



WireGauge 2.1

Installation and Administration Guide

Version 1.0

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Preface

This document describes how to install, configure, and run WireGauge 2.1 to verify NetApp hardware installations.

AUDIENCE

The primary audience for this document is technical personnel such as systems administrators, engineers, professional services engineers, and professional services consultants at NetApp.

KEYBOARD AND FORMATTING CONVENTIONS

You can use your product more effectively when you understand how this document uses keyboard and formatting conventions to present information.

Keyboard conventions

Convention	What it means
Enter, enter	- Used to refer to the key that generates a carriage return; the key is named Return on some keyboards. - Used to mean pressing one or more keys on the keyboard and then pressing the Enter key, or clicking in a field in a graphical interface and then typing information into the field.

Formatting conventions

Convention	What it means
<i>Italic font</i>	- Words or characters that require special attention. - UI literals. - Placeholders for information that you must supply. For example, if the guide says to enter the arp -d hostname command, you enter the characters " arp -d " followed by the actual name of the host.
Monospaced font	- Command names, option names, and daemon names. - Information displayed on the system console or other computer monitors. - Contents of files. - File, path, and directory names.
Bold monospaced font	Words or characters you type. What you type is always shown in lowercase letters; unless your program is case-sensitive and uppercase letters are necessary for it to work properly.

SPECIAL MESSAGES

This document might contain the following types of messages to alert you to conditions you need to be aware of.

Note: A note contains important information that helps you install or operate the system efficiently.

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TERMINOLOGY

To understand the concepts in this document, you might need to know the following terms defined here.

- Controller or storage controller** - The component of a storage system that runs the Data ONTAP® operating system and controls its disk subsystem. Controllers or storage controllers are also sometimes called *storage appliances*, *appliances*, *storage engines*, *heads*, *CPU modules*, or *controller modules*.
- Storage system** - The hardware device running Data ONTAP that receives data from and sends data to native disk shelves, third-party storage, or both. Storage systems that run Data ONTAP

are sometimes referred to as *filers*, *appliances*, *storage appliances*, *V-Series systems*, or *systems*.

DEFINITIONS, ACRONYMS, AND ABBREVIATIONS

Abbreviation/Definition	Explanation
Cluster-Mode configuration	The integration of Ethernet switch fabrics into NetApp's Scale Out Storage Cluster solution.
LIF	Logical interface. Formerly "VIF" in GX. A logical network port, representing a network access point to a node. LIFs currently correspond to IP addresses, but could be implemented by any interconnect.
Cluster	In Data ONTAP 8.0, Cluster-Mode refers to a group of connected nodes (storage systems) that share a global namespace and that you can manage as a single virtual server or multiple virtual servers, providing performance, reliability, and scalability benefits.
ISL	Inter-Switch Link
OEM	Original Equipment Manufacturer
HA pair	High Availability pair
LACP	Link Aggregation Control Protocol
NIC	Network Interface Card
SFP	Small Form-factor Pluggable
CDP	Cisco Discovery Protocol
ARS	At Risk Systems
CCC	Cluster Configuration Check
HA	High Availability
HACC	HA Configuration Check

1 Introduction

WireGauge 2.1 (WireGauge) is a GUI-based validation tool for NetApp® hardware installations. This tool checks a NetApp system for the correctness of hardware installations. The tool is directly connected to a NetApp storage system. It runs a series of commands and checks for configurations with cabling, availability and resiliency issues.

The tool collects information from NetApp controllers and switches to evaluate against configuration best practices.

For a Data ONTAP® 8.x Cluster-Mode (Cluster-Mode) system, WireGauge performs additional configuration checks on the controllers, cluster switches, and management switches.

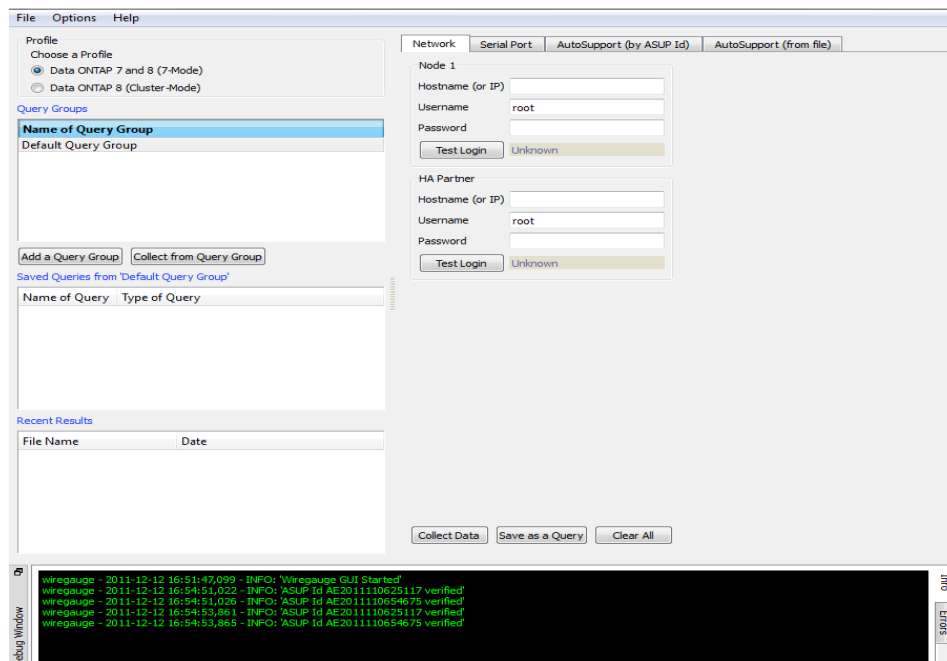


Figure 1- WireGauge tool

1.1 Benefits of using WireGauge

WireGauge provides the following benefits:

- Improved quality of installed systems
- Simplified troubleshooting of cabling configurations
- Minimized support calls after installation
- Improved customer satisfaction

2 Installing WireGauge

This chapter provides details about the configurations supported by WireGauge, and information about how to install and upgrade WireGauge.

2.1 Supported configurations

WireGauge supports the following configurations:

FAS (2xxx, 3xxx, 6xxx), N-Series and V-Series storage controllers running Data ONTAP 7.x and 8.x (7-Mode) and Cluster-Mode.

Note: Fabric attached MetroCluster systems are not supported.

The following table lists the configurations and operating systems supported by Data ONTAP 8 (Cluster-Mode).

Table 1- Configuration and Operating system details

Switch	Configuration 1	Configuration 2
Cluster Switch	Cisco Nexus 5010	Cisco Nexus 5020
Management Switch	Cisco Catalyst 2960	Cisco Catalyst 2960

The following table lists the supported switches.

Table 2- Supported switches

Switch	Operating System
NX5010 and NX5020	Cisco NXOS release (Cluster switch) 5.0(2)N1(1) Eaglehawk
Cisco 2960	Cisco IOS release (Management switch) 12.2(55)SE

2.2 Installing WireGauge

You can download WireGauge tool from the following links:

- NetApp and its partners: <https://tech.netapp.com/wiregauge>
- External customers: <http://now.netapp.com/NOW/download/tools/wiregauge>

To install WireGauge, perform the following steps:

1. Download the WireGauge installer.
2. Double-click the installer, and click *Next* in the welcome screen.
3. Click *I Agree* to accept the license agreement.
4. Click *Browse* to choose a location for installation and click *Install*.

The Hola installer is launched if NetApp Hola is not on your system or if you have an older version.

Note: If you have an older version of NetApp Hola, NetApp Hola 2.1 is installed and you will be prompted to restart your system. However, do not restart your system immediately. Restart the system only after WireGauge installation is complete.

5. Click *Finish*.

WireGauge and NetApp Hola 2.1 are installed and launched. For more information about NetApp Hola, see [NetApp Hola](#).

2.3 Upgrading WireGauge

On startup, WireGauge notifies you if a new version is available for upgrade.

You can also manually check for new versions of WireGauge.

To manually check for updates, perform the following steps:

1. In the WireGauge tool, click *Help > Check for Updates*.
If a new version is available, the *WireGauge upgrade available* dialog box is displayed as shown in the following figure.



Figure 2- Upgrading WireGauge

2. Click the link in the dialog box to download the WireGauge executable file and install the newer version.
For more information about installing a new version of WireGauge, see [Installing WireGauge](#).

When upgrading WireGauge, consider the following two user scenarios provided in the following table:

Table 3- Upgrade scenarios

If you want to....	Then...
Use both WireGauge 1.5.x and WireGauge 2.x on the same system	1. Upgrade to WireGauge 1.5.5 which supports coexistence with WireGauge 2.x
	Note: Earlier versions of WireGauge 1.x have compatibility issues with WireGauge 2.x
Use the latest version of WireGauge (NetApp-recommended approach)	2. Download and install WireGauge 2.x
	1. Uninstall WireGauge 1.x 2. Download and install WireGauge 2.x

3 Running WireGauge

This chapter provides information about working with WireGauge.

3.1 Launching WireGauge

You can launch WireGauge using one of the following:

- Desktop WireGauge icon
- *Start* menu
- CLI

You can run WireGauge in two modes:

- Secure mode
- Normal mode

3.2 Running WireGauge in secure mode

For secure sites, you can run WireGauge in secure mode. When you run WireGauge in secure mode, it does not interact with NetApp Hola, and neither Hola metrics nor FTP metrics are sent back to NetApp.

Note: Hola sends critical usage and quality metrics back to NetApp for product improvements. Hola should be disabled only if the customer has data privacy concerns.

For more information about these metrics, see [Hola and FTP metrics](#).

To run WireGauge in secure mode, run the following commands:

```
C:\> cd program files/WireGauge2
C:/program files/wiregauge2> Wiregauge.exe --securenetwork
```

3.3 Running WireGauge in normal mode

By default, WireGauge runs in Normal mode. When you run WireGauge in normal mode, it uses NetApp Hola for usage metrics collection and sends this information back to NetApp.

