



Config Advisor 5.1

Quick Start Guide

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Contents

Overview of Config Advisor	5
Installing and setting up Config Advisor	8
System requirements for Config Advisor	8
Supported device types and protocols for data collection	8
Installing Config Advisor on Windows	11
Installing Config Advisor on Mac OS X	12
Installing Config Advisor on Linux	13
Hosting Config Advisor with nginx (HTTPS)	14
Replacing nginx.conf file	15
Running nginx and Config Advisor	15
Upgrading Config Advisor	17
Checking the configuration remotely	18
Checking configuration - FlexPod life cycle management	19
Collecting and uploading data from devices using Config Advisor	20
Collecting data using Config Advisor	21
Collecting data using the solution-based collection method	21
Collecting data using the device-based collection method	22
Collecting data using ASUP-based method	23
Collecting data using FlexArray plug-in	24
Collecting data using E-Series plug-in	25
Collecting data using MetroCluster	25
Scheduling a data collection job	27
Setting up email notification	28
Editing a saved job	29
Creating user accounts	30
Viewing and analyzing the data	31
Understanding IMT Advisor	33
Importing collected data files	34
Uninstalling Config Advisor	35
Troubleshooting	36
Resolving Config Advisor launching error	36
Backing up the database	37
Changing the default timeout for command execution	37
Restarting the Config Advisor server	37
Sending the feedback	38
Searching for the result and log files	38
Analysis is not available for Device-based collection	38
Resetting the Admin account password	38
Updating data offline	39
Copyright information	40
Trademark information	41

How to send comments about documentation and receive update notifications	42
Index	43

Overview of Config Advisor

NetApp Config Advisor is a configuration validation and health check tool for NetApp systems that can be deployed onsite for data collection and analysis. It can be used to check a NetApp system for the correctness of hardware installation and conformance to NetApp recommended settings. It runs a series of commands and checks for configurations with cabling, availability, and resiliency issues. The flexible data collection architecture supports data collection from network, serial port, AutoSupport ID, AutoSupport file, and OneCollect file. It is used to improve the quality of NetApp deployments during system setups, upgrades, and ongoing health checks.

You can extend the behavior of Config Advisor and run Config Advisor across your NetApp deployments using the following built-in plug-ins (profiles):

- ONTAP
- E-Series
- FlexArray
- FlexPod
- MetroCluster
- ONTAP 7-Mode

For more information about Solution-based and Device-based collection types, see [Supported device types and protocols for data collection](#) on page 8.

As you start using Config Advisor, it is important that you understand some of the basic terms that you can expect to see throughout the Config Advisor user interface.

Persona	Description
General	Collects basic commands for the target device.
Diagnostic	Collects additional diagnostic commands and logs from the device other than the ones that run in General mode.
Diagnostic	Collects SnapDrive specific diagnostic logs.
Analysis	Runs only those commands that are required for analysis. Preferred persona for running analysis in Config Advisor.
SnapDrive	Collects SnapManager specific logs.
SnapManager for Oracle (SMO)	Collects SnapManager for Oracle specific logs.
SnapManager for SAP (SMSAP)	Collects SnapManager for SAP specific logs.
Orchestrator	Runs commands or collects logs related to VMware orchestrator.

Config Advisor can be used in the following scenarios:

- **System setup:** Config Advisor can be used during installation of new equipment, and adding of new disk shelves. It can also be used during moving, and changing of equipment as it requires close attention to cabling and conformance to NetApp best practices.

- **Operational health checks:** Config Advisor can be used on a monthly or quarterly basis to detect any new issues resulting from configuration changes or non-conformance to NetApp best practices.
- **Support case handling and secure sites:** Config Advisor can be used to triage and diagnose issues with NetApp systems that do not send AutoSupport messages.
- **Configuration triage:** You can run Config Advisor remotely during diagnostics. You can run Config Advisor and send the output to the NetApp Technical Support or Partners for diagnostics.
- **Check firmware:** You can collect data from VMware vCenter Server to receive recommendations on the latest supported firmware using NetApp [Interoperability Matrix Tool](#).
- **FlexPod Life cycle management:** You can run the FlexPod profile to validate the setup. You can view the FlexPod Dashboard for firmware recommendation.
- **Periodic data collection and analysis:** You can use Config Advisor to run jobs periodically to do the assessment.

Features in Config Advisor

The features available in Config Advisor are as follows:

- Config Advisor can be installed on multiple platforms - Windows, Mac, and Linux (64-bit)
- Displays cumulative at-a-glance information about a job in the dashboard and individual profile dashboards
- Collects data and performs analysis through the Network profile for ONTAP, FlexPod, and 7-Mode profiles
- Exports to PDF, Word and Excel reports for the ONTAP, FlexPod, and 7-Mode profiles
- Merges reports from multiple jobs in PDF, Word, or Excel
- Provides a command viewer, collection scheduler, saving projects (encryption), job listing, and device-based collection
- Provides health check details, device details, storage configuration, stack diagram, network interfaces, FlexPod Dashboard life cycle management (LCM), FlexPod validated design, and basic ONTAP Scalable Vector Graphics (SVG) visualization represented in the interface
- Supports E-Series, MetroCluster, and FlexArray
- Supports secure hosting and user management

Using Config Advisor dashboard

On the first launch of Config Advisor, you will see an overlay screen. The information provided in this screen will help you understand how you can use Config Advisor.

Config Advisor has tabs that will help you use the application easily.

After the Config Advisor is launched, the landing page appears:

- **My Dashboard:** Provides a cumulative at-a-glance information about a job. You can click the pie slice to view the summary of the job for which you want to obtain a job status report. My Dashboard provides pie charts for health reports, weekly job reports, storage utilization, and job status for the passed and failed jobs.
- **Data Collection Jobs:** Helps you collect data from different types of devices and solutions using different profiles and personas
- **Data View:** Helps you view commands that you run on a system

- **View & Analyze:** Helps you view the results in detail for the collected job
- **Saved Projects:** Helps you view all the saved jobs
- **Scheduled Jobs:** Helps you create a schedule for the saved job
- **User Management:** Helps you manage and view users

Note: This is available for Config Advisor hosted in a centralized location.

