



Preinstallation requirements for Snap Creator

Snap Creator Framework

NetApp
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Preinstallation requirements for Snap Creator

There are system license, software, and hardware requirements that you should consider before you install Snap Creator.

In addition, you should perform the following tasks before installing Snap Creator:

- Download the Snap Creator software.
- Create a Data ONTAP user.
- Install Oracle Java or OpenJDK on the Snap Creator Server and Agent hosts.
- Synchronize time on Snap Creator Server and Agent hosts.
- Configure settings for the IBM Domino plug-in (required only if you are using the Domino plug-in).
- Add Secure Sockets Layer (SSL) libraries for the UNIX environment (required only when running Snap Creator using the CLI on UNIX platforms).

For details, see the *Troubleshooting* section in the *Snap Creator Framework Administration Guide*.

Snap Creator installation and configuration requirements

Before you install the Snap Creator Framework, you should be aware of certain installation and configuration requirements for licenses, software, and hardware.

License requirements

Although Snap Creator does not require a license, the following licenses might be required, depending on the actions you want to perform while using Snap Creator:

- FlexClone (for volume cloning)
- Active IQ Unified Manager Core Package (for NetApp Management Console data protection capability and Operations Manager console)
- Open Systems SnapVault (for OSSV actions)
- SnapDrive (for SnapDrive actions)
- SnapMirror (for SnapMirror actions)
- SnapRestore (for restoring)
- SnapVault (for SnapVault actions)

See the Interoperability Matrix, which is online at mysupport.netapp.com/matrix, for details regarding the supported software.

Software information

The following software might be needed depending on your environment:

- Java (required)



Snap Creator Framework 4.3.3 only supports OpenJDK and Oracle Java 1.8 Update 72 and later.

- Data ONTAP (required)
- Microsoft .NET Framework
- Operating system:



Only U.S.-based operating systems are currently supported.

- UNIX platforms:



Snap Creator supports only Bash Shell for all UNIX platforms.

- AIX
- HP-UX
- Linux
- Solaris
- Microsoft Windows
- Web browsers:
 - Internet Explorer
 - Firefox

See the Interoperability Matrix, which is online at mysupport.netapp.com/matrix, for details regarding the supported software.

Hardware requirements

The Snap Creator hardware requirements are as follows:

- Snap Creator Server requirements:

Hardware component	Minimum	Recommended
Processor	1 core	4 cores, 2 GHz or faster
Memory (for Snap Creator plus the operating system)	2 GB RAM	4 GB RAM
Disk space	5 GB	50 GB or greater (based on the number of logs to be stored)

- Snap Creator Agent requirements:

Requires a minimum of 256 MB memory when either no plug-in is deployed or when prepackaged plug-ins are used.

Prepackaged plug-ins should not need any additional memory requirements. Other plug-ins might have

additional requirements.

Downloading the Snap Creator software

You download the Snap Creator software from the NetApp Support Site. Snap Creator is listed in the “Software Download” section under Snap Creator Framework.

1. Go to the Software page at the NetApp Support Site.

Snap Creator is listed in the **Downloads > Software** section as **Snap Creator Framework**.

2. Select a platform, and then click **Go**.
3. Select the version of Snap Creator to download by clicking **View & Download**.
4. From Software download instructions, click **CONTINUE**.
5. Read and accept the End User License Agreement.
6. Select the operating system and bit level of the software package.

Related information

NetApp Support Site: mysupport.netapp.com

Creating a Snap Creator user for Data ONTAP

Prior to installing Snap Creator, you should create a Snap Creator user for Data ONTAP. The process that you follow to create the Snap Creator user depends on whether your systems are running Data ONTAP in 7-Mode or clustered Data ONTAP.

Creating a Snap Creator user for Data ONTAP operating in 7-Mode

Snap Creator uses the Data ONTAP APIs to communicate with the storage system. To ensure that the user account is granted access to only Snap Creator, create a new role, group, and user on each storage controller. The role is assigned to the group and the group contains the user. This controls the access and limits the scope of the Snap Creator account.

You must perform this procedure once for each storage controller on which Snap Creator is installed.

To create a Snap Creator user for Data ONTAP operating in 7-Mode by using the Data ONTAP CLI (SSH, console connection, or Telnet), complete the following steps.



You should not copy and paste commands directly from this document; errors might result such as incorrectly transferred characters caused by line breaks and hard returns. Copy and paste the commands from this procedure into a text editor, verify the commands, and then enter them in the CLI.