Note: To launch WireGauge, you need to log in to NetApp Hola. For more information on NetApp Hola, see [NetApp Hola](#).

3.4 Reporting issues in WireGauge

WireGauge support is only provided online. You can report issues in WireGauge by opening a support ticket in the Tools Online Support Center.

To open a support ticket, perform the following steps:

1. In the WireGauge tool, click *Help > Open Support Ticket*.
The *Tools Online Support Center* web page is displayed.
2. Enter username and password, and click *Log in*.

Note: If you do not have an account, you can create a new account by clicking the *Create a New Account*.

3. Click *Open a Ticket*.
4. Enter a subject and description of the issue.
5. In the *Tools/Grouping* drop-down box, select *WireGauge*.
6. Select a relevant category and severity of the issue.
7. Click *Choose File* to attach a WireGauge file.
8. Click *Continue*.

9. In the *Finish submitting your question*, click *Finish Submitting Question*.
A reference number for your issue is displayed. Save this reference number for future references.
You will also receive an email to your registered ID from NetApp Tools Support.

4 Data Collection Methods

This chapter provides information about how to collect data using WireGauge.

WireGauge supports two data collection profiles, see the following figure:

- Data ONTAP 7 and 8 (7-Mode)
- Data ONTAP 8 (Cluster-Mode)

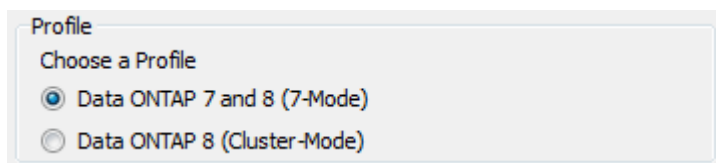


Figure 3- Data collection profiles

After collecting and analyzing the data, WireGauge creates a WireGauge Result file (.xml.gz). This file is the final output of the WireGauge analysis process.

Progress and error details during data collection are shown in a *Debug Window* at the bottom of the tool, see the following figure. You can toggle the show/hide options for this pane by using **Alt+V**.

- The *Info* tab displays the connection and command progress.
- The *Errors* tab displays details of the errors in case of connection failure.

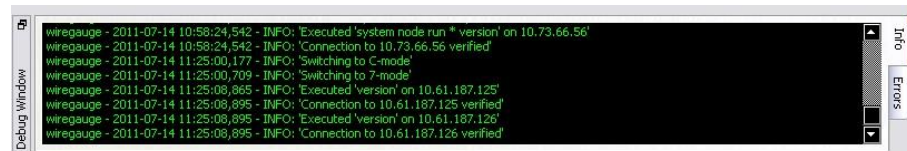


Figure 4- *Debug Window* pane

Note: In WireGauge, the data collection process cannot be stopped when it is in progress.

4.1 Data ONTAP 7-Mode Data Collection

In the Data ONTAP 7-Mode profile, you can collect data using one of the following four approaches:

- [Network](#)
- [Serial Port](#)
- [AutoSupport \(by ASUP ID\)](#)
- [AutoSupport \(from file\)](#)

You can select one of these data collection methods by clicking the corresponding tab.

Known issue: If you enter or load more than one set of credentials consecutively, WireGauge loads the connection status as and when the connection status is received. The loading of the connection status sometimes may not be in the defined order.

4.1.1 Network

In the Network method, WireGauge collects data from a single node or both nodes of a HA pair, see the following figure.

Note: You can collect data from a single node of an HA pair in WireGauge, although it is not recommended and it will result in HA- related health checks not being run.

Table 4- 7 -Mode Network tab

Input Field	Description
Hostname (or IP)	Hostname or IP address of the controller

Input Field	Description
<i>Username</i>	Username to access the controller
<i>Password</i>	Password to access the controller
<i>Test Login</i>	Displays the connection status. WireGauge attempts to connect to the NetApp controller in the following order: 1. Manage ONTAP Solution 2. SSH 3. TELNET The results of the connection test are as follows: • If you did not enter the device name and credentials, an <i>Insufficient Data</i> message is displayed. • If you enter all the necessary details, a <i>Click Test Login</i> to verify connection message is displayed. • If the connection is valid, the <i>Valid <login type> Login</i> message is displayed, where the login type is Manage ONTAP Solution , SSH or Telnet • If the connection to the device fails, a <i>Connection Failed</i> message is displayed. • If you enter invalid credentials for the device, an <i>Invalid Credentials</i> message is displayed Note: Connection to a device fails if wrong hostname or IP details are entered, or if the device type (only storage controller – 7-Mode is allowed) is wrong, or if the device is powered off. Additional information is displayed in the Debug pane.
<i>Clear All</i>	Clears all information from the fields
<i>Save as a query</i>	Saves the login credentials as a query for later use
<i>Collect data</i>	Collects data from a node or an HA pair

The screenshot shows the 'Network' tab in the WireGauge application. It features two main sections for configuring network nodes: 'Node 1' and 'HA Partner'. Each section contains input fields for 'Hostname (or IP)', 'Username', and 'Password', along with a 'Test Login' button. The 'Test Login' buttons are green and show a success message 'Valid ZAPI Login'. At the bottom of the interface, there are three buttons: 'Collect Data', 'Save as a Query', and 'Clear All'. The top of the window has tabs for 'Network', 'Serial Port', 'AutoSupport (by ASUP Id)', and 'AutoSupport (from file)'.

Figure 5- 7-Mode Network tab

To collect data from a node or an HA pair in a network, perform the following steps:

1. Enter the login details for the two nodes in a HA pair.

Alternatively, select the login credentials from the *Default Query Groups – query list* pane. For more information, see [Saving credentials](#).

2. Click *Test Login* to test the connection.
3. Click *Collect Data*.
A *Results File* dialog box is displayed.
4. Enter a name for the file and click *OK* if you want to save the output.
When data collection and analysis are completed, the results are displayed in the *Debug Window* pane.
For more information about this pane, see [Viewing recent results](#).

Note: Data collection takes place even if connection status checks on a node have failed previously.

4.1.2 Serial port

You can use the serial port method if you do not have access to the customer's network.

The following are the limitations of using a serial port to collect data:

- Running several commands over a serial port at 9600 Bd (baud) may take several minutes.
- You cannot collect data from an HA pair.
- Many of the configuration health checks, except for MPHA, will not run.

Table 5- Serial Port tab

Input Field	Description
<i>COM port</i>	COM port to which you have connected the storage controller
<i>Username</i>	Username to access the controller
<i>Password</i>	Password to access the controller
<i>Test Login</i>	Displays the serial port connection status. The results of the connection test are as follows: • If you did not enter the device name and credentials, an Insufficient Data message is displayed. • If you enter all the necessary details, a Click Test Login to verify connection message is displayed. • If the connection is valid, the Valid <login type> Login message is displayed, where the login type is Manage ONTAP Solution, SSH or Telnet • If the connection to the device fails, a Connection Failed message is displayed. • If you enter invalid credentials for the device, an Invalid Credentials message is displayed Note: Connection to a device fails if wrong hostname or IP details are entered, or if the device type (only storage controller - 7mode is allowed) is wrong or if the device is powered off. Additional information is displayed in the <i>Debug</i> pane.
<i>Clear All</i>	Clears all information from the fields.
<i>Save as a query</i>	Saves the login credentials as a query for later use.
<i>Collect data</i>	Collects data from a storage controller.

The screenshot shows the 'Serial Port' tab of a software application. It features a 'Node 1' section with a 'COM Port' dropdown menu set to 'COM3', a 'Username' text field containing 'root', and an empty 'Password' text field. Below these fields is a 'Test Login' button and a status indicator showing 'Unknown'. At the bottom of the window, there are three buttons: 'Collect Data', 'Save as a Query', and 'Clear All'.

Figure 6- Serial Port tab

To collect data from the serial port, perform the following steps:

1. Choose a COM port from the drop-down list.
Alternatively, select the login credentials from the *Default Query Groups – query list* pane. For more information, see [Saving credentials](#).
2. Enter the login details for the controller.
3. Click *Collect Data*.
A *Results File* dialog box is displayed.
4. Enter a name for the file and click *OK*.
When data collection and analysis are completed, the file results are displayed in the *Recent Results Debug Window* pane.
For more information about this pane, see [Viewing recent results](#).

Note: Data collection takes place even if previous status checks have failed on a node.

4.1.3 AutoSupport (by ASUP Id)

WireGauge can also collect data using AutoSupport IDs.

Note: This method is available only to NetApp personnel who have access to NetApp's intranet. It is not available to NetApp partners or customers.

Table 6- AutoSupport (by ASUP Id) tab

Input Field	Description
<i>File Containing ASUP IDs (.csv, .txt)</i>	.csv or .txt file containing multiple ASUP IDs
<i>ASUP ID</i>	ASUP ID of a controller
<i>Add ID</i>	Adds the entered ASUP ID. - The ASUP ID is verified and the status is displayed. - You cannot make duplicate entries of the same ASUP ID
<i>ASUP Connection Status</i>	Displays the status of the ASUP ID.
<i>Delete ID</i>	Deletes the selected ASUP ID from the list.
<i>Clear All</i>	Clears all information from the fields.
<i>Save as a query</i>	Saves the ASUP IDs from the table as a query for later use

Input Field	Description
<i>Collect Data</i>	Collects data from a storage controller

Figure 7- AutoSupport (by ASUP ID) tab

To collect data using the AutoSupport (by ASUP ID) tab, perform the following steps:

1. Click *Add File* to select a file (.csv, .txt) containing multiple ASUP IDs separated by space or comma.
Multiple ASUP IDs are displayed in the ASUP ID pane along with their connection statuses.
Alternatively, you can add an AutoSupport ID using the “Add ID” button and input field.

Note: If an ASUP ID already exists in the ASUP ID table, the ASUP ID is not added in the ASUP ID table. Errors are logged in the Debug window.