Installing and setting up Config Advisor

Before you start using Config Advisor, you must download and install Config Advisor.

System requirements for Config Advisor

You must ensure that you have the required host system configuration, operating system, and browser to run the Config Advisor tool.

Config Advisor can run on the following operating systems:

- Windows 7 (64-bit)
- Windows 8 (64-bit)
- Windows 10 (64-bit)
- Windows 2008 R2 Server (64-bit)
- Windows 2012 R2 Server (64-bit)
- Mac OS X 10.10 and later (64-bit)
- Red Hat Enterprise Linux (RHEL) 6.3 and later (64-bit)
- UBUNTU 7.0 and later (64-bit)

Config Advisor supports the following browsers:

- Mozilla FireFox 55 and later
- Google Chrome 61 and later
- Apple Safari 9.1 and later
- Microsoft Edge (64-bit)

Supported device types and protocols for data collection

Config Advisor provides two profiles that help you in collecting data from devices and solutions. You should learn more about these profiles to help you decide which one to use.

Each profile contains the credentials for the database associated with the profile. The credentials enable Config Advisor to connect to and work with the database. The stored credentials include the user name and password for accessing the host, repository, database, and the required information.

Device-based collection types

Type	Sub-type	Supported persona	Supported protocol
Hybrid switch	Cisco nexus 5000/6000/9000 switch	Diagnostic and General	SSH
Hybrid switch	Cisco nexus 7000 switch	Diagnostic and General	SSH
Ethernet switch	Cisco switch	Diagnostic and General	SSH

Ethernet switch	NetApp switch	Diagnostic and General	Shell and SSH
Ethernet switch	Brocade switch	Diagnostic and General	SSH
FC (Fibre Channel) switch	Cisco switch	Diagnostic and General	SSH
FC switch	Brocade switch	Diagnostic	SSH
FC switch	QLogic switch	Diagnostic	SSH
FC switch	McData switch	Diagnostic	SSH
FC switch	McData i10k switch	Diagnostic	SSH
Host	Cisco UCS	General	UCSM XML API
Host	vCenter Server	General and Diagnostic	vCenter Web API
Host	Linux (RedHat Enterprise and SuSe)	General, Diagnostic, SnapDrive, SMO, SMSAP, and Orchestrator	SSH
Host	Solaris	General, Diagnostic, SMO, SnapDrive, and SMSAP	SSH
Host	HPUX	General, Diagnostic, SMO, SnapDrive, and SMSAP	SSH
Host	PowerVM	General	SSH
Host	ESXi	General and Diagnostic	SSH
Host	Windows	Diagnostic, DMR, and SnapManager	WMI
Host	AIX	General, Diagnostic, SMO, SnapDrive, and SMSAP	SSH
Host	KVM	General	SSH
Host	Oracle VM Manager	General and Diagnostic	SSH
Host	Citrix XenServer	General and Diagnostic	SSH
Host	Oracle VM Server	General and Diagnostic	SSH
Storage Controller	Data ONTAP 7-Mode	General and Diagnostic	Ontapi, HTTP(s), and SSH
Storage Controller	ONTAP	General, Dblade, and Diagnostic	Ontapi, HTTP(s), and SSH
Storage Controller	SolidFire	General	SolidFire Element OS API

Storage Controller	E-Series-SMcli	General	SMcli
Storage Controller	E-Series-WebServices Proxy	General	E-Series WebServices API
Storage Controller	Service Processor-ONTAP	Diagnostic	SSH
Storage Controller	Service Processor-7-Mode	Diagnostic	SSH
Other Storage Controller	Isilon Controller	General	SSH
SnapCenter	SnapCenter API	General	SnapCenter API

Solution-based collection types

Profile	Sub-profile	Corresponding device	Supported protocol
ONTAP	Network	- Cluster Node - Cluster Switch - Management Switch	- HTTPS and SSH - SSH - SSH
FlexPod	FlexPod-ONTAP	- Cisco UCS Cluster - Cluster Node - Cluster Switch - Nexus Switch - vCenter Server (vCenter)	- UCSM XML API - HTTPS and SSH - SSH - SSH - HTTP API
FlexPod	FlexPod-7-Mode	- Cisco UCS Cluster - Storage Controller - Nexus Switch	- UCSM XML API - HTTPS and SSH - SSH
FlexPod	FlexPod-SolidFire	- Cisco UCS Cluster - SolidFire Cluster - Nexus switch	- UCSM XML API - SolidFire Element OS API - SSH
ONTAP 7 Mode	Network	Storage Controller	- HTTPS - SSH

MetroCluster	All MetroCluster configurations	- Cluster Node/ Simulation Node - Fabric switch - ATTO bridges	- SSH, HTTP(s), and Telnet - SSH - Telnet
FlexArray	- Direct Attached - Fabric Attached	- Cluster Node - Back-end FC switch (Cisco and Brocade)	- HTTP(s) and SSH - SSH and Telnet
E-Series	- Host - SMCli - NetApp SANtricity Web Services Proxy	- E-Series Linux Host - E-Series SMCli - E-Series Web Services Proxy	- SSH - SMCli - Web Services API

Installing Config Advisor on Windows

You can install Config Advisor either on your system or you can host it in a central server that can be accessed by multiple users. You can install Config Advisor in a central location either on a group, organization, or company level. It supports Hyper Text Transfer Protocol Secure (HTTPS). Config Advisor provides necessary basic authentication to save your work. It supports up to 10 user accounts. User management feature is available in the case of centrally hosted deployment.

