



Template building blocks

Cloud Manager

Tom Onacki
July 29, 2021

This PDF was generated from https://docs.netapp.com/us-en/occm/reference_template_building_blocks.html on September 14, 2021. Always check docs.netapp.com for the latest.

Table of Contents

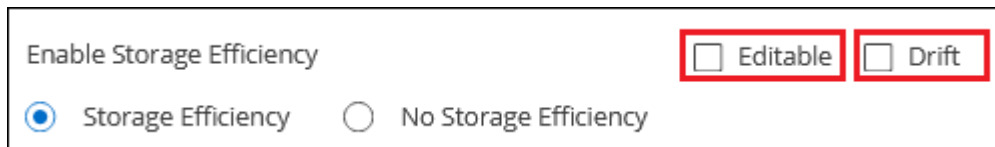
- Template building blocks 1
 - Special template controls 1
 - Pass values between template actions 2
 - Use conditions to perform different actions based on logic statements 3

Template building blocks

There are certain features you can use when building a template that enable you pass values between actions (like a volume name), conditionally branch to connect actions together (enable backups on a new volume), and that help your users customize resources when using the template.

Special template controls

Before you start creating your template, you should understand some special options that you can set when pre-populating a value for a parameter in a template.



The screenshot shows a control panel for 'Enable Storage Efficiency'. It includes two radio buttons: 'Storage Efficiency' (selected) and 'No Storage Efficiency'. To the right, there are two checkboxes: 'Editable' and 'Drift', both of which are currently unchecked. The 'Editable' and 'Drift' checkboxes are highlighted with red boxes in the original image.

Editable checkbox

Check this box to let the storage admin override the pre-populated value you have entered in the template. This gives the storage admin a suggestion for what the value should be, but it allows them to customize the value when creating the resource.

When unchecked, the user can't change the value and the hard-coded value in the template is always used when the admin deploys a resource.

Drift checkbox

Check this box so that Cloud Manager monitors the hard-coded value you entered for a parameter when a resource is created with the template. Later, you can run a Drift Report to see which fields configured with Drift are no longer compliant with the template settings.

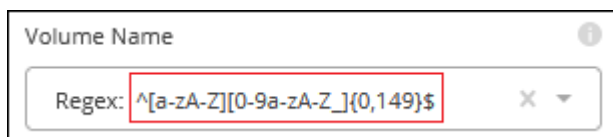
When unchecked, the user can change the value to any value after the resource has been created.



For the drift feature to work, after you have defined drift for some parameters in the template, you must enable the drift feature for the template. This is the last step when creating a template. Drift doesn't work if it is enabled for a parameter but hasn't been enabled on the template.

Using a regular expression (regex) in fields

There are a few fields within templates that allow you to enter a regex to define the value that your admin can enter in the field; for example "Volume Name" and "Share Name".



The screenshot shows a text input field labeled 'Volume Name'. Inside the field, the text 'Regex: ^[a-zA-Z][0-9a-zA-Z_]{0,149}\$' is entered. The entire input area is highlighted with a red box in the original image.

As an example, if you enter `^[a-zA-Z][0-9a-zA-Z_]{0,149}$` as the regex for the volume name, it means that *"the name should start with an alphabetic character, it can contain only numbers, letters, or the underscore, and it should be 150 or fewer characters in length"*.

Pass values between template actions

Templates have the ability to use information from a previous action to populate a field in a future action. For example, when defining the name of the volume that will have Cloud Backup functionality enabled, you can instruct the Backup action to use the value the storage admin entered as the name of the volume from the Create Cloud Volumes ONTAP action.

There are three types of information that the AppTemplate service can use:

- Input value - This is the actual value the storage admin entered into a field in a previous template action.
- Output value - This is the value Cloud Manager generates after creating a resource from a previous template action.
- Enter your own value - This is a value that you enter; it is not accessed from a previous action in the template.

For example, to enable compliance scanning on a volume, the Cloud Data Sense service needs both the "volume name" that the storage admin enters (the Input value), and the "volume uuid" that Cloud Manager generates when it creates the volume (the Output value).