1. Create a role defining the rights required for Snap Creator on the storage system by running the following command:

```
useradmin role add rolename -a login-\*,api-snapshot-\*,api-system-\*,
api-ems-\*,api-snapvault-\*,api-snapmirror-\*,api-volume-\*,
api-lun-\*,api-cg-\*,api-nfs-\*,api-file-\*,api-license-\*,
api-net-\*api-clone-\*, api-options-get, api-wafl-sync
```



The command shown in this step includes all the API roles used by Snap Creator. However, you can restrict the user access by including only the required roles (for example, if SnapMirror will not be used, then `api-snapmirror-*` is not needed).

```
useradmin role add sc_role -a login-*,api-snapshot-*,api-system-*,api-
ems-*,api-snapvault-*,api-snapmirror-*,api-volume-*,
api-lun-*,api-cg-*,api-nfs-*,api-file-*,api-license-*, api-net-*, api-
clone-*, api-options-get, api-wafl-sync
```

2. Create a new group on the storage system and assign the newly created role to the group by running the following command:

```
useradmin group add groupname -r rolename
```

```
useradmin group add snap_creator_group -r snap_creator_role
```

3. Create a user account by running the following command:

```
useradmin user add username -g groupname
```

```
useradmin user add snap_creator_user -g snap_creator_group
```

4. Enter the password for the account.

Use this restricted account when creating configuration files for Snap Creator.

Creating a Snap Creator user for clustered Data ONTAP

For clustered Data ONTAP, you should create users for Snap Creator. However, the type of user that you create depends on the version of clustered Data ONTAP. The two types of users are a cluster user and a storage virtual machine (SVM) user.

Create the following users, with the appropriate roles as defined in the *Snap Creator Framework Administration Guide*, for your version of Data ONTAP:

- Data ONTAP releases prior to clustered Data ONTAP 8.2: Create a cluster and SVM user.

- Clustered Data ONTAP 8.2 or later: Create an SVM user.

For increased security, you should create a Data ONTAP user and role specifically for Snap Creator. Alternatively, you can use other user accounts, such as admin or vsadmin.

For more information about creating a Snap Creator role using the CLI, see [Related references](#).

Both types of user require access to the Data ONTAPI library. In addition, a Management LIF is also needed for clustered Data ONTAP, regardless of the version.

The two users are not interchangeable. For example, the cluster user does not have access to the required APIs to perform certain actions, such as creating a Snapshot copy. This is true even if you use the default cluster admin account. SVM accounts should use the **vsadmin** role or a customer-created role for Snap Creator to work properly.

You must perform this procedure once on each SVM and cluster where Snap Creator is used.

For ease of use, the following instructions refer to admin and vsadmin roles; however, you can replace these role names with those roles that you create.



You should not copy and paste commands directly from this document; errors (such as incorrectly transferred characters caused by line breaks and hard returns) might result. Copy and paste the commands from this procedure into a text editor, verify the commands, and then enter them in the CLI.

1. Create the SVM user `svm_username01` with the appropriate role (vsadmin or the role created for the user) on the `svm_nameSVM` and enable access to the ONTAPI library by entering the following command and a user password:

```
security login create -username svm_username01
-vserver svm_name -application ontapi
-authmethod password -role vsadmin
```

```
Please enter a password for user 'svm_username01':
Please enter it again:
```

2. (For versions prior to clustered Data ONTAP 8.2 only) Create a cluster user by entering the following command and a user password:

```
security login create -username svm_username02
-vserver svm_clustername -application ontapi
-authmethod password -role admin
```

```
Please enter a password for user 'svm_username02':
Please enter it again:
```

Related information

[CLI commands for creating a role for a Snap Creator user in clustered Data ONTAP](#)

Installing Java on Snap Creator hosts

OpenJDK and Oracle Java Runtime Environment (JRE) 1.8 Update 72 or later must be installed on any Snap Creator Server and Agent host. To avoid the Transport Layer Security (TLS) vulnerability, it is best to install any later version of JRE 1.8 Update 72 on Snap Creator Server and Agent host.

1. Download and install JRE on each Snap Creator Server or Snap Creator Agent host.

The bit levels (32-bit or 64-bit) of Java and Snap Creator must be the same.

If necessary, download Java from the [Java Downloads for All Operating Systems](#) page.

2. After you install JRE, verify the version and bit level of Java: `java -version`

```
C:\Documents and Settings\Administrator>java -version
java version "1.7.0_04-ea"
Java(TM) SE Runtime Environment (build 1.7.0_04-ea-b01)
Java HotSpot(TM) Client VM (build 23.0-b03, mixed mode, sharing)
```

The output of the command displays the installed version of Java. If the bit level is not displayed (as in the preceding example), then the installation is 32-bit.

Synchronizing time on Snap Creator Server and Agent hosts

Before installing Snap Creator, you should ensure that the time on the Snap Creator Server host is in sync with the time on the Agent host. You can do this by synchronizing the time of the hosts with the same Network Time Protocol (NTP) server.

For more information, refer to the following documentation:

- *Clustered Data ONTAP--Clustered Data ONTAP Software Setup Guide* for your version of Data ONTAP; in particular, refer to the information regarding verifying the system time and synchronizing the system time across the cluster.
- Data ONTAP operating in 7-Mode—Knowledgebase article 1011954 How to setup NTP time synchronization at [How to set up NTP time synchronization in Data ONTAP 7-Mode](#).