The older ASUP ID format (for example: AE2010061286069) is not supported from WireGauge 2.1 onwards. You must enter the ASUP IDs in the new format, for example: 2010061918120050.

2. To delete an ASUP ID from the displayed list, select the id and click the *Delete Id* button at the bottom right of the window.
3. Click *Collect Data*.
A *Results File* dialog box is displayed.
4. Enter a name for the file and click *OK*.
When data collection and analysis are completed, the file results are displayed in the *Recent Results Debug Window* pane.
For more information about this pane, see [Viewing recent results](#).

4.1.4 AutoSupport (from file)

WireGauge can also collect data from the AutoSupport file of a NetApp storage system.

Note: The AutoSupport file should be a .txt file.

If you save an AutoSupport file from an email client such as Microsoft Outlook, the mail client may change the formatting of the information in the file. This may result in a failure when WireGauge parses the file.

Table 7- AutoSupport (from file) tab

Input Field	Description
<i>ASUP File Path</i>	Displays the path from where the file was loaded.
<i>Add file</i>	Adds a file from a location. When you add a file, it is verified before it is added to the list. If you add an invalid file, it is not added to the list.
<i>ASUP Connection Status</i>	If a connection is established a Verified message is displayed.
<i>Remove file</i>	Removes the ASUP file from the list.
<i>Save as a query</i>	Saves the file path as a query for later use.
<i>Collect data</i>	Collects data from a storage controller or an HA pair.

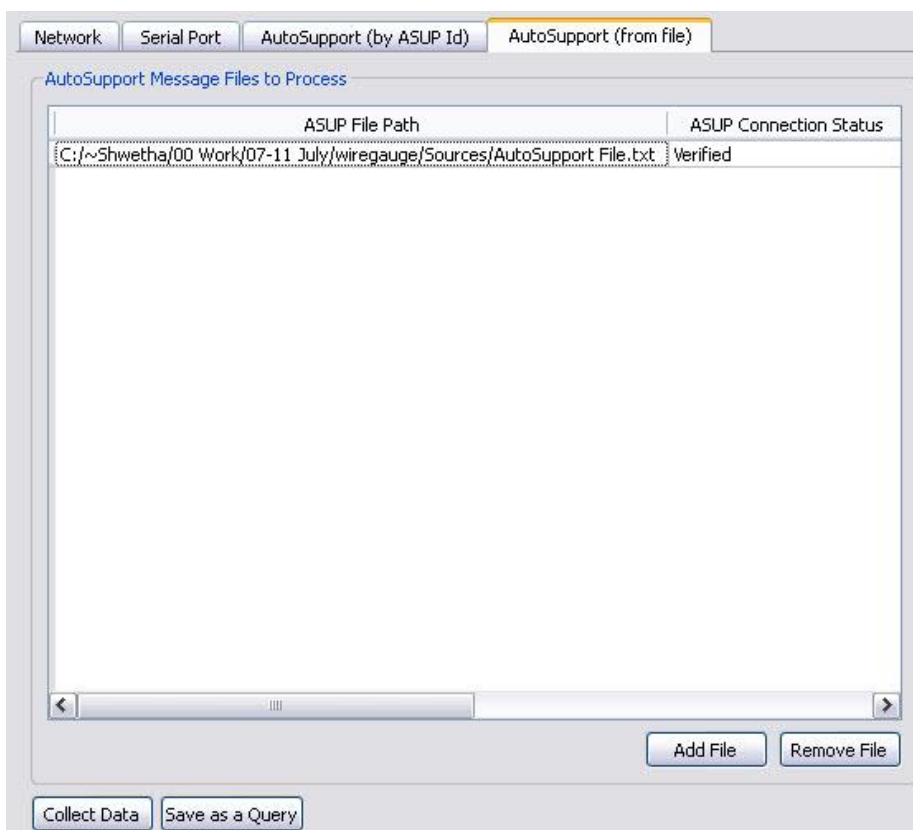


Figure 8- AutoSupport (from file) tab

To collect data from an AutoSupport file, perform the following steps:

1. Select an AutoSupport file in either of the following ways:
 - Click *Add File* and choose a file.
 - Select a query from the *Default Query Groups – query list* pane. For more information see [Saving credentials](#).
2. Click *Collect Data*.
A *Results File* dialog box is displayed.
3. Enter a name for the file and click *OK*.
When data collection and analysis are completed, the file results are displayed in the *Recent Results Debug Window* pane.
For more information about this pane, see [Viewing recent results](#).

4.2 Batch data collection for 7-Mode

Data collection in batch mode is performed by grouping credentials in a query group. A query group is composed of one or more query names, enabling you to easily construct a large batch mode query by using existing saved credentials. In batch collection mode, you can collect data from multiple systems by using credentials saved into query groups from any of the following three tabs:

- Network
- AutoSupport (by ASUP ID)
- AutoSupport (from file)

To collect data in batch mode, perform the following steps:

1. Click the *Add a Query Group* button in the left pane of the window.

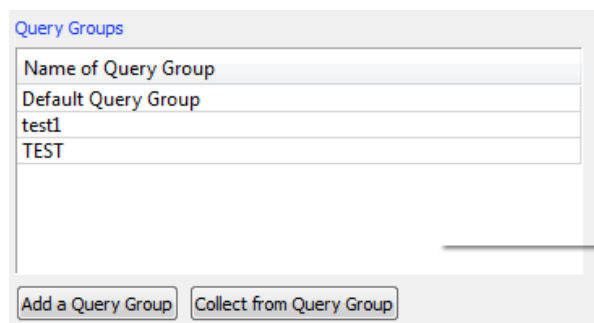


Figure 9- Add Query Group button

A dialog box requesting the name of the query group is displayed.

2. Enter a query group name, and click *OK*.

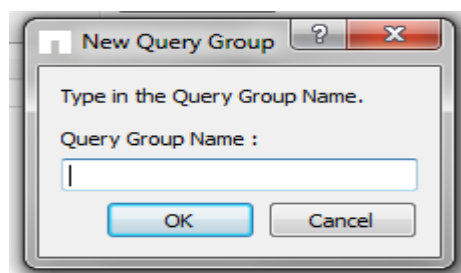


Figure 10- Query Group dialog box

The name is added in the *Query Groups* pane.

3. Enter credentials in the Network, Autosupport (by ASUP Id) and Autosupport (from file), and click the *Save as a Query* button.

The *Query Name* dialog box is displayed.

For details on how to enter credentials in the Network, Autosupport (by ASUP Id) and Autosupport (from file) see [Saving credentials](#).

Note: You can also add a query group in from the *Query Name* dialog box.

4. Enter a query name and select its association to a query group from the dropdown list. The query group dropdown list displays all existing query groups.

Note: To add additional systems to a query group, repeat Step 3 and Step 4.

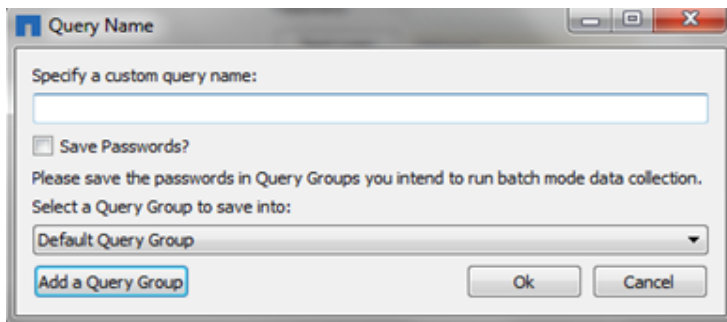


Figure 11- Query Name dialog box

5. Click *Ok*.
6. Double-click a query group displayed in the *Query Groups* pane to list the credentials within that query group.
The credentials saved in the query group are listed in the *Default Query Groups – query list* pane.

Note: You can double-click individual credentials to load them to the tabs they were saved from. You can also collect data from the tab the credentials were loaded into.

7. You can collect data from all the credentials/queries saved within a query group by selecting the query group and clicking the *Collect from Query Group* button.
The data collection for a query group starts and a progress bar is displayed.

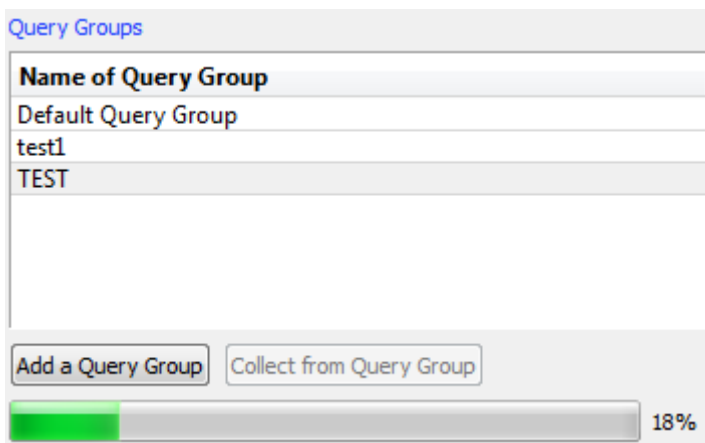


Figure 12- Query Groups dialog box

Note: During data collection the “Collect From Group” button is disabled.

After data collection is complete, the results for the queries are saved in a single WireGauge file and the file is displayed in the *Recent Results* pane, and the results window is displayed.

4.3 Collecting data from a Cluster-Mode installation

You can collect data from a Cluster-Mode controller, data switches, and management switches in a network to verify Cluster-Mode installation.

To perform Cluster-Mode validations, you should ensure the following:

- Data is collected from valid cluster switches, management switches, and NetApp cluster nodes.
- The controller connection is made to either a cluster-management LIF or a node-management LIF (any LIF that is capable of responding to data collection methods of WireGauge).
- Connections to a controller by using a Service Processor/RLM or ACP are not supported.
- Cisco Discovery Protocol (CDP) must be enabled on each node of the Cluster-Mode cluster so that the WireGauge tool can determine the connectivity state between the cluster nodes, the cluster-interconnect switches, and the cluster management switches.