Before you begin

- You must ensure that you have the required host system configuration, operating system, and browser to run the Config Advisor tool.
[System requirements for Config Advisor](#) on page 8
- You must have downloaded the Config Advisor executable binary for your platform.
<http://mysupport.netapp.com/tools/info/ECMS1357843I.html?productID=61923&pcfContentID=ECMS1357843>

Steps

1. Install the tool by completing the steps in the installation wizard.

The default installation folder for Config Advisor on Windows operating system is as follows:

Note: In the Config Advisor Setup wizard, select **Yes** if you want to perform User Management tasks and if you want HTTPS for Config Advisor.

Operating system	Default installation folder
Windows 64-bit	C:\Program Files\NetApp\ConfigAdvisor

You can change the default installation path to either a folder or drive of your choice.

2. Choose a different path for data directory, if you want to change the default path.
3. Launch Config Advisor from the URL: <http://localhost:8055/ca/#/>. If you have enabled HTTPS, then launch Config Advisor from <https://localhost>.

Note: To configure the application to run on a different port, modify PORT value in the CONFIG file located in the <user_home_directory>\NetApp\ConfigAdvisor\Config and restart the application (for example, PORT = 8040). To host the Config Advisor server centrally to be accessed from remote hosts, you can edit the config file and append the IP address to bind to as prefix to port (for example: PORT = 0.0.0.0:8055 will make it open to all hosts on all IPs. Alternatively, PORT = <dedicated_IP>:8055 will make it available on the specific IP configured on host).

After you finish

If you want to run Config Advisor automatically during system startup, perform the following steps:

1. Navigate to <Install_directory>\NetApp\ConfigAdvisor\, right-click 'configadvisor.exe' and select copy.
2. Find the **Startup** folder in **All Programs** and right-click it.
3. Click **Open**, and it opens up in the Windows Explorer.
4. Right-click anywhere inside that window and click the shortcut.
Config Advisor shortcut should pop up in the folder, and the next time you log into Windows, Config Advisor automatically starts up.

Installing Config Advisor on Mac OS X

You can install Config Advisor on your Mac OS X system.

Before you begin

You must be running either Mac OS X 10.10.x or Mac OS X10.11.x on your system.

Steps

1. Browse to the directory in which you have downloaded the tar.gz installer.
For more information about using Config Advisor with HTTPS, see [Hosting Config Advisor with nginx \(HTTPS\)](#) on page 14
2. Extract it by running `tar -xzf configadvisor 5.1_mac64.tar.gz`.
Note: If you are downloading Config Advisor using the Chrome browser, it automatically extracts in to a .tar file. In this case, run `tar -xf ConfigAdvisor 5.1_mac64.tar.gz`.
3. Change directory (cd) to the extracted folder.
4. For secure site, run: "touch <install dir>/NetApp/ConfigAdvisor/plugins/common_utils/model/resources/secure" and then start the ConfigAdvisor process.
5. If you want to customize the Config Advisor data directory path, create a file with a name as "data_dir.txt" under <install dir>/NetApp/ConfigAdvisor/ and enter the path where you want to place the database and result files.
6. Type
./ConfigAdvisor
, if you have admin privileges or
sudo ./ConfigAdvisor
. If you do not have admin privileges, then press Enter.

Use `'nohup ./ConfigAdvisor &'` to run process in the background. Config Advisor will start running on port 8055. Ensure that the port is free before running Config Advisor. Database will be saved in your home directory under `NetApp/config_advisor/Db` folder.

Note: To configure the application to run on a different port, modify `PORT` value in the `CONFIG` file located in the `<user_home_directory>/NetApp/ConfigAdvisor/Config` and restart the application (for example, `PORT = 8040`). To host the Config Advisor server centrally to be accessed from remote hosts, you can edit the config file and append the IP address to bind to as prefix to port (for example: `PORT = 0.0.0.0:8055` will make it open to all hosts on all IPs. Alternatively, `PORT = <dedicated_IP>:8055` will make it available on the specific IP configured on host).

After you finish

If you want to run Config Advisor automatically during system startup, perform the following steps:

1. Choose **Apple** menu > **System Preferences**, and click **Users & Groups**.
2. Select the user and click **Login Items**.
3. Click the **Add** button '+' under the list on the right, select 'config advisor' from `<install_dir>/ConfigAdvisor`.
4. Click **Add**.

Installing Config Advisor on Linux

You can install Config Advisor on your Linux system through the command-line interface. You must perform this task if you are installing Config Advisor for the first time.

Before you begin

- Your Linux host system must be running the supported software versions: later than RHEL (later than 6.4), and Ubuntu (later than 12.0).
- You must have downloaded the Config Advisor executable binary for your platform.
- You must have the necessary privileges to install the application.

Steps

1. Browse to the directory where you have downloaded the tar.gz installer.
For more information about using Config Advisor with HTTPS, see [Hosting Config Advisor with nginx \(HTTPS\)](#) on page 14
2. Extract it using tar command: `tar -xzf ConfigAdvisor 5.1_linux64.tar.gz`.
Note: If you are downloading Config Advisor using the Chrome browser, it automatically extracts in to a .tar file. In this case, run `tar -xf ConfigAdvisor 5.1_linux64.tar.gz`.
3. Change directory (cd) to the extracted folder.
4. For secure site, run: `"touch <install_dir>/NetApp/ConfigAdvisor/plugins/common_utils/model/resources/secure"` and then start the ConfigAdvisor process.
5. If you want to customize the Config Advisor data directory path, create a file with a name as `"data_dir.txt"` under `<install_dir>/NetApp/ConfigAdvisor/` and enter the path where you want to place the database and result files.
6. Type

./ConfigAdvisor

if you have admin privileges or

sudo ./ConfigAdvisor

if you do not have admin privileges, then press **Enter**.

Use ‘

nohup ./ConfigAdvisor &

’ to run process in the background. Config Advisor will start running on port 8055. Ensure that the port is free before running Config Advisor. Database will be saved in your home directory under NetApp/ConfigAdvisor/Db folder.