Configuring settings for the Domino plug-in

You need to configure specific settings only if you plan to use the IBM Domino plug-in, which is included as part of the Snap Creator Agent installation.



It is a best practice to install Snap Creator Server and Snap Creator Agent on different hosts.

Depending on your operating system, you must configure these settings before installing the Snap Creator Agent for the IBM Domino plug-in to work properly.

- For a Windows environment, you must add the Domino path to the environment variables.
- For a UNIX environment, you must create symbolic links to link to Domino's shared object files.

Configuring Windows-specific settings: Adding path to the environment variables

If you are going to install the Snap Creator Agent on Windows, you must add the path to the Domino binary files to the environment variables for Windows.

1. Access the advanced settings for your Windows OS (for example, **My Computer > Properties > Advanced > Environment Variables**) and add the Domino path to the Path variable.



For details about modifying your system variables, see the documentation for your Windows operating system.

If you add the Domino path to the environment variables after the Snap Creator Agent is installed, you must restart the Snap Creator Agent service. For example, on the host where the Snap Creator Agent is installed, open a command prompt and enter the following commands:

```
sc stop SnapCreatorAgentService
sc start SnapCreatorAgentService
```

Configuring UNIX-specific settings: Creating symbolic links

If you are going to install the Snap Creator Agent on a UNIX operating system (AIX, Linux, and Solaris), for the IBM Domino plug-in to work properly, three symbolic links (symlinks) must be created to link to Domino's shared object files.

Installation procedures vary slightly depending on the operating system. Refer to the appropriate procedure for your operating system.



Domino does not support the HP-UX operating system.

Creating symbolic links for the Domino plug-in on Linux and Solaris hosts

You need to perform this procedure if you want to create symbolic links for the Domino plug-in on Linux and Solaris hosts.

You should not copy and paste commands directly from this document; errors (such as incorrectly transferred characters caused by line breaks and hard returns) might result. Copy and paste the commands into a text editor, verify the commands, and then enter them in the CLI console.



The paths provided in the following steps refer to the 32-bit systems; 64-bit systems must create simlinks to `/usr/lib64` instead of `/usr/lib`.

1. Add links to `/usr/lib` for the following files:

- `libxmlproc.so`

- libndgts.so
- libnotes.so
- libgsk8iccs.so (for Domino 9.0 or later only) A typical method of creating a symbolic link is to use the ln command:

ln -s /path/to/source_file /usr/lib/linked_file

+ where:

- -s instructs the operating system to make a symbolic link.
- /path/to/source_file is the path to one of the Domino library files, including the file name.
- linked_file is the name of the file that is being linked.

```
ln -s /opt/ibm/domino/notes/latest/linux/libxmlproc.so
/usr/lib/libxmlproc.so
ln -s /opt/ibm/domino/notes/latest/linux/libndgts.so
/usr/lib/libndgts.so
ln -s /opt/ibm/domino/notes/latest/linux/libnotes.so
/usr/lib/libnotes.so
ln -s /opt/ibm/domino/notes/latest/linux/libgsk8iccs.so
/usr/lib/libgsk8iccs.so
```

2. Verify the path to the files listed in Step 1.

Creating symbolic links for the Domino plug-in on AIX hosts

You must perform this procedure to add symbolic links for the Domino plug-in on AIX hosts.

You should not copy and paste commands directly from this document; errors (such as incorrectly transferred characters caused by line breaks and hard returns) might result. Copy and paste the commands into a text editor, verify the commands, and then enter them in the CLI console.



The paths provided in the following steps refer to the 32-bit systems; 64-bit systems must create simlinks to /usr/lib64 instead of /usr/lib.

1. Add links to /usr/lib for the following files:

- libxmlproc_r.a
- libndgts_r.a
- libnotes_r.a
- libgsk8iccs_r.a (for Domino 9.0 or later only) A typical method of creating a symbolic link is to use the ln command:

ln -s /path/to/source_file /usr/lib/linked_file

+ where:

- -s instructs the operating system to make a symbolic link.
- /path/to/source_file is the path to one of the Domino library files, including the file name.
- linked_file is the name of the file that is being linked.

```
ln -s /opt/ibm/domino/notes/latest/ibmpow/libxmlproc_r.a
/usr/lib/libxmlproc_r.a
ln -s /opt/ibm/domino/notes/latest/ibmpow/libndgts_r.a
/usr/lib/libndgts_r.a
ln -s /opt/ibm/domino/notes/latest/ibmpow/libnotes_r.a
/usr/lib/libnotes_r.a
ln -s /opt/ibm/domino/notes/latest/linux/libgsk8iccs.so
/usr/lib/libgsk8iccs_r.a
```

2. Verify the path to the files listed in Step 1.

The commands in this example use the default path for AIX, but installations can vary.

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