For more information about how to enable CDP, see the *Data ONTAP® 8.1 Cluster-Mode, Network Management Guide* at http://now.netapp.com/NOW/knowledge/docs/ontap/ontap_cmode_index.shtml

4.3.1 Network

In the Network method, data is collected from a controller, two cluster switches, and two management switches. You should enter credentials for at least one cluster switch and a controller.

Note: Data collection is optional for one of the two cluster switches and the two management switches. If the credentials are not entered, the rules for these switches are not executed. For more information about rules, see [Cluster-Mode configurations and disk checks](#).

Table 8- Cluster-Mode Network tab

Input Field	Description
<i>Hostname (or IP)</i>	Hostname or IP address of the controller or the switches.
<i>Username</i>	Username to access the controller or the switches.
<i>Password</i>	Password to access the controller or the switches.
<i>Privileged Password</i>	Passwords are required to run certain special commands on switches.
<i>Test Login</i>	Displays the connection status. WireGauge attempts to connect in this order: 1. Manage ONTAP Solution 2. SSH 3. TELNET The results of the connection test are as follows: • If you did not enter the device name and credentials, an <i>Insufficient Data</i> message is displayed. • If you enter all the necessary details, a <i>Click Test Login to verify connection</i> message is displayed. • If the connection is valid, the Valid <login type> Login message is displayed, where the login type is Manage ONTAP Solution, SSH or Telnet. • If the connection to the device fails, a <i>Connection Failed</i> message is displayed. • If you enter invalid credentials for the device, an <i>Invalid Credentials</i> message is displayed. Note: Connection Failure to a device occurs if wrong hostname or IP details are entered, or if the device type is wrong or if the device is powered off.
<i>Clear All</i>	Clears all information from the fields.
<i>Save as a Query</i>	Saves the login credentials as a query for later use.
<i>Collect Data</i>	Collects data from a storage controller or an HA pair.

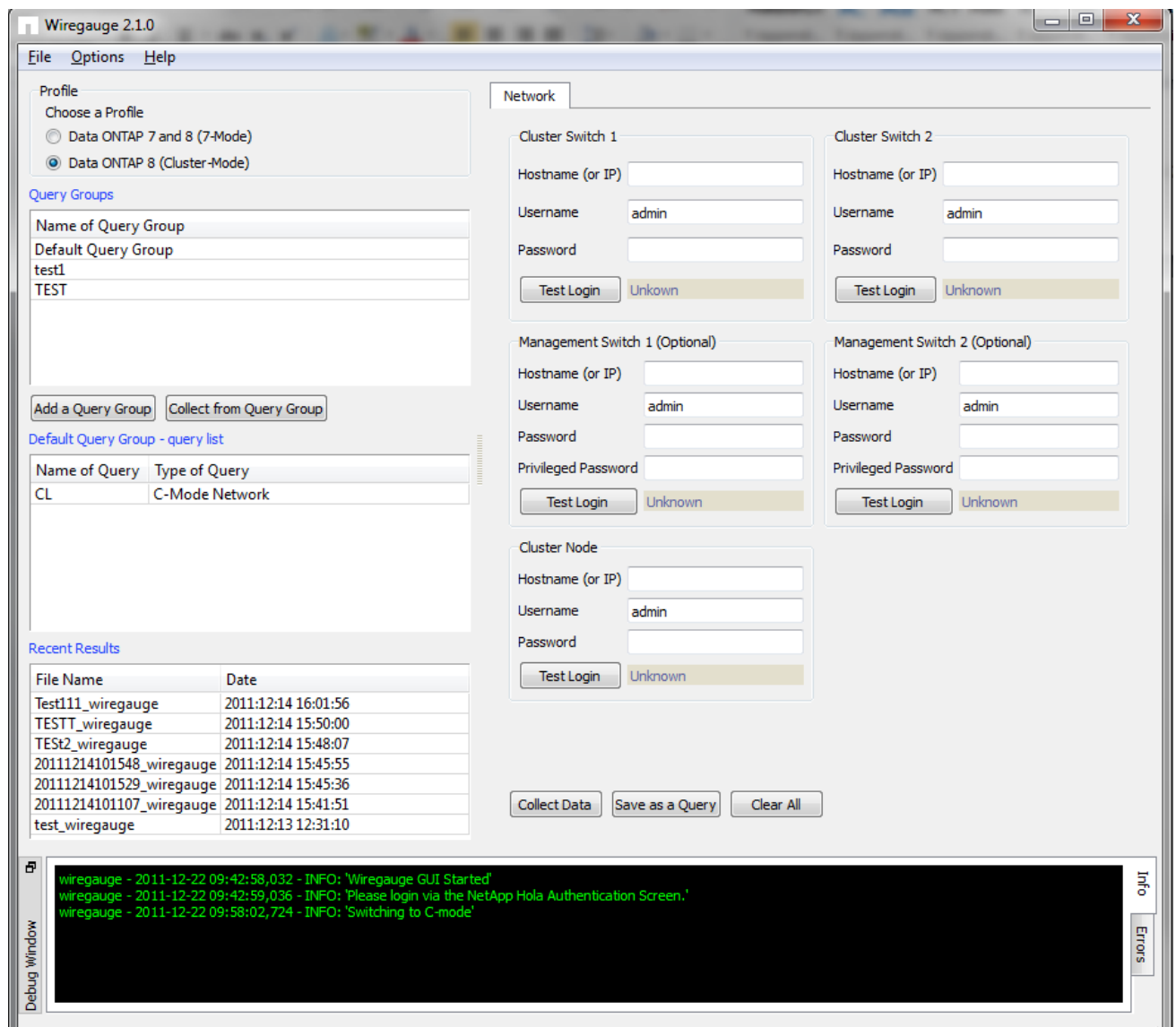


Figure 13- Cluster-Mode *Network* tab

To collect data, perform the following steps:

1. Enter the login details for the controller, cluster switches and management switches, or select the login credentials from the *Default Query Groups – query list* pane. For more information see [Saving credentials](#).
2. Click *Test Login* to test the connection.
3. Click *Collect Data*.
A **Results File** dialog box is displayed.
4. Enter a name for the file, and click **OK**.
When data collection is complete, the file is displayed in the *Recent Results* tab.
For more information about this pane, see [Viewing recent results](#).

Note: Data collection takes place even if previous status checks failed on a node.

4.4 Triggering AutoSupport

Details about WireGauge run on a storage controller are registered with AutoSupport.

Note: If NetApp Hola is disabled, you can use the *Trigger AutoSupport* option to inform NetApp Tools Support that WireGauge was used to validate a system.

If *Trigger AutoSupport* option is selected, after WireGauge data collection is complete, WireGauge triggers an AutoSupport message on the storage controller and results of the data collection are sent back to NetApp Support.

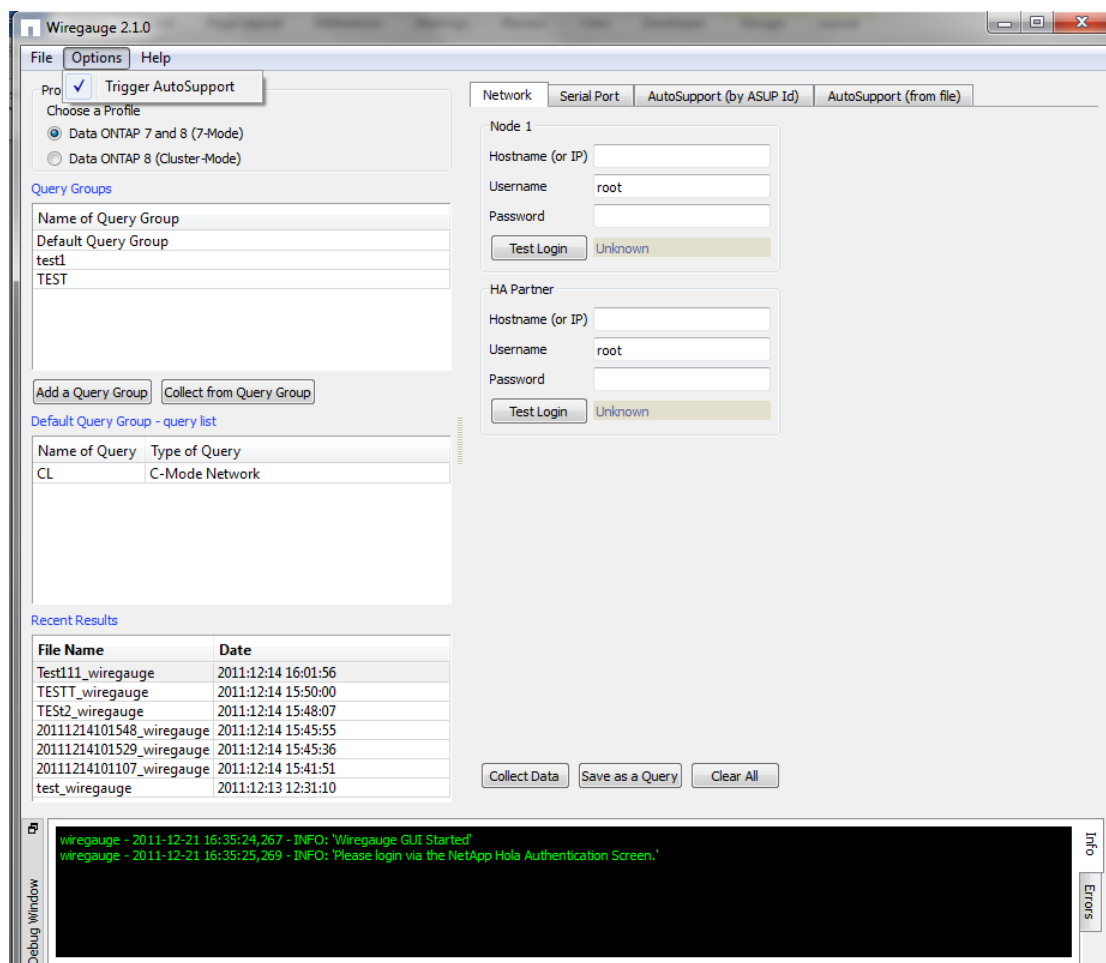


Figure 14- Triggering AutoSupport

To trigger AutoSupport, perform the following steps:

1. Click **Options**
2. Enable AutoSupport by selecting **Trigger AutoSupport**.
AutoSupport is triggered when data collection is complete.

