



Develop a plug-in for your application

SnapCenter Software

Nirupama Sriram, Soumik Das
June 14, 2021

This PDF was generated from https://docs.netapp.com/us-en/snapcenter/protect-scc/concept_develop_a_plug_in_for_your_application.html on June 24, 2021. Always check docs.netapp.com for the latest.

Table of Contents

Develop a plug-in for your application	1
Generic plug-in handling in all API calls	1

Develop a plug-in for your application

The SnapCenter Server enables you to deploy and manage your applications as plug-ins to SnapCenter. Applications of your choice can be plugged into the SnapCenter Server for data protection and management capabilities.

SnapCenter enables you to develop custom plug-ins using different programming languages. You can develop a custom plug-in using Perl, Java, BATCH, or other Scripting languages.

To use custom plug-ins in SnapCenter, you must perform the following tasks:

- Create a plug-in for your application using the instructions in this guide
- Create a description file
- Export the custom plug-in to install it on the SnapCenter host
- Upload the plug-in zip file into SnapCenter Server

Generic plug-in handling in all API calls

For every API call, use the following information:

- Plug-in parameters
- Exit codes
- Log error messages
- Data consistency

Use Plug-in parameters

A set of parameters are passed to the plug-in as part of every API call made. The following table lists the specific information for the parameters.

Parameter	Purpose
ACTION	Determines the workflow name. For example, discover, backup, fileOrVolRestore or cloneVolAndLun
RESOURCES	Lists resources to be protected. A resource is identified by UID and Type. The list is presented to the plug-in in the following format: “<UID>,<TYPE>;<UID>,<TYPE>”. For example, “Instance1,Instance;Instance2\\DB1,Database”
APP_NAME	Determines which plug-in is being used. For example, DB2, MYSQL. SnapCenter Server has built-in support for the listed applications. This parameter is case sensitive.

Parameter	Purpose
APP_IGNORE_ERROR	(Y or N) This causes SnapCenter to exit or not exit when an application error is encountered. This is useful when you are backing up multiple databases and do not want a single failure to stop the backup operation.
<RESOURCE_NAME>__APP_INSTANCE_USERNAME	SnapCenter credential is set for the resource.
<RESOURCE_NAME>_APP_INSTANCE_PASSWORD	SnapCenter credential is set for the resource.
<RESOURCE_NAME>_<CUSTOM_PARAM>	Every Resource level custom key value is available to plug-ins prefixed with “<RESOURCE_NAME>_”. For example, if a custom key is “MASTER_SLAVE” for a resource named “MySQLDB”, then it will be available as MySQLDB_MASTER_SLAVE

Use exit codes

The plug-in returns the status of the operation back to the host by means of exit codes. Each code has a specific meaning and the plug-in uses the right exit code to indicate the same.

The following table depicts error codes and their meaning.

Exit code	Purpose
0	Successful operation.
99	Requested operation is not supported or implemented.
100	Failed operation, skip unquiesce, and exit. Unquiesce is by default.
101	Failed operation, continue with backup operation.
other	Failed operation, run unquiesce, and exit.

Log error messages

The error messages are passed from the plug-in to the SnapCenter Server. The message includes the message, log level, and time stamp.

The following table lists levels and their purposes.

Parameter	Purpose
INFO	informational message
WARN	warning message
ERROR	error message
DEBUG	debug message
TRACE	trace message

Preserve data consistency

Custom plug-ins preserve data between operations of the same workflow execution. For example, a plug-in can store data at the end of quiesce, which can be used during unquiesce operation.

The data to be preserved is set as part of result object by plug-in. It follows a specific format and is described in detail under each style of plug-in development.

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.