Note: To configure the application to run on a different port, see [Installing Config Advisor on Mac OS X](#) on page 12

If you are not installing the application as root, use sudo while running the commands mentioned in the preceding steps.

After you finish

If you want to run Config Advisor automatically during system startup, perform the following steps:

1. Edit the rc.local file (vi /etc/rc.local).
2. Add a line at the end of file to start the Config Advisor process (nohup /path_to_ConfigAdvisor/ConfigAdvisor &).
3. Modify the permission for rc.local (chmod +x /etc/rc/local)
The Config Advisor process will start up automatically in the next reboot.

Hosting Config Advisor with nginx (HTTPS)

You can host Config Advisor, at a centralized location, for using Config Advisor with nginx (HTTPS).

Note: To enable user management feature on Mac and Linux, edit the CONFIG file located at ~/NetApp/ConfigAdvisor/Config/ and add this entry: HOSTED = TRUE

The information is applicable for the following operating systems:

On Mac

- Command to install nginx - brew install nginx

Install paths:

- nginx executable install path - /usr/local/bin/nginx
- nginx config dir - /usr/local/etc/nginx

On Linux – RHEL

Command to install nginx - yum install nginx

Install paths:

- nginx executable install path - /usr/sbin/nginx
- nginx config dir - /etc/nginx

On Linux- Ubuntu

- Command to install nginx - sudo apt-get install nginx

Install paths:

- nginx executable install path - /usr/sbin/nginx
- nginx config dir - /etc/nginx

Generate SSL domain_name.key and domain_name.cert on the system:**Commands:**

- `sudo openssl genrsa 1024 > domain_name.key`
- `sudo chmod 400 domain_name.key`
- `sudo openssl req -new -x509 -nodes -sha1 -days 365 -key domain_name.key -out domain_name.cert`

Replacing nginx.conf file

You can replace nginx.conf file in Config Advisor for using Config Advisor with HTTPS.

Steps

1. Copy nginx.conf from ConfigAdvisor install directory and replace it with the nginx.conf file that is located at the config directory specified in the preceding section.
2. Edit the server_name with the IP address or host name, ssl_certificate with the path of domain_name.cert generated on the system and ssl_certificate_key with the path of domain_name.key generated on the system.

For example, server_name - 10.141.39.131 (IP address of the system); ssl_certificate /home / domain_name.cert; ssl_certificate_key /home / domain_name.key;

Running nginx and Config Advisor

You can run nginx and Config Advisor for using Config Advisor with HTTPS.

Steps

1. Go to nginx installed folder (for example, /usr/sbin) and type `chmod 777 nginx` (to provide all permissions).
2. Type `./nginx -t` to check if configuration is correct.
3. Kill all the earlier nginx processes running on the system: Use the command `ps -ef | grep nginx / kill -9 pid`.
4. Run nginx as: `sudo ./nginx`.
5. Extract the ConfigAdvisor install directory.
6. Navigate to the ConfigAdvisor install directory.
7. Create a file "https" in the ConfigAdvisor install directory. Use the command: `touch https`.
8. Run `./ConfigAdvisor`.
9. Launch Config Advisor with "https". For example, `https://10.141.39.131` from your browser.

Note:

- In case port 443 is used by another application, change the port to any other available port by editing nginx.conf and changing the value `listen 443;` to `listen 8043;`.

- When running nginx as `sudo ./nginx`, If you get `'/etc/nginx/log/access.log' failed` error on linux, create the directory as `'sudo mkdir -p /etc/nginx/log'`.

Upgrading Config Advisor

You can upgrade to a different version of Config Advisor or reinstall the same version on Windows, Mac, or Linux system. You can use one of the two options for upgrading Config Advisor.

About this task

When you upgrade Config Advisor and install it on your system, you will get two options:

Steps

1. Select one of the options to upgrade Config Advisor on your Windows system.

If you want to...	Then...
Perform a clean install	Click Yes for clean installation. The installer will delete the database and perform a clean installation.
Perform an upgrade	Click No to upgrade. The installer will retain the database files, which in turn retains the user preferences.

2. Select one of the options to upgrade Config Advisor on Mac or Linux system.

If you want to...	Then...
Perform a clean install	a. You must delete database and Config file by running <code>rm -rf ~\NetApp\Config Advisor</code>. b. Delete the older install directory. c. Install the new version by running <code>./config advisor</code> from the extracted installer package under <code><download path>\NetApp\config advisor</code>.
Perform an upgrade	a. Delete the older install directory. b. Install the new version by running <code>./config advisor</code> from the extracted installer package under <code><download path>\NetApp\config advisor</code>.

Checking the configuration remotely

Config Advisor provides an option to check the configuration remotely.

About this task

You can either use an AutoSupport ID or a file saved using Config Advisor or OneCollect, for example, an ONTAP AutoSupport file.

Step

1. Perform one of the following procedures.

If you want to...	Then...
Use the AutoSupport ID method	See Collecting data using ASUP-based method on page 23.
Use either a OneCollect or Config Advisor file	- Click Data Collection Jobs tab. - Click New Data Collection. - Select Import Collected Data Files from the Collection Type drop-down list. - Click Choose Files button. - Click Open. - Load all the files from the OneCollect or Config Advisor job folder. Note: You can share your files when raising a Config Advisor ticket or with another user. To find your files, navigate to <code>{USERPROFILE}\ConfigAdvisorData\JobFiles</code>. The data directly gets added as a job and you can view the collected data using Command Viewer.

Checking configuration - FlexPod life cycle management

You can verify some of the most common configuration errors in standard FlexPod setups. You must collect data from the VMware vCenter Server to receive recommendations on the latest supported firmware.

About this task

You can use the Config Advisor FlexPod profile to run a detailed health check for all the components in the FlexPod stack. This profile can be used when commissioning a newly configured FlexPod system or when running the checks on the existing FlexPod stack.