4.5 Saving credentials

You can save credentials used for data collection for reuse.

You can save device hostname or IP address, login credentials, serial port information, ASUP ID details, and ASUP file details.

Queries are saved within query groups. Query groups are files with a .json extension and are located in C:\Documents and Settings\<windows-login>\WireGauge\

Note: To save a query, the credentials need not be validated or completed.

Table 9-describes the two columns in the *Default Query Groups – query list* pane.

Table 9- Default Query Groups – query list pane

Input Field	Description
Name of Query	Displays the name of query.
Type of Query	Displays the collection method used. Example: If the collection method is in the 7-mode profile and the method is network, 7-Mode Network is displayed.

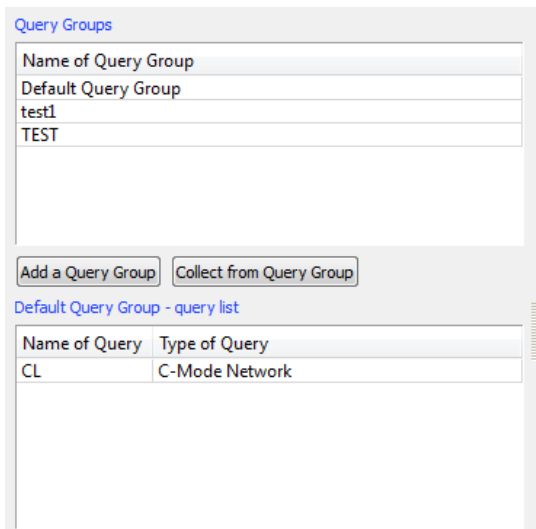


Figure 15- Default Query Groups – query list pane

To save a query, perform the following steps:

1. Enter the credentials you want to save.
2. Click *Save as a Query*.
The *Query Name* dialog box is displayed.

Note: In Cluster-mode, and in serial port 7-Mode, the query will be saved only into the *Default Query Group*.

3. Enter a name for the query, and click *OK*.

Note: If you want to encrypt the password details, select the *Save Passwords?* checkbox. Password fields have a simple encryption to prevent a casual observer from reading the password. Alternatively, you can choose not to save passwords.

The query is displayed in the *Default Query Groups – query list* pane.

Note: For serial connections, COM port details might not be saved correctly.

You can perform the following tasks on a saved query:

- To open a saved query, double-click on a query.
The relevant credentials are populated in the tab and an automatic status check is performed.
- To rename a query, right-click the *Default Query Groups – query list* pane and choose *Rename Query*.
Alternatively, you can select the query you want to rename and use the Ctrl+H shortcut.
- To delete a query, right-click the *Default Query Groups – query list* pane and choose *Delete*.
Alternatively, you can select the query you want to delete and use the Ctrl+Z shortcut.

Note: Default Query Group cannot be deleted.

4.6 Viewing recent results

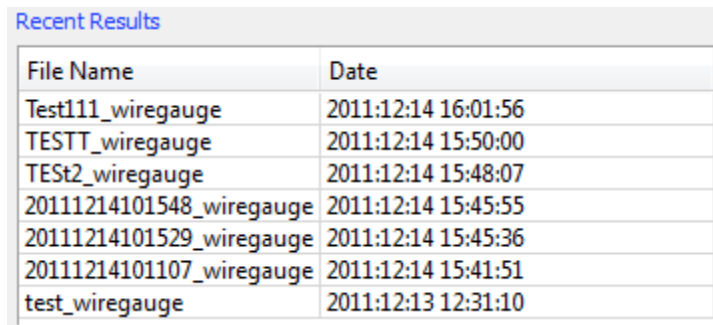
The collected and analyzed data is saved as a WireGauge file in `xml.zip` format. All WireGauge files are saved in the following location: `C:\Documents and Settings\<windows-login>\WireGauge\recent_results`.

You can access these files from the *Recent Results* pane in WireGauge.

Table 10- describes the two columns in the *Recent Results* pane.

Table 10- Recent Results pane

Input Field	Description
<i>File Name</i>	Displays the name of the WireGauge file.
<i>Date</i>	Displays the date on which the file was created.



File Name	Date
Test111_wiregauge	2011:12:14 16:01:56
TESTT_wiregauge	2011:12:14 15:50:00
TESt2_wiregauge	2011:12:14 15:48:07
20111214101548_wiregauge	2011:12:14 15:45:55
20111214101529_wiregauge	2011:12:14 15:45:36
20111214101107_wiregauge	2011:12:14 15:41:51
test_wiregauge	2011:12:13 12:31:10

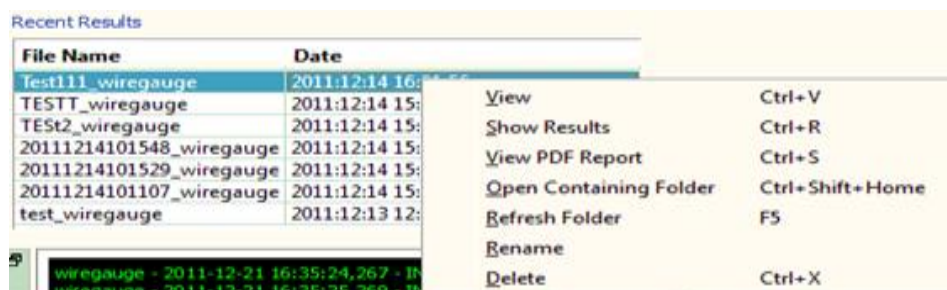
Figure 16- Recent Results pane

Files in the *Recent Results* pane are sorted by their creation dates. The latest file created is displayed at top of the table.

Table 11- describes the options that are displayed when you right-click a file name.

Table 11- Context menu for Recent Results pane

Input Field	Description
View	Opens a WireGauge Viewer window to show the output of commands executed on storage controllers and switches. For more information about viewing results see WireGauge Viewer .
Show Results	Opens the Results window where you can see detailed results. For more information about viewing results see Viewing results .
View PDF Report	Generates a PDF report. For more information about viewing results see Generating a PDF report .
Open Containing Folder	Opens the folder that stores the WireGauge files.
Refresh Folder	Refreshes the folder for new or modified WireGauge files.
Rename	Renames the WireGauge file.
Delete	Deletes the WireGauge file.



File Name	Date
Test111_wiregauge	2011:12:14 16:01:56
TESTT_wiregauge	2011:12:14 15:50:00
TESt2_wiregauge	2011:12:14 15:48:07
20111214101548_wiregauge	2011:12:14 15:45:55
20111214101529_wiregauge	2011:12:14 15:45:36
20111214101107_wiregauge	2011:12:14 15:41:51
test_wiregauge	2011:12:13 12:31:10

View	Ctrl+V
Show Results	Ctrl+R
View PDF Report	Ctrl+S
Open Containing Folder	Ctrl+Shift+Home
Refresh Folder	F5
Rename	
Delete	Ctrl+X

Figure 17- Context menu for Recent Results pane

5 Viewing results

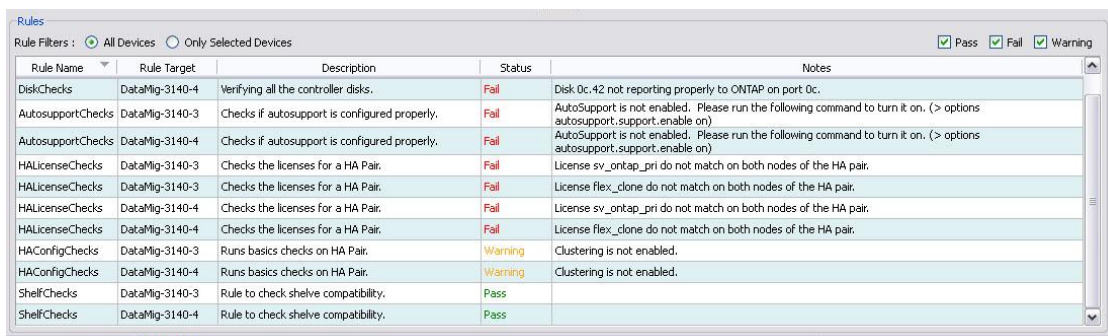
This chapter provides information about how you can view WireGauge results in the [7-Mode Results](#) or [Cluster-Mode Results](#) windows, as a [PDF report](#) or in the [WireGauge Viewer](#).

5.1 Rules

Rules are the configuration checks WireGauge executes when you open the *7-Mode Results* or *Cluster-Mode Results* window.

Table 12- Rules pane

Data Field	Description
Rule Name	Displays the name of the rule.
Rule Target	Displays the controller or switch on which the rule is run.
Description	Displays the description of the rule.
Status	Displays rule status as pass, fail, or warning
Notes	Displays additional information about the status.



