.
3. Click **Security** from the toolbar.
    - The **Configure Security for ... Folder** dialog box displays.
    - This dialog box lists the default security settings inherited from the (linked) parent folder.
4. Clear the **Inherit security from parent** checkbox. The security controls are enabled.
5. Select Administrator, Editor, Viewer, or no from the default privileges list (which applies to all users). — or —
6. Click **Add User and Groups** to select the people you want to add to the role map for the folder. The **Choose Users and Groups** dialog box is displayed, allowing you to look up individual users or groups that exist on the system.
    - Select the checkbox next to the user or group you want to update.
    - Select one of the following security settings and click **Save Changes**.

Administrator

- Create sub-folders.
- View the folder in the hierarchy.
- View rules and constants that reside in the folder.
- Delete rules and constants that reside in the folder.
- Create new rules and constants.
- Update rules and constants that reside in the folder provided you have Administrator or Editor rights for the rule or constant.
- Grant or change the access levels for the folder.
- Delete rules and constants.
- Import rules or constants.

Editor

- View the folder in the hierarchy.
- View rules and constants that reside in the folder.
- Create new rules and constants.
- Update existing rules and constants that reside in the folder provided you have Administrator or Editor rights for the rule or constant.
- Delete rules and constants that you have created.

Viewer

- View the folder in the hierarchy.
- View rules and constants that reside in the folder. Users must have Administrator or Editor rights for the rule or constant.

Deny

If a user or group is been assigned the Deny role, access to this folder is removed. They also cannot see the folder within the hierarchy.

Specific Constant

Security settings for a constant can only be modified by users with **Administrator** rights to the constant.

To create a security setting for a constant, complete the following:

1. In the **Rules** view, select the folder where the constant is stored.
2. Select the checkbox next to the constant.
3. Click **Security**.

    - The **Configure Security for ...** dialog box displays.
4. Clear the **Inherit security from parent** checkbox.

5. Select Administrator, Editor, Viewer, or no from the default privileges list (which applies to all users). — or —

6. Click **Add User and Groups**.

    - The Choose Users and Groups dialog box displays.
7. Select users and groups you want to add to the role map for the constant.

8. Select one of the following security settings and click **Save Changes**.

Administrator

- View the rule or constant.
- Delete the rule or constant.
- Update the rules or constant.
- Grant or change the access levels for the rule or constant.

Editor

- View the rule or constant.
- Update the rule or constant.
- Delete the rule or constant.

Viewer

- View the rule or constant.

Deny

If a user or group is been assigned the Deny role, access to the rule or constant is removed.

Remove all Security Settings for a Folder

- Within a **Configure Security for ...** dialog box, click **Clear**.
    - Removed users or groups are given the default folder rights.

Restrict Users from Creating Any Constants

The right to create and edit constants is managed on the **Rules Creation** page in the System Administration console.

By default, all registered users can create and edit rules and constants provided that they have necessary permissions to create a rule or constant within a folder.

To restrict access to a list of users and groups who can create or edit a rule or constant, complete the following:

1. Open the **Rules Creation** page in the System Administration console.
2. Click the **Only the users & groups selected below will be able to create rules and constants** option.
3. Click the button from the toolbar to select a specific set of users and groups.
    - The **Choose Users and Groups** dialog box is displayed.
4. Select the users and groups you want to provide access.
5. Click **OK**.
6. Click **Save**.

All selected users and groups can be removed by clicking the button on the toolbar. Similarly, a user or group can also be deleted by selecting the radio button that corresponds to the user or group and clicking the Remove button on the toolbar.

After updating the security settings for creating a constant, you can choose to revert back to the default setting by selecting the radio button that corresponds to Allow all users to create rules and constants.

Best Practices

When creating constants, keep the following considerations in mind.

Give Unique Names to Each Constant

When a constant is given the same name as a process variable, the constant takes precedence over the process variable. In other words, the expressic utilizes the constant instead of the process variable during execution. To avoid the potential for naming conflicts, we recommend keeping all rule, constant, and process variable names unique.

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