Steps

1. Click the **Data Collection Jobs** tab.
2. Select the **Solution-Based** profile from the **Collection Type** drop-down list.
3. Select the **FlexPod** profile.
4. Select **FlexPod - ONTAP** from the **Sub profile** drop-down list.
5. Select **General** from the **Persona** drop-down list.
6. For life cycle management, enter the credentials for the vCenter Server.
7. Click the **View & Analyze** tab.
8. For viewing the FlexPod recommendations, click the **Firmware Recommendation** tab.

Firmware Recommendation tab lists the current running and latest recommended firmware version for Hypervisor (VMware), Compute, Network, and Storage.

Collecting and uploading data from devices using Config Advisor

You can find information about the Config Advisor data collection, viewing the collection progress, collection profiles, data collection methods, fields in the tabs, saving your credentials, and viewing the collected results.

Collecting data using Config Advisor

Config Advisor enables you to collect data from different types of devices and solutions.

About this task

Using Config Advisor, you can collect data by using the following collection profile:

- **Solution Based:** This helps you collect data from a set of preconfigured solution stacks.
- **ASUP Based:** This helps sending the collected configuration data back to NetApp through its own AutoSupport. This information is used by NetApp Support and partners to improve problem diagnostics.
- **Import Collected Data Files:** This helps you to load the data collected from another system using either OneCollect or Config Advisor and import the collected data files for analysis.

You also have an option to add the following OneCollect profiles for collecting data. To add OneCollect related profiles, navigate to **Settings > Basic Settings > Collection Settings**, select the **Enable OneCollect Data Collection Options** check box.

- **Device Based:** This helps you collect data from single or multiple homogenous and heterogeneous set of devices that could be storage controllers, switches, or hosts. You need to enter the credentials of the device or component for collecting data.
After you have collected the data, Config Advisor helps you to organize and categorize the collected files based on certain collection groups. You can view the classified collected files under the Group Name column in the **Data Collection Jobs** tab.
- **Discover IP/IP Range:** This helps you discover devices automatically using an IP, IP range, or subnet.
- **Import Devices:** This helps you to load the file that have the device information. After you import, Config Advisor displays the IPs that were identified from the imported data.

Collecting data using the solution-based collection method

Solution-based profile is a predefined profile. By using this profile, you can configure data collection for solutions, such as E-Series, FlexPod, ONTAP 7-Mode, and other solutions.

About this task

To perform a minimal data collection, you should enter the credentials for switch, node, cluster, and server.

Steps

1. Click **Data Collection Jobs** tab.
2. Choose **Solution Based** option from the **Collection Type** drop-down list.
3. From the **Profile** drop-down list, select the required profile, for example, **ONTAP**.
4. From the **Sub profile** drop-down list, select **Network**.
5. From the **Persona** drop-down list, select **Analysis**.

For more information about **Personas**, see

[Overview of Config Advisor](#) on page 5

6. Select the appropriate cluster switch model and management switch option.
7. By default, one row relevant to one solution is loaded. If you want to add more solutions, click the **Clone** icon under the **Actions** column.
8. Config Advisor validates the credentials of solution(s) in two ways:
 - a. **Auto validation for one solution:** Enter the host name, username, and password and then move to the next row, the validation of the previous solution starts automatically.
 - b. **Manual validation for all the solution:** Enter the host name, username, and password and then click the **Validate** button.
9. By default, all the commands are selected for the solution. If you need to modify the commands, click the **Commands** icon under the **Actions** column.
10. Click **Save/Collect** button to proceed with data collection.

Collecting data using the device-based collection method

You can collect data from storage controllers, hypervisors, hosts, and switches (FC and Ethernet switches). You can also collect data either from one device or multiple homogeneous and heterogeneous devices.

Before you begin

You must have selected the **Enable OneCollect Data Collection Options** check box. Navigate to **Settings > Basic Settings > Collection Settings**, select the **Enable OneCollect Data Collection Options** check box.

Steps

1. Click **Data Collection Jobs**.

If you want to...	Then...
Manually enter device details	Add the components and choose the device type and subtype and its relevant credentials.
Import devices - Automatically load device credentials from a file	Load devices and browse a file that has device details in a predefined format (Import_Credentials.csv). The csv template can be found in the Config Advisor install directory.

For optimal performance, NetApp recommends adding a maximum of 25 devices.

2. Alternatively, click **Validate** verify whether the credentials are valid and devices are available for data collection.
3. View the summary of devices from which the data will be collected.
You can also click **Command** icon to check all the commands that would have run on the system.
4. Click **Save/Collect** if you want to save the project for future reference and to proceed with data collection.

Collecting data using ASUP-based method

NetApp technical support can view the data collected from the customer environment for analysis using AutoSupport.

About this task

You can select one of the two options to collect data.

Steps

1. Click **Data Collection Jobs** tab.
2. From the **Collection Type** drop-down list, select **ASUP Based** profile.
3. Select any one of the two options to collect data.

If you want to...	Then...
Collecting data using AutoSupport (by ASUP ID)	a. In the New Data Collection page, you can either add a file (.csv or .txt format) containing multiple AutoSupport Ids. Multiple AutoSupport IDs are displayed in the ASUP ID column along with their connection statuses. b. Alternatively, you can add an AutoSupport id using one of the following methods: i. Select the date from the Date Range. ii. Click Add File to add the file with ASUP ids. iii. Click Add ID to enter the Id in the ASUP ID field. iv. Enter serial number of the controller in the Search By Serial No. field, and click Search. v. Enter the hostname of the controller in the Search By Host name. vi. Select ASUP ID. vii. Enter the Job ID to load the IDs using OneCollect Job_Id from ASUP. c. Select the Pull data for analysis check box to collect only those sections that are required for analysis. Note: If unchecked, it will pull all the sections from AutoSupport. d. Select Fetch all nodes of the cluster check box to stitch together entire cluster (all nodes) based on the ASUP_ID or Serial_no or host name. You can also load old analysis, rerun analysis, and obtain the latest AutoSupport for cluster and run analysis.