Rule Name	Rule Target	Description	Status	Notes
DiskChecks	DataMig-3140-4	Verifying all the controller disks.	Fail	Disk 0c:42 not reporting properly to ONTAP on port 0c.
AutosupportChecks	DataMig-3140-3	Checks if autosupport is configured properly.	Fail	AutoSupport is not enabled. Please run the following command to turn it on. (> options autosupport.support.enable on)
AutosupportChecks	DataMig-3140-4	Checks if autosupport is configured properly.	Fail	AutoSupport is not enabled. Please run the following command to turn it on. (> options autosupport.support.enable on)
HALicenseChecks	DataMig-3140-3	Checks the licenses for a HA Pair.	Fail	License sv_ontap_pri do not match on both nodes of the HA pair.
HALicenseChecks	DataMig-3140-3	Checks the licenses for a HA Pair.	Fail	License flex_clone do not match on both nodes of the HA pair.
HALicenseChecks	DataMig-3140-4	Checks the licenses for a HA Pair.	Fail	License sv_ontap_pri do not match on both nodes of the HA pair.
HALicenseChecks	DataMig-3140-4	Checks the licenses for a HA Pair.	Fail	License flex_clone do not match on both nodes of the HA pair.
HAConfigChecks	DataMig-3140-3	Runs basics checks on HA Pair.	Warning	Clustering is not enabled.
HAConfigChecks	DataMig-3140-4	Runs basics checks on HA Pair.	Warning	Clustering is not enabled.
ShelfChecks	DataMig-3140-3	Rule to check shelf compatibility.	Pass	
ShelfChecks	DataMig-3140-4	Rule to check shelf compatibility.	Pass	

Figure 18- Rules pane

The *7-Mode Results* and the *Cluster Mode Results* windows contain a *Rules pane* with filters. You can select or clear filters to customize the display of rules.

Table 13- Rule filters

Data Field	Description
Pass	Displays rules that passed the configuration checks.
Fail	Displays rules that failed the configuration checks.
Warning	Displays warnings during the configuration checks.
All Devices	Displays configuration checks for all controllers and switches
Only Selected Devices	Displays configuration checks for only selected controllers or switches in the left pane.

5.2 Viewing 7-Mode results

The *7-Mode Results* window is divided into the following parts:

- A *Controllers* pane that lists all the nodes in the WireGauge file
- The stack diagram for the selected node.
- A *Rules* pane that displays the rules that were run on the collected data.

5.2.1 Controllers

The *Controllers* pane displays details about the controller or the HA pair in different tabs.

To view controller details, perform the following steps:

1. Select a controller from the *Controllers* pane.

- The controller stack diagram is displayed in a tab on the right.
- If you are viewing an HA pair, the partner controller details are also displayed in a separate tab.

Note: If the partner details of a HA pair are not available in the WireGauge file, they are not displayed.

2. In the controller tab, expand the *Stack* tree using the + icon to view shelf and disk information.

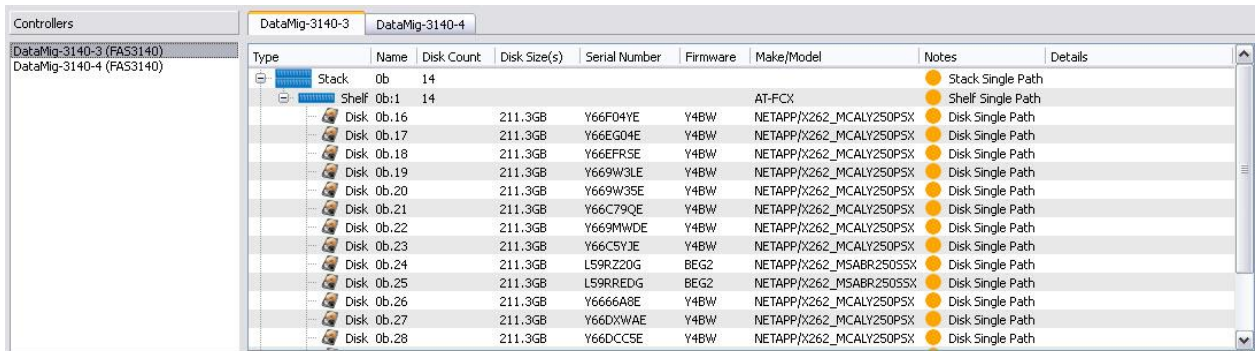


Figure 19- Controllers pane

Table 14- Controller tab

Field	Description
Type	Displays the hierarchy (stack, shelf or disk).
Name	Displays the name of the stack, shelf, and disk.
Disk Count	Displays the count for a stack and shelf.
Disk Size(s)	Displays the size of the disk
Serial Number	Displays the serial number of the disk.
Firmware	Displays the firmware on the disk.
Make/Model	Display the model information for a shelf and disk
Notes	Displays the pathing system in a stack, shelf, and disk, in green, orange, or red flags
Details	Displays more information about the shelf or disk for which the Notes tab has a red flag..

5.2.2 7-Mode configurations and disk checks

WireGauge runs the following rules on the data collected from an HA pair:

Table 15- 7-Mode configurations and disk checks

Rule	Description
DiskChecks	Checks for failed disks
ShelfChecks	Checks shelf configuration and compatibility
AutosupportRule	Checks if AutoSupport is configured properly
HAConfigChecks	Checks the following for an HA pair: • Hostname and partner name are set correctly. • Version and model numbers match. • Cluster failover is enabled and <code>fcp show cfmodes</code> is identical for the HA pair.
LicenseChecks	Checks if the licenses are the same for both controllers of a HA Pair
HAOptionChecks	Checks that the options set on a HA Pair are the same
ExportsRule	Compares the exports from <code>/etc/exports</code> and <code>exportsfs</code>
RCFileChecks	Reports failures while parsing the output of <code>/etc/rc</code> <code>/etc/host</code> and <code>ipconfig -a</code>
MaxFlexVolumeChecks	Checks if the given Data ONTAP release exceeds 90% of maximum FlexVol count. Checks the FlexVol limits for the given Data ONTAP release to support a non-disruptive upgrade

Rule	Description
<i>MaxSnapshotChecks</i>	Checks if the given Data ONTAP release exceeds 90% of maximum Snapshot® count
<i>DiskFirmwareVersion</i>	Checks if the Seagate SAS and FC drives have NA00 firmware that causes Parity Inconsistency errors

Notes:

WireGauge displays warnings, for the following configurations:

- Seagate disk drive has NA00 firmware and prompts you to upgrade to new firmware.
- Snapshot copies are not within 90% of the recommended setting for NDU upgrade for various Data ONTAP versions.
- SATA and FC shelves are within the same stack.

5.3 Viewing Cluster-Mode results

The *Cluster-Mode Results* window is divided into the following parts:

- *Controllers*, *Cluster Switches*, and *Management Switches* panes that display the controller, cluster switch, and management switch details
- A *Network Interfaces* tab, and detailed displays for each controller, cluster switch, and management switch
- Statuses for the power supply and fan
- A *Rules* pane that displays the rules that were run on the collected data

The screenshot shows the 'Cluster-Mode Results' window. The 'Network Interfaces' tab is selected, displaying a table of network interfaces for the controller 'fas2040-66056'. The table has columns: Logical Interface, Role, Port, Switch, Operational Speed (Mbps), and Network Address. Below this, the 'Rules' pane is visible, showing a list of rules with columns: Rule Name, Rule Target, Description, Status, and Notes. The rules listed are 'NodeClusterNICModel', 'ClusterNodePortRoles', and 'ShelfChecks', all with a 'Pass' status.

Logical Interface	Role	Port	Switch	Operational Speed (Mbps)	Network Address
clus10	cluster	e0b	wg-nx5010-6672:Ethernet1/4	1000	192.168.1.156
clus9	cluster	e0a	wg-nx5010-6673:Ethernet1/4	1000	192.168.1.56
node56	node-mgmt	e0d	FOC150SV2D3:FastEthernet0/1	100	10.73.66.56

Rule Name	Rule Target	Description	Status	Notes
NodeClusterNICModel	fas2040-66056	Verifying that the NIC models are compatible in the cluster network.	Pass	
ClusterNodePortRoles	fas2040-66056	Verifying that the cluster network ports are in valid slots for the cluster network.	Pass	
ShelfChecks	fas2040-66056	Rule to check shelve compatibility.	Pass	

Figure 20- Cluster-Mode Results window

5.3.1 Controllers

The *Controllers* pane displays details of the nodes within a cluster

Note: By default, the interface details are displayed in the *Network Interfaces* tab.

To view controller details, perform the following steps:

1. Select a controller from the *Controllers* pane.
 - The controller details are displayed in a tab on the right.
 - If you are viewing an HA pair within the cluster, the partner controller details are also displayed.
2. In the *Controllers* tab, expand the *Stack* tree using the + icon to view shelf and disk information.

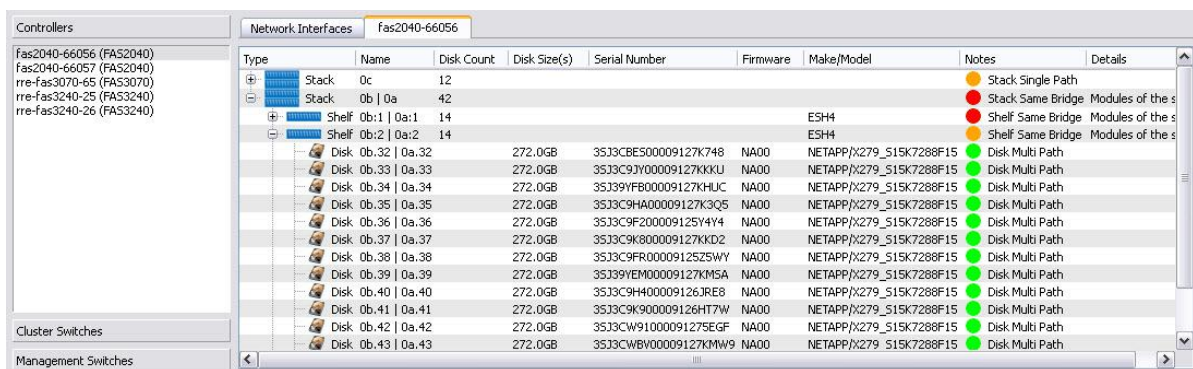


Figure 21- Controllers pane

Table 16- Controller pane

Field	Description
Type	Displays the system IDs for a stack, shelf and disk.
Name	Displays the name of the stack, shelf, and disk.
Disk Count	Displays the count for a stack and shelf.
Disk Sizes	Displays the size of the disk
Serial Number	Displays the serial number of the disk.
Firmware	Displays the firmware on the disk.
Make/Model	Display the model information for a shelf and disk
Notes	Displays the pathing system in a stack, shelf, and disk, in green, orange or red flags
Details	Displays more information about the shelf or disk if the Notes tab has a red flag for each shelf and disk.

