



CHAPTER 12

Managing Variable Group Types from Global Libraries

You use the Global Libraries to create and manage variable and variable group types.

The following topics provide detailed information about variable group types and how to manage them from Global Libraries:

- [Understanding Variable and Variable Group Types, page 12-1](#)
- [Working with Variable and Variable Group Types, page 12-2](#)
- [Global Libraries Tab, page 12-6](#)

Understanding Variable and Variable Group Types

Variables are representations of values to use in macros within VFrame. For added flexibility, you can define variable and variable group types.

Sometimes you might want to use the same types of variables for several different macros. VFrame allows you to create variable types and variable group types, which are basically templates of variables and variable groups that you can use over and over.

For example, if you find yourself repeatedly using the following three variables:

- IP address
- Subnet mask
- Gateway IP address

You can create three variable types for these variables and a variable group type to contain them. Later, when you create macros and service network templates that reference these variables, you only need to reference the variable group type, and all three variable types also will be referenced. If needed, you can modify the variables to meet your specific requirements.

Working with Variable and Variable Group Types

The following topics help you work with variable and variable group types:

- [Creating Variable Group Types, page 12-2](#)
- [Editing and Deleting Variable Group Types, page 12-3](#)
- [Creating Variable Types, page 12-4](#)
- [Editing and Deleting Variable Types, page 12-5](#)

Creating Variable Group Types

You can create variable group types, which are templates of variable groups that you can use over and over.

Procedure

- Step 1** Select **Design > Global Libraries**. The Global Libraries tab opens.
- Step 2** Right-click the User_VGT_Library item and select **Create Variable Group Type**.
- Step 3** Enter a name and description in the fields and click **Ok**. The newly created variable group type appears under the User_VGT_Library item.

- Step 4** Right-click the newly created variable group type and do one of the following:
- To add a previously created variable group type, select **Add Variable Group Type**. The Variable Group Type Selector dialog box opens. Select the desired variable group type and click **OK**. The variable group type and its contents are added to the variable group type you just created. For details, see [Variable Group Type Selector Dialog Box, page 12-9](#).
 - To add a variable type, select **Add Variable Type**, enter the appropriate information in the Variable dialog box, and click **OK**. For details, see [Variable Dialog Box, page 12-11](#).
- Step 5** Click **Save**.
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Related Topics

- [Understanding Variable and Variable Group Types, page 12-1](#)
- [Variables, page 11-13](#)
- [Global Libraries Tab, page 12-6](#)

Editing and Deleting Variable Group Types

You can edit variable group types, or delete them if they are no longer necessary.

Procedure

- Step 1** Select **Design > Global Libraries**. The Global Libraries tab opens.
- Step 2** Navigate to the variable group type to edit or delete.
- Step 3** Right-click the variable group type and do one of the following:
- To edit it, select **Edit Variable Group Type**, change the name and description as desired, and click **OK**.
 - To delete it, select **Delete Variable Group Type**.
- Step 4** Click **Save**.
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Related Topics

- [Understanding Variable and Variable Group Types, page 12-1](#)
- [Variables, page 11-13](#)
- [Global Libraries Tab, page 12-6](#)

Creating Variable Types

You can create variable types, which are templates of variables that you can use repeatedly.

Procedure

- Step 1** Select **Design > Global Libraries**. The Global Libraries tab opens.
- Step 2** Navigate to an existing variable group type or create a new one (see [Creating Variable Group Types, page 12-2](#)).
- Step 3** Right-click the newly created variable group type and select **Add Variable Type**.
- Step 4** Enter the following information in the fields:
 - Enter a name and description in the appropriate fields.
 - In the Type field, select the type of variable that you are creating.
 - Click the Advanced check box to define any of the following parameters:
 - Shared—Select this check box to allow the variable value to be used by child elements, such as servers in a server group.
 - Multivalued—Select this check box to specify that the variable contains more than one value. If multivalued is selected, resource pools (not single values) must be assigned as the value. For more information, see [Understanding Variable and Variable Group Types, page 12-1](#).
If you select the Multivalued and Assign a default value check boxes, you can define multiple default values.
 - Optional—Select this check box to indicate that a value is not required for the variable.
 - Allow pool assignment—Select this check box to allow a resource pool to be assigned to the variable. Left unchecked, only one resource can be assigned to the variable.

- Restrict values—Select this check box to enumerate specific values or to identify a range of values from which to choose when defining the variable value. (Applies only to Integer or String variable types.)
- Assign a default value—Select this check box to show the selected value as the default value for the variable.

Step 5 Click **OK**.

Step 6 Click **Save**.