The following illustration shows how to enter this information in the Cloud Data Sense action section of the template.

Activate Cloud Data Sense on Volume

Action Definition

Details

Volume Name ⓘ

☐ Editable ☐ Drift

Get input value from action × ▾

Create Volume in On-Premises ONTAP × ▾

Volume Name × ▾

Volume UUID ⓘ

☐ Editable ☐ Drift

Get output value from action × ▾

Create Volume in On-Premises ONTAP × ▾

uuid

Get the volume name:

From the value the storage admin entered...

In the earlier action used to create the volume...

in the "Volume Name" field.

Get the volume UUID:

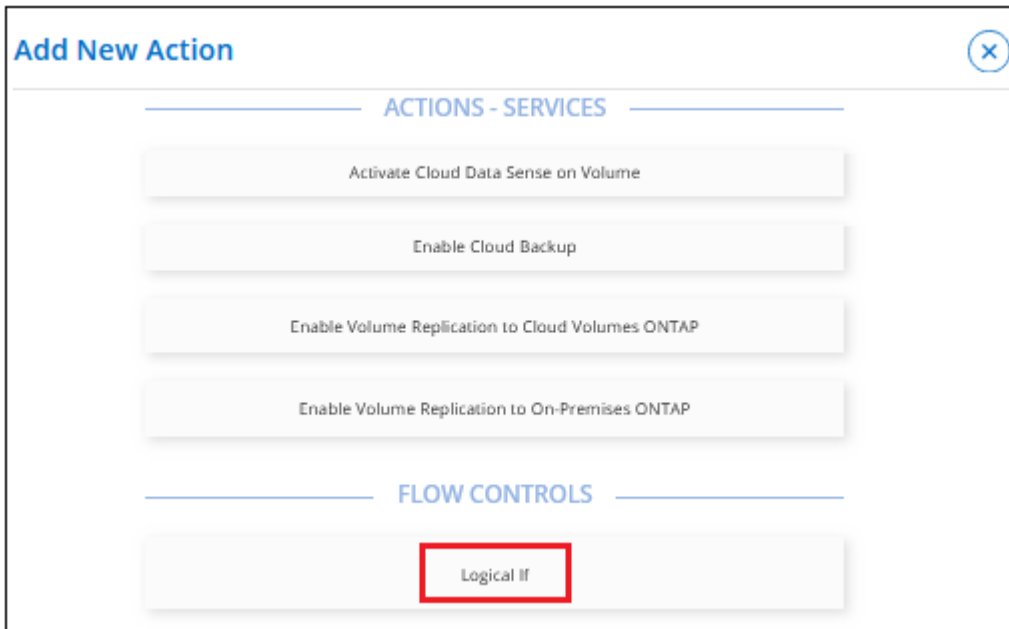
From the value Cloud Manager generates...

In the earlier action used to create the volume...