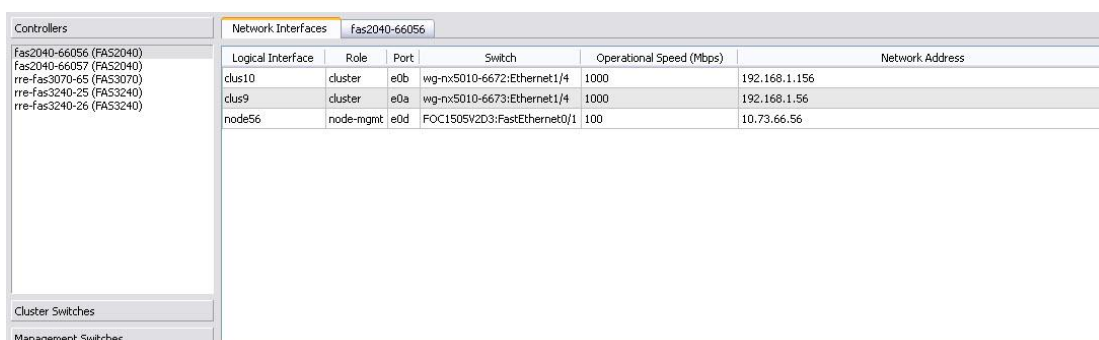


Figure 22- Network Interfaces tab

Table 17- Network Interfaces tab

Field	Description
Logical Interface	Display the logical interfaces of the cluster
Role	Displays the role of the component
Port	Displays the port information
Switch	Displays the connected switch and port information
Operational Speed (Mbps)	Displays the speed of the network
Network Address	Displays the IP address of the logical interface

5.3.2 Cluster and management switches

The *Cluster Switches* pane and *Management Switches* pane display switch details on the right.

To view switch details, perform the following steps:

1. Select a switch from the *Cluster Switches* or *Management Switches* panes.
The switch details are displayed on the right-side.

Controllers	Port	Connected Type	Connected Host (Port)	Speed	Network Address
Cluster Switches wg-nx5010-6672 (Nexus5010) wg-nx5010-6673 (Nexus5010)	mgmt0	ISL	Switch:FastEthernet0/24	100 Mb/s	10.73.66.7
	Ethernet1/3	Controller	fas2040-66057:e0b	1000 Mb/s	192.168.1.157
	Ethernet1/4	Controller	fas2040-66056:e0b	1000 Mb/s	192.168.1.156
	Ethernet1/5	Controller	rre-fas3240-25:e1a	10 Gb/s	192.168.1.25
	Ethernet1/6	Controller	rre-fas3240-26:e1a	10 Gb/s	192.168.1.26
	Ethernet1/13	ISL	wg-nx5010-6673:Ethernet1/13	10 Gb/s	10.73.66.73
	Ethernet1/14	ISL	wg-nx5010-6673:Ethernet1/14	10 Gb/s	10.73.66.73
	Ethernet1/15	ISL	wg-nx5010-6673:Ethernet1/15	10 Gb/s	10.73.66.73
	Ethernet1/16	ISL	wg-nx5010-6673:Ethernet1/16	10 Gb/s	10.73.66.73
	Ethernet1/17	ISL	wg-nx5010-6673:Ethernet1/17	10 Gb/s	10.73.66.73
	Ethernet1/18	ISL	wg-nx5010-6673:Ethernet1/18	10 Gb/s	10.73.66.73
	Ethernet1/19	ISL	wg-nx5010-6673:Ethernet1/19	10 Gb/s	10.73.66.73
	Ethernet1/20	ISL	wg-nx5010-6673:Ethernet1/20	10 Gb/s	10.73.66.73
	Ethernet1/9	Controller		10 Gb/s	
Management Switches	Power Supply Status: ● Fan Status: ●				

Figure 23- Cluster Switches and Management Switches panes

Table 18- Cluster Switches and Management Switches panes

Field	Description
<i>Port</i>	Displays the connection port
<i>Connected Type</i>	Displays the connection type as ISL or controller
<i>Connected Host (Port)</i>	Displays the host and port to which it is connected
<i>Speed</i>	Displays the speed
<i>Network Address</i>	Displays the network address
<i>Power Supply Status</i>	Is green if the power supply is on
<i>Fan Status</i>	Is green if the fan is on

5.3.3 Cluster-Mode configurations and disk checks

WireGauge runs the following rules on the data collected from a Cluster-Mode profile:

Table 19- Cluster-Mode configurations and disk checks

Rule	Description
<i>DiskChecks</i>	Reports failed disks
<i>ShelfChecks</i>	Checks shelf configuration and compatibility
<i>AutosupportRule</i>	Checks if AutoSupport is configured properly
<i>LicenseChecks</i>	Checks the licenses for a HA Pair
<i>ClusterSwitchGoldenConfig5010</i>	Compares the configuration of the switch to the Golden Configuration for a Nexus 5010. - The Golden Configuration is a static file for each build of WireGauge. - This rule is executed for each cluster switch that is a Nexus 5010, otherwise it is skipped.
<i>ClusterSwitchGoldenConfig5010wExp</i>	This rule is executed in ClusterSwitchGoldenConfig5010, with the expansion module
<i>ClusterSwitchGoldenConfig5020</i>	Compares the configuration of the switch to the Golden Configuration for a Nexus 5020. This rule is executed for each cluster switch that is a Nexus 5020, otherwise it is skipped.
<i>ClusterSwitchSoftwareVersion</i>	Compares the IOS version of the cluster switch to the version in the Golden Configuration. This rule is executed for each cluster switch. See the Support Matrix section for valid switch firmware versions.
<i>MgmtSwitchGoldenConfig2960</i>	Compares the configuration of the switch with the one in the Golden Configuration for a Catalyst 2960. This rule is executed for each management switch if the switch is a Catalyst 2960, otherwise it is skipped.
<i>MgmtSwitchSoftwareVersion</i>	Compares the IOS version of a management switch to the Golden Configuration. This rule is executed for each management switch. See the Support Matrix section for valid switch firmware versions

Rule	Description
<i>ClusterSwitchISLCount</i>	Checks if each cluster switch has the appropriate number of ISL connections between two cluster switches. This rule is executed only for one cluster switch, since the result is the same for the other switch. The 2 cluster switches are inter-connected with up to 810 GbE links aggregated together using IEEE 802.3 ad and LACP for fault tolerance.
<i>ClusterSwitchISLPorts</i>	The ISL links between each cluster switch should be on specified ports (which will vary based on the switch model). This rule should be applied to both cluster switches. For each ISL port, WireGauge compares the ports where ISL links exist to the appropriate row of that port in the compatibility matrix (for the given switch model, switch firmware, and Data ONTAP version). If the port role is not ISL, then it returns Fail status.
<i>MgmtSwitchISLCount</i>	Each management switch should have the appropriate number of ISL connections between the two switches. This rule is executed for only one management switch, because the result will be the same for the other switch.
<i>MgmtSwitchISLPorts</i>	The ISL links between each management switch should be on the specified port. Interface GigabitEthernet0/1 on 'switch1' should be connected to Interface GigabitEthernet0/2 on 'switch2'. This rule is executed for both management switches.
<i>ClusterNodeConnectToClusterSwitch</i>	Each cluster node should have a connection to at least one management switch on the appropriate ports. Cluster nodes should not be connected to reserved or ISL ports. This rule is executed on all nodes in the cluster.
<i>ClusterNodeConnectToMgmtSwitch</i>	Each NetApp Storage controller and cluster switch has a 100Base-T connection to a Cisco 2960 switch. Each cluster node should have a connection to each management switch. The connections should be to the same port on each management switch (node 5 connected to port 5 on both switches). This rule is executed on all nodes in the cluster.
<i>NodeClusterNICModel</i>	Only certain model Network Interface Cards (NICs) are allowed to be used for a cluster network interface. Verify that the NICs being used for the cluster network are correct. This card model varies based on the controller model. This rule is executed on both NICs in each node of the cluster. See Support Matrix section for supported Cluster NICs.
<i>NodeClusterPortRoles</i>	Cluster Node NICs used for the Cluster-Mode are only allowed in certain PCI slots. Verify that the cluster node network ports are in valid slots. The ports differ based on controller models. This rule is executed on both NICs in each node of the cluster. See Support Matrix section for information about the supported slots..
<i>AllNodesSameONTAP</i>	This rule verifies that all nodes in the cluster are running the same version of Data ONTAP.
<i>ClusterSwitchFan</i>	Verifies that the fans in the cluster network switches are running correctly. This rule is executed on both cluster switches.
<i>MgmtSwitchFan</i>	Verifies that the fans in the management network switch are running correctly. This rule is executed on both management switches.
<i>ClusterSwitchPS</i>	Checks that the power supplies in the cluster network switch are running correctly. This rule is applied to both cluster switches.
<i>MgmtSwitchPS</i>	Checks that the power supply in the management network switches is running correctly. This rule is executed on both management switches.

Rule	Description
<i>ClusterSwitchCDP</i>	This rule verifies that Cisco Discovery Protocol is running and can see all other devices in the cluster network.
<i>MgmtSwitchCDP</i>	This rule verifies that Cisco Discovery Protocol is running and can see all other devices in the management network. For each Management Switch, WireGauge checks if CDP is enabled globally as well as at the interface level.
<i>ClusterSwitchSFPModel</i>	This rule is skipped as it is redundant. SFP models are independent of port types.
<i>ClusterSwitchExpModuleModel</i>	This rule determines if the expansion module is of the correct module.