Related Topics

- [Understanding Variable and Variable Group Types, page 12-1](#)
- [Global Libraries Tab, page 12-6](#)

Editing and Deleting Variable Types

You can edit variable types, or delete them if they are no longer necessary.

Procedure

Step 1 Select **Design > Global Libraries**. The Global Libraries tab opens.

Step 2 Navigate to the variable type that you want to edit or delete.

Step 3 Right-click the variable type and do one of the following:

- To edit it, select **Edit Variable Type**, make the desired changes, and click **OK**. For information about the fields in this dialog box, see [Variable Dialog Box, page 12-11](#).
- To delete it, select **Delete Variable Type**.

Step 4 Click **OK**.

Step 5 Click **Save**.

Related Topics

- [Understanding Variable and Variable Group Types, page 12-1](#)
- [Global Libraries Tab, page 12-6](#)

Global Libraries Reference

The following topics provide reference information for these tabs and dialog boxes:

- [Global Libraries Tab, page 12-6](#)
- [Variable Group Dialog Box, page 12-8](#)
- [Variable Group Type Selector Dialog Box, page 12-9](#)
- [Variable Dialog Box, page 12-11](#)

Global Libraries Tab

Use the Global Libraries tab to display information about system variable group types. You can also create, edit, and delete user-defined variable types and variable group types.

How to Get to This Tab

Select **Design > Global Libraries**.

Related Topics

- [Understanding Variable and Variable Group Types, page 12-1](#)
- [Working with Variable and Variable Group Types, page 12-2](#)

Field Reference

Table 12-1 Global Libraries Tab

Element	Description
Actions button	Select an item and click this button to open a context-sensitive drop-down menu of actions that you can perform. This menu is also available when you right-click an item.
Save button	Saves changes you have made.
Name	<p>Names of variable group types and variable types. Variable group types are divided into two categories:</p> <ul style="list-style-type: none"> • User_VTG_Library—User-definable variable group types and variable types. • System_VTG_Library—Predefined variable group types and variable types. <p>Within these categories, variable group types and variable types are displayed as a hierarchical tree to show relationships between items. Items in the tree are identified by icons.</p>
Description	Word or phrase describing the variable or variable group type.
Type	<p>Type of variable value, as follows:</p> <ul style="list-style-type: none"> • Boolean—True or False. • Date—Date in the format YY-MM-DD. • Double—Double precision number, which can be defined as an integer, fixed-point number, or floating-point number. • Float—Floating point number. • IPAddrResourceType—IP address. • Integer—Integer. You can define variable value restrictions that define minimum and maximum values or enumerate specific values. • Long—Long integer. • String—Sequence of simple objects. You can define variable value restrictions that define regular expressions or the enumerated values. • Vlan—Name or number of VLANs discovered or created by VFrame.

Table 12-1 Global Libraries Tab (continued)

Element	Description
IsShared	Indicates whether the variable value can be used by child elements, if any exist, such as servers in a server group. True means the variable can be shared, and False means the variable cannot be shared.
Multivalued	Indicates whether the variable is set to multivalued. True means the variable is set to multivalued, and False means it is not set to multivalued.
Optional	Indicates that a value is not required for the variable.

Variable Group Dialog Box

Use the Variable Group dialog box to create variable groups or variable group types, depending on where you are in VFrame. From the Global Library tab, you create variable group types, and from anywhere else in the VFrame interface, you create variable groups.

How to Get to This Dialog Box

Do one of the following:

- Select **Design > Service Templates** and open a template. Click the **Properties** tab or select a logical element and click the **Macro Assignments** tab. Click the **Macros & Variables** button, and then click the **Variables** tab. Navigate to the desired macro file container and click the **New** button.
- Select **Tools > Server Images**. Select a golden image from the Image Repository selector. In the Golden Image Parameters field, select the Golden Image Variables item and click **New**.

Related Topics

- [Variables, page 11-13](#)
- [Understanding Variable and Variable Group Types, page 12-1](#)

Field Reference

Table 12-2 Variable Group Dialog Box

Element	Description
Group Name	Name of the variable group.
Description	Word or phrase that describes the variable group.
Multivalued ¹	Click to specify that the variable contains more than one value. If multivalued is selected, you must assign resource pools, not single values, as the value.
Use Group Type ¹	Select this check box to choose a previously created variable group type from the Library Manager. The new variable group is created with the same contents as the variable group type you selected.

1. This check box appears only when creating a variable group, not a variable group type. It is not available when you define parameters for a golden image.

Variable Group Type Selector Dialog Box

Use the Variable Group Type Selector dialog box to add existing variable group types to the selected variable group.