If you want to...	Then...
Collecting data using AutoSupport From File	a. In the Data Collection Jobs tab, select the ASUP Based option from the Collection Type drop-down list. b. Click Browse to select an AutoSupport file, for example, ONTAP AutoSupport file. c. You can select the Pull data for analysis check box to collect only the data required for analysis. Note: AutoSupport files in the .tgz and .txt formats are supported. d. You can view the AutoSupport profile in the Profile drop-down list. e. Click Collect Now to proceed with data collection. f. View the icons under Action column to perform different tasks, such as viewing the collected data, viewing and analyzing the data in the Command Viewer, or deleting the job. g. Click the file under the Job Name column to view the recent jobs and Command Viewer and to export the report in three different formats: PDF, Word, and Excel.

Collecting data using FlexArray plug-in

The FlexArray plug-in enables data collection and validation of FlexArray systems.

About this task

The FlexArray is one of the other plug-ins available in Config Advisor. Follow the steps to collect data using FlexArray plug-in.

Steps

1. Click **Data Collection Jobs** tab.
2. Click **New Data Collection**.
3. Select the **Solution-based** profile for the collection type.
4. Select **FlexArray** profile.
5. For sub profile, depending on the configuration, select the appropriate option in the drop-down list.
 - a. For direct-attached configurations, select **Direct Attached**.
 - b. For fabric-attached configurations, select **Fabric Attached**.
6. Enter configuration details in the cluster node name (or IP) , Backend FC switch name (or IP) against Brocade, or Cisco form based on the switch vendor along with the required credentials.
7. Click **Validate** to validate the information.
8. Click **Collect** and provide the collect options.
9. Provide a project name and pass phrase.
10. Click **View & Analyze** to view the health report and device details.
11. Click **View Collected Data** to view the command viewer.

Collecting data using E-Series plug-in

The E-Series plug-in works with the Config Advisor tool to enable data collection and validation using any of the sub profiles NetApp SANtricity Web, NetApp SANtricity Web Services Proxy, Host, and SMCLI. You can collect data using E-Series plug-in.

About this task

Follow the steps to collect data using E-Series plug-in.

Steps

1. Click **Data Collection Jobs**.
2. Select **Solution Based** profile.
3. Select **E-Series** from the **Profile** drop-down list.
4. Select one of the sub profiles from the **Sub profile** drop-down list.
5. Select one of the personas from the **Persona** drop-down list.
6. Enter the host name or IP address, user name, and password.
You also have the options, under the Actions column, to view the commands and validate the information, such as model number, operating system, and software.
7. Alternatively, click **Validate** to validate the information.
8. Click **Save/Collect** to provide the project name, group name, recurrence pattern, when to trigger the schedule, and occurrence of the project.
9. In the **Collect Options** prompt, you can save the project. Click **Save Project**.
10. Click **Collect Now** to collect the data.

Collecting data using MetroCluster

The MetroCluster plug-in enables data collection and validation of MetroCluster in ONTAP.

About this task

Follow the steps to collect data using MetroCluster plug-in.

Steps

1. Click **Data Collection Jobs** tab.
2. Select the **Solution-Based** profile from the **Collection Type** drop-down list.
3. Select the profile, sub profile, and persona that you want.
4. Enter the host name or IP address, user name, and password of the of the node, switch, or FibreBridge.
You also have the options, under the Actions column, to choose the nodes, clone, view commands, and validate the information that you have provided.
5. Alternatively, click **Validate** to validate the information.

6. Click **Save/Collect** to provide the project name, group name, recurrence pattern, when to trigger the schedule, and occurrence of the project.
7. In the **Collect Options** prompt, you can save the project. Click **Save Project** .
8. Click **Collect Now** to collect the data.

Note: You can use MetroCluster-IP by adding the credentials for Cisco cluster switches.

Scheduling a data collection job

You can create scheduled backup job by selecting an entire job start time and recurrence pattern for the saved job. You can also view all backup jobs on the Saved Projects tab.

Before you begin

Config Advisor must have at least one of the jobs saved for scheduling a job.

Steps

1. Select a saved job.
2. Click the **Edit Schedule** icon.
3. In the **Scheduler**, enter the exact time that you want the scheduler to set for the saved job.
4. Click **Save**.
5. In the **Recurrence Pattern** pane, enter the details in the respective fields.

If you want to...	Then...
Set the interval	a. Select the Hours and Minutes from the Trigger Every field. b. Enter the occurrence of the job in the Occurrence field for the job to be scheduled. c. Click Save Schedule. d. Click Close.
Set for daily schedule	a. In the Start Time drop-down list, enter the time in the Hours and Minutes fields. b. Enter the frequency of days in the Recur Every How Many Days? field for the job to be scheduled. c. Enter the occurrence of the job in the Occurrence field for the job to be scheduled. d. Click Save Schedule. e. Click Close.
Set for weekly schedule	a. Select Weekly from the Recurrence Pattern drop-down list. b. In the Start Time drop-down list, enter the time in the Hours and Minutes fields. c. Select either one day of the week or you can also select all the days of the week. d. Enter the occurrence of the job in the Occurrence field for the job to be scheduled. e. Click Save Schedule. f. Click Close.

6. Monitor the job progress and execution logs for scheduled jobs.

Setting up email notification

You can configure the settings for the Config Advisor server to send alert notifications. You can configure the corresponding mail server to be used and various notification mechanisms—for example, alert notifications can be sent as emails.

Before you begin

The following information must be available:

- Email address from which the alert notification is sent.
- Host name, default port, user name, and password to configure the SMTP server.

Steps

1. On the home page, click **Settings > Basic Settings**.
2. Select the **Enable Notifications for Scheduled Jobs** check box, if you want to receive notifications for scheduled jobs.
3. Select the **Enable Notifications for Unscheduled Jobs** check box, if you want to receive notifications for unscheduled jobs.
4. Enter the information in the **SMTP Host, Port, SMTP User name, SMTP Password, and Email Notification Recipients** fields.
5. Click **Save**.