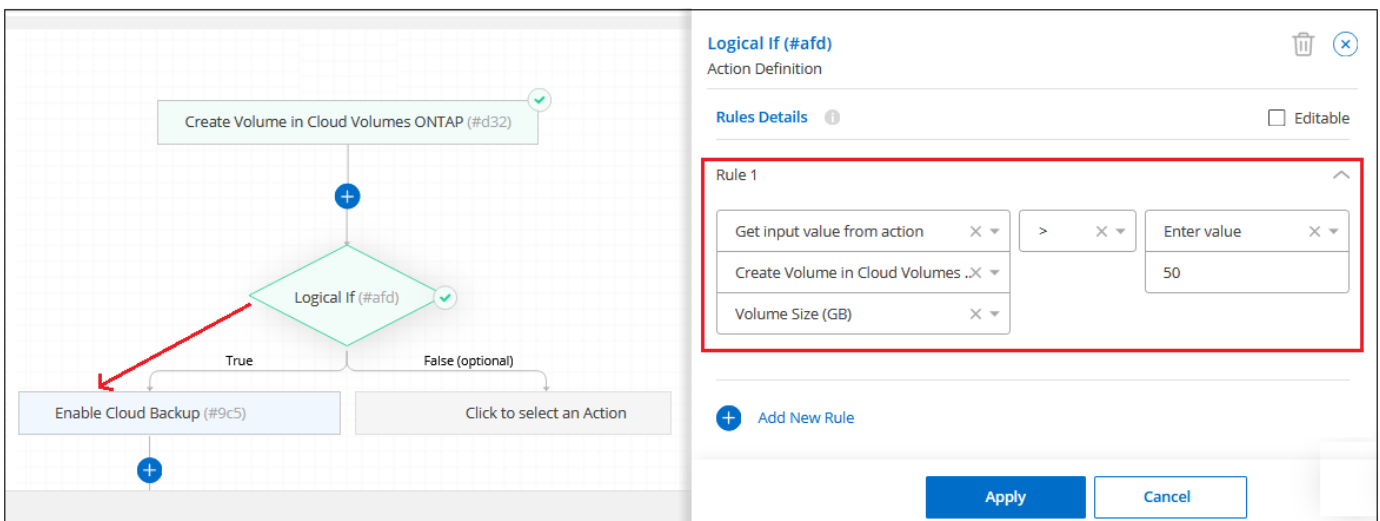
in the "uuid" field.

Use conditions to perform different actions based on logic statements

Conditions tell the template to execute different actions depending on whether the condition is true or false when the storage admin runs the template. You add a condition by selecting the **Logical If** action:



For example, you may have a guideline that if a volume has a capacity larger than 50 GB then Cloud Backup is required to be enabled on that volume. If the volume has a smaller capacity, then Cloud Backup is not enabled. You can implement this in your template as shown below.



Conditions consist of two parts:

- Rules - The item you are checking for being either true or false.
- And/Or statement - Allows you to use multiple rules to further refine whether additional actions are added.

A Rule is made up of three parts:

Source field - The location from which you will get the value to compare.

- Get input value from action - The actual value the storage admin entered into a field in a previous template action.
- Get output value from action - The value Cloud Manager generated after creating a resource from a previous template action.
- Enter value - This is a value that you enter; it is not accessed from a previous action in the template. This can be a value from a resource that already exists; for example an existing volume.

Operator - The operator used for the comparison. The options are **Equal**, **Not Equal**, **Greater Than**, **Less Than**, **Greater Than or Equal**, **Less Than or Equal**.

Field value - The actual value you are comparing. The options are the same as those for the *Source field*.

An And/Or statement enables you to conditionally add more actions for users when they run the template based on whether multiple rules are evaluated as True or False. **And** requires all rules to be true or false, and **Or** requires just one of the rules needs to be true or false.

When using both an And and Or statement with your rules, the evaluation process follows standard mathematical order where “AND” precedes “OR”. For example:

- <Rule1> OR <Rule2> AND <Rule3>

This statement is evaluated in the following order:

<Rule1> OR (<Rule2> AND <Rule3>)

Copyright Information

Copyright © 2021 NetApp, Inc. All rights reserved. Printed in the U.S. No part of this document covered by copyright may be reproduced in any form or by any means-graphic, electronic, or mechanical, including photocopying, recording, taping, or storage in an electronic retrieval system-without prior written permission of the copyright owner.

Software derived from copyrighted NetApp material is subject to the following license and disclaimer:

THIS SOFTWARE IS PROVIDED BY NETAPP "AS IS" AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL NETAPP BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

NetApp reserves the right to change any products described herein at any time, and without notice. NetApp assumes no responsibility or liability arising from the use of products described herein, except as expressly agreed to in writing by NetApp. The use or purchase of this product does not convey a license under any patent rights, trademark rights, or any other intellectual property rights of NetApp.

The product described in this manual may be protected by one or more U.S. patents, foreign patents, or pending applications.

RESTRICTED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.277-7103 (October 1988) and FAR 52-227-19 (June 1987).

Trademark Information

NETAPP, the NETAPP logo, and the marks listed at <http://www.netapp.com/TM> are trademarks of NetApp, Inc. Other company and product names may be trademarks of their respective owners.