How to Get to This Dialog Box

From the [Global Libraries Tab](#), navigate to the desired user-defined variable group type, right click it, and select **Add Variable Group Type**.

Related Topics

- [Understanding Variable and Variable Group Types](#), page 12-1
- [Variable Group Dialog Box](#), page 12-8

Field Reference

Table 12-3 Variable Group Type Selector Dialog Box

Element	Description
Name	<p>Names of variable group types and variable types. Variable group types are divided into two categories:</p> <ul style="list-style-type: none"> • User_VTG_Library—User-definable variable group types and variable types. • System_VTG_Library—Predefined variable group types and variable types. <p>Within these categories, variable group types and variable types are displayed as a hierarchical tree to show relationships between items. Items in the tree are identified by icons.</p>
Description	Word or phrase describing the variable or variable group type.
Type	<p>Type of variable value, as follows:</p> <ul style="list-style-type: none"> • Boolean—True or False. • Date—Date in the format YY-MM-DD. • Double—Double precision number, which can be defined as an integer, fixed-point number, or floating-point number. • Float—Floating point number. • IPAddrResourceType—IP address. • Integer—Integer. You can define variable value restrictions that define minimum and maximum values or enumerate specific values. • Long—Long integer. • String—Sequence of simple objects. You can define variable value restrictions that define regular expressions or the enumerated values. • Vlan—Name or number of VLANs discovered or created by VFrame.
IsShared	Indicates whether the variable value can be used by child elements, if any exist, such as servers in a server group. True means the variable can be shared, and False means the variable cannot be shared.

Table 12-3 Variable Group Type Selector Dialog Box (continued)

Element	Description
Multivalued	Indicates whether the variable is set to multivalued. True means the variable is set to multivalued, and False means it is not set to multivalued.
Optional	Indicates that a value is not required for the variable.

Variable Dialog Box

Use the Variable dialog box to create variable or variable types, depending on where you are in VFrame. From the Global Library tab, you create variable types, and from anywhere else in the VFrame interface, you create variables.

How to Get to This Dialog Box

Do one of the following:

- Select **Design > Service Templates** and open a template. Click the **Properties** tab or select a logical element and click the **Macro Assignments** tab. Click the **Macros & Variables** button, and then click the **Variables** tab. Navigate to the desired variable group and click the **New** button.
- Select **Tools > Server Images**. Select a golden image from the Image Repository selector. In the Golden Image Parameters field, select the desired variable group and click **New**.
- From the [Global Libraries Tab](#), navigate to the desired user-defined variable group type, right-click it, and select **Add Variable Type**.

Related Topics

- [Variables, page 11-13](#)
- [Understanding Variable and Variable Group Types, page 12-1](#)

Field Reference

Table 12-4 Variable Dialog Box

Element	Description
Variable Name	Name of the variable.
Description	Word or phrase that describes the variable.

Table 12-4 Variable Dialog Box (continued)

Element	Description
Type	<p>Type of variable, as follows:</p> <ul style="list-style-type: none"> • Boolean—True or False. • Date—Date in the format YY-MM-DD. • Double—Double precision number, which can be defined as an integer, fixed-point number, or floating-point number. • Float—Floating point number. • IPAddrResourceType—IP address. • Integer—Integer. You can define variable value restrictions that define minimum and maximum values or enumerate specific values. • Long—Long integer. • String—Sequence of simple objects. You can define variable value restrictions that define regular expressions or the enumerated values. • Vlan—Name or number of VLANs discovered or created by VFrame.

Table 12-4 Variable Dialog Box (continued)

Element	Description
Show advanced settings	<p>Click this button to show advanced settings. Applicable settings are activated based on the type of variable you are creating. You can select multiple settings for a variable. These settings affect what you or another user is allowed to enter when defining values for the variables.</p> <ul style="list-style-type: none"> • Shared—Select this check box to allow the variable value to be used by child elements, such as servers in a server group. • Multivalued—Select this check box to specify that the variable contains more than one value. If multivalued is selected, resource pools (not single values) must be assigned as the value. For more information, see Understanding Variable and Variable Group Types, page 12-1. If you select the Multivalued and Assign a default value check boxes, you can assign multiple default values. • Optional—Select this check box to indicate that a value is not required for the variable. • Allow pool assignment—Select this check box to allow a resource pool to be assigned to the variable. Left unchecked, only one resource can be assigned to the variable. • Restrict values—Select this check box to enumerate specific values or to identify a range of values from which to choose when defining the variable value. (Applies only to Integer or String variable types.) • Assign a default value—Select this check box to enter a default value for the variable.