Editing a saved job

You can edit a job even after you have saved the job.

Steps

1. In the **Saved Projects** tab, under the **Actions** column, click the **Edit Project** icon.
2. In the **Data Collection Jobs** tab, modify the information that you want.
3. Alternatively, click **Validate** to verify the information.
4. Click **Save/Collect** to save or collect data.
5. In the **Collect Options** dialog box, you have an option to enter the name of the Project Name, Group Name, Pass Phrase, and Confirm Pass Phrase.
6. Click **Save Project** button.

Creating user accounts

If multiple people in your organization need to use Config Advisor, then you need to create Config Advisor user accounts for each user. When you are using the User Management feature of Config Advisor, you can create two types of users: Admin and User. The Admin and User have the privilege to create jobs, manage jobs, and manage users.

About this task

The two roles that are assigned to the users are Admin and User. The following table lists a few common Config Advisor user-interface operations.

Roles	Operation
Admin	You can add, delete, or edit user account(s). In addition, you can also view and delete jobs, saved projects, and scheduled jobs across all the users. You also have the privilege to reset passwords for the user accounts. As an Admin, you can assign one of the users with the Admin privileges. Note: You can create a maximum of 10 user accounts.
User	As a user, you can only view and manage jobs that you have created. You can create, delete, and change the settings of only your account.

When you create a new user, that user is added to use Config Advisor with applicable permission settings.

Steps

1. Click the **User Management** tab.
2. Click **Create User**.
Create a User prompt is displayed.
3. In the Username box, enter your user name.
4. In the Password box, enter the password.
5. Enter the email addresses of the role that you want to select for a particular account.
6. Select one of the roles, **Admin** or **User**, which you want to assign to the user.
7. Click **Submit**.

Viewing and analyzing the data

You can view results of the ONTAP, ONTAP 7-Mode, E-Series, FlexPod, MetroCluster, FlexArray, and ASUP based-collection profiles in Config Advisor. In addition, you view the node, cluster switch, and management switch details. The results include information about the device type, device name, model, operating system, and the firmware version.

About this task

You can view the results on the **Data Collection Jobs** page. After collecting the data for better user experience and usability, Config Advisor helps you to organize jobs and that can viewed under Group Name column in the **Data Collection Jobs** tab.

Step

1. To view collected data, perform any one of the following methods:

If you want to...	Then...
View data of all the recent job files	a. Click the Data Collection Jobs tab. b. Select the icons to perform any one of the following operations: i. Expand to view more information about the job ii. Collect data iii. View the command viewer iv. View and analyze the collected data v. Delete the collected data The Command Viewer will be launched. c. View the collected data in an .xml format. d. Click the expand symbol (>>) to view a realtime log console. You can view the path of the file. You can select either one or more jobs to export the data into a consolidated report in PDF, Word, or Excel formats. e. Click the file under the Job Name column. You will reach the View & Analyze page to view the health report, device details, visualization diagram, and storage utilization pertaining to that particular job. The information under these boxes are clickable. For example, when you click the NetApp storage controller in the Device Type column inside the Device Details box, you have an option to narrow down your search to obtain information about the system configuration summary, aggregate info, volume info, and LUN info in addition to viewing the stack and visualization diagrams. f. Click Export to export the job information. g. Click Command Viewer to view the commands used in the selected job.

If you want to...	Then...
View data for one job file	a. Click View & Analyze tab. b. On the left-hand side, click the job link. c. View all the recent jobs that are listed out. d. Select the job that you want to view for additional information.

Understanding IMT Advisor

IMT Advisor helps you perform IMT validation with ONTAP, protocol, and host collected data. The supported configurations are displayed with the components of the current configurations.

Before you begin

You must have collected the data and it should have been added as a job in the **Data Collection Jobs** page.

About this task

Automated IMT validation of configuration helps you find the supported and unsupported configurations, path failure risks, and upgrade recommendations.

After you have collected the data, you can check whether the components that you have chosen are supported. For example, you have selected ONTAP 8.3 and Windows 2012, you can collect data including these two components. IMT Advisor will identify whether these two components are supported, for example, ONTAP 9 and Windows 2012 to confirm whether this combination will support the existing environment. It will validate the collected data against all of the latest versions of ONTAP, and Windows.

Steps

1. Click **Data Collection Jobs** tab.
2. Click **New Data Collection**.
3. Select at least one supported host (RHEL, SuSe Linux, ESX, ESXi, HP-UX, AIX, Solaris, and Windows) for data collection.
4. Under the Action column, click the **IMT Advisor View** icon.
On the **Add-ons** page, the parsed data and corresponding IMT components are displayed.
5. Select the checkbox(s) for either one or more host(s) that you want.
6. Click **Next** to view supportability.
You can view whether the combination that you have selected is supported or not.
7. Click **Interop Advisor** link to see the upgrade recommendations.

Note: You can use Interop Advisor only if you have uploaded the collected data to AutoSupport.

Importing collected data files

You can load the data collected from another system using either OneCollect or Config Advisor and import the collected data files for analysis.

Before you begin

You must have collected and saved the data.

Steps

1. Click **Data Collection Jobs** tab.
2. Click **Import Collected Data Files** and select the data file.
The imported file will be available in the **Data Collection Jobs** page.
3. Click **View & Analyze** to view the health report and device details.
4. Click **Command Viewer** to view the commands.

Uninstalling Config Advisor

You can uninstall Config Advisor to troubleshoot issues if they persist.

Before you begin

Config Advisor database file is available under <user_home_directory>\NetApp\Config Advisor\Db>. To either avoid accidental deletion or losing your data forever, it is advised to back up the database before you uninstall Config Advisor.

Step

1. Proceed to the user directory and delete the NetApp and Config Advisor folders.

If you want to...	Then...
Uninstall Config Advisor	On Windows: a. Click Control Panel. b. Select Programs and Features. c. In the wizard, right-click Config Advisor and select Uninstall. On Mac and Linux: a. Kill the Config Advisor process. b. Delete the Config Advisor directory.

You have successfully uninstalled Config Advisor from your system.

Troubleshooting

You can find information about how to troubleshoot some of the issues that you might come across when you use Config Advisor. You can also find explanations for the issues, possible causes, and solutions.

Resolving Config Advisor launching error

Config Advisor does not launch on Windows, Mac or Linux system after installation.

About this task

To launch Config Advisor on either Windows, Mac, or Linux system, perform the following steps:

Step

1. In a browser, manually enter the URL:

<http://localhost:8055/ca/>

If you want to...	Then...
Resolve Config Advisor launching error on Windows	a. Check whether the Config Advisor process is running in the Task Manager in Windows. b. If the process is not running, go to the installation directory, by default <C:\Program Files\NetApp\Config Advisor> and launch the Config Advisor process by clicking Config Advisor.exe. If it still does not work, the port might be used by other application (check <code>netstat -an</code>). c. To rectify this issue, edit the CONFIG file in the user directory <user home directory>\NetApp\Config Advisor\Config> and set the PORT number to an available port. Restart Config Advisor. If you are trying to access Config Advisor from the other systems, make sure the firewall allows the port used by Config Advisor.
Resolve Config Advisor launching error on Mac and Linux	a. Check whether the process is running by executing <code>ps aux grep Config Advisor</code>. b. If the process is not running, go to the installation directory, by default <install_dir>/Config Advisor> and launch the Config Advisor process by running <code>./Config Advisor</code>. If it still does not work, the port might be used by other application (check <code>netstat -an</code>). c. To rectify this issue, edit the CONFIG file in the user directory <user home directory>/NetApp/Config Advisor/Config> and set the PORT number to an available port. Restart Config Advisor. If you are trying to access Config Advisor from the other systems, make sure the firewall allows the port used by Config Advisor.

Backing up the database

The device credentials, saved jobs, and user preferences are saved in the database.

About this task

If you want to delete Config Advisor, it is advised to back up the database to avoid losing your saved data.

Steps

1. Navigate to <user_home_directory>\Netapp\Config Advisor\Db>.
2. Back up the database folder.

Changing the default timeout for command execution

You can change the default timeout for command execution using the COLLECTION_TIMEOUT variable in the Config file.

Steps

1. Open the Config file.
 - Windows: <user_home_directory>\NetApp\Config Advisor\Config
 - Mac and Linux: <user_home_directory>/NetApp/Config Advisor/Config
2. Change the value of COLLECTION_TIMEOUT to the desired time value (in seconds).
3. Save the file.
4. Restart the server.

The framework will include the new timeout value.

Restarting the Config Advisor server

You can restart the server on a host using either Windows, Mac, or Linux.

Step

1. Use one of the following methods to restart the Config Advisor server.

If you want to...	Then...
Restart Config Advisor on Windows system	a. Right-click and select Start Task Manager. b. Click Processes tab and select configadvisor.exe. c. Click End Process.

If you want to...	Then...
Restart Config Advisor on Mac and Linux systems	- Search for Config Advisor process using <code>ps aux grep Config Advisor</code>. - Note down the process ID of Config Advisor and kill the process using <code>kill <pid></code>. - Restart the process by running <code>./Config Advisor</code> from the Config Advisor install directory.

Sending the feedback

You must notify NetApp technical support if you want to send us your feedback, report a problem, or need assistance in using the Config Advisor. You can send us your feedback to ng-configadvisor-questions@netapp.com

Searching for the result and log files

After you have successfully collected data, the result and log files are saved.

About this task

You can access the result and log files as listed in the table below:

Type of file	File location
Log File	<user home dir>/Config AdvisorData/LogFiles>
Result file	<user home dir>/Config AdvisorData/JobFiles>

On Mac

`/Users/<username>`

On Linux

`/home/<username>(~)`

Analysis is not available for Device-based collection

Analysis is not available for device-based collection. Analysis is available only for the solution-based profiles that are collected using **Analysis** persona.

Resetting the Admin account password

You can reset the password if you have forgotten the password of Admin account.

Steps

1. Open the command prompt or the terminal and navigate to Config Advisor installation directory.
2. Enter the following:

- a. On Windows, enter "ConfigAdvisor.exe -c".
3. On Linux and Mac, enter "./ConfigAdvisor - c".
4. Upon prompting for password, type 'admin' password, press Enter.
5. Type it a second time to confirm it.
If the confirm password matches the password, "Password changed successfully" message will be displayed.
6. If confirm password does not match, repeat steps 3 and 4.

Updating data offline

In the case of secure sites, no network access is available. You can still update the data offline.

Step

1. Perform the following methods to update either the resource file or open rules:

If you want to...	Then...
Update the resource_binary file	a. Download the resource_binary.zip folder from the http://mysupport.netapp.com/public/config_advisor/bin/resources_binary.zip. b. Place the folder in the ConfigAdvisorDataDirectory_Base/ replacing the resources_binary file.
Update the open rules	a. Download the zip file from http://mysupport.netapp.com/public/config_advisor/bin/open_binary.zip. b. Extract the zip file into this path {USERPROFILE}/ConfigAdvisorData/openrules.

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Index

B

backing up database [37](#)

C

collect data [22](#)

comments

 how to send feedback about documentation [42](#)

D

documentation

 how to receive automatic notification of changes to [42](#)

 how to send feedback about [42](#)

E

editing a saved job [29](#)

F

feedback

 how to send comments about documentation [42](#)

I

information

 how to send feedback about improving documentation [42](#)

Installing config advisor [12](#)

Installing Config Advisor [13](#)

S

setting up config advisor [8](#)

suggestions

 how to send feedback about documentation [42](#)

system requirements [8](#)

T

Twitter

 how to receive automatic notification of documentation changes [42](#)