5.4 Generating a PDF report

You can generate a PDF report containing the 7-Mode results or Cluster-Mode results.

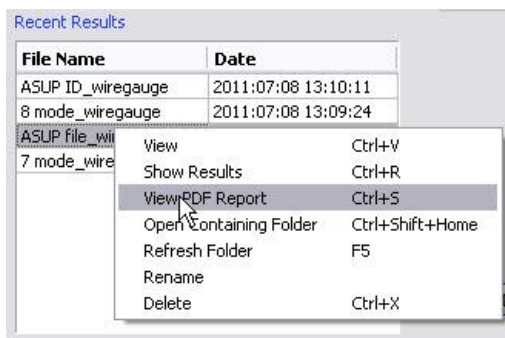


Figure 24- Generating a PDF report

To generate a PDF report, perform the following steps:

1. In the *Recent Results* pane, right-click a WireGauge file.
 2. Choose *View PDF Report*.
- A PDF file opens.

Note: PDF reports are saved in this location: `C:\Documents and Settings\<windows-login>\WireGauge\pdf-files`.

5.5 WireGauge Viewer

The *WireGauge Viewer* window shows the commands that were executed on the controllers and switches, including their output and error details.

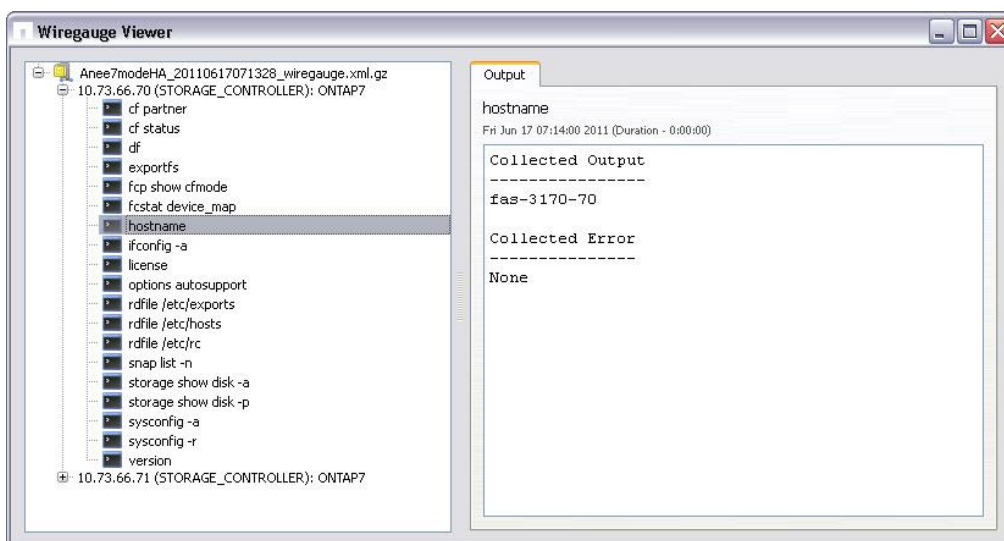


Figure 25- WireGauge Viewer window

To open the WireGauge Viewer window, perform the following steps:

1. In the *Recent Results* pane, right-click and select *View*. Alternatively, you can also use the Ctrl+V shortcut.
2. The *WireGauge Viewer* window is displayed.
The WireGauge file contents are displayed as an expandable tree with details in the *Output* tab.

6 NetApp Hola

NetApp Hola (Hola) is a call home module that captures and sends WireGauge usage metrics to NetApp. In addition, Hola notifies you of new versions of WireGauge when they become available.

6.1 Hola and FTP metrics

The following are the metrics that Hola sends back to NetApp.

- WireGauge registration to Hola
- WireGauge startup
- The latest WireGauge version, login name, company name, email address, and user type
- The method WireGauge uses to collect data from NetApp systems
Example: Manage ONTAP solution data collection being used
- Data collection has failures
- Parsing status of collected data
- Model, serial number, and pathing issues
- Metric codes and metric subcodes are sent out to identify Cluster Config Check failures and At Risk System failures
Example: 750 is an ARS issue and 1106 is 'Interface %s explicitly states a Broadcast address (%s)'

The following are the FTP metrics that are sent back to NetApp.

- Disk, shelf, and stack count
- Pathing issues found
- Storage system configuration type, model, serial number
- Data ONTAP version and mode
- Login name, company name, email address, and user type
- WireGauge version details
- Time taken for data collection and session ID

6.2 Installing NetApp Hola

NetApp Hola is installed automatically during WireGauge installation.

The WireGauge installer checks if Hola 2.0 is installed. If Hola is not installed, the WireGauge installer launches a sub-installer. For more information about installing WireGauge, see [Installing WireGauge](#).

Hola sends critical usage and quality metrics back to NetApp for product quality improvements. Hola should be disabled only if the customer has data privacy concerns about the collection of such information.

If you do not want to run Hola with WireGauge, you should run WireGauge in secure mode. For more information about installing WireGauge in secure mode, see [Running WireGauge in secure mode](#).

6.3 Launching Hola with WireGauge

To launch WireGauge, ensure that Hola is running. If Hola is not launched, WireGauge launches Hola and you are prompted to enter your login details.

Note: If you are not logged in to Hola or you have entered incorrect login credentials, after 10 attempts, WireGauge is deactivated. To activate WireGauge, you must log in to Hola and relaunch WireGauge.

However, if you are running WireGauge in secure mode, Hola is disabled.

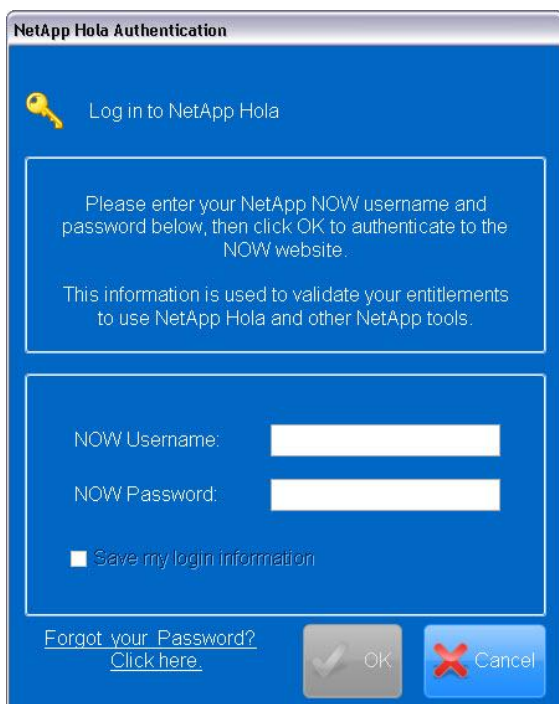


Figure 26- Logging into NetApp Hola

When you run WireGauge, various usage metrics are logged including startup, shutdown, parse errors, ARS, and CCC failures. These metrics are collected by Hola and sent to NetApp.

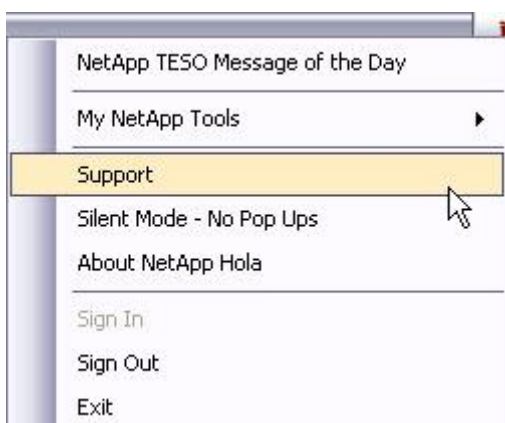


Figure 27- NetApp Hola options

Table 20- NetApp Hola

Field	Description
<i>NetApp TESO Message of the Day</i>	Displays the message of the day from NetApp TESO department. Displays new versions available for an application.
<i>My NetApp Tools</i>	Displays all the NetApp tools integrated with Hola in your system. This is covered in more detail in the following table.
<i>Support</i>	Launches the Tools Online Support Center website.
<i>Silent Mode – No Pop Ups</i>	Suppresses pop-up windows.
<i>About NetApp Hola</i>	Displays the release and copyright information.
<i>Sign in</i>	Launches the NetApp Hola Authentication window.
<i>Sign out</i>	Allows you to logout of Hola.
<i>Exit</i>	Exits and removes Hola from the system tray.

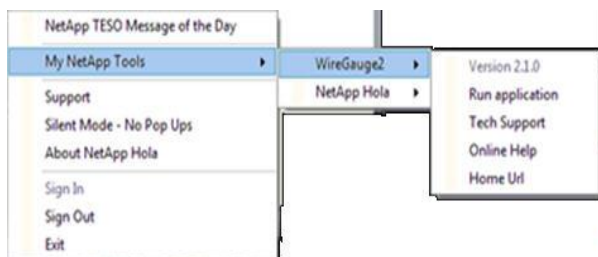


Figure 28- Running WireGauge from Hola

Table 21- NetApp Hola – Viewing tool details

Field	Description
<i>Version 2.1.0</i>	Displays the version of the application installed on your system.
<i>Run application</i>	Launches the application from Hola.
<i>Tech Support</i>	Opens the Tools Online Support Center website.
<i>Online Help</i>	Opens the WireGauge page on the NetApp Community website.
<i>Home Url</i>	Opens the WireGauge page on TechNet website.

6.4 Viewing application details in Hola

You can view an application's details from Hola, for example, WireGauge.

To view application details, perform the following steps:

1. Right-click the Hola icon in your system tray.
2. Choose *About NetApp Hola*.
The *About NetApp Hola* window is displayed.
3. Click *Application Details*.
The *Application Details* window is displayed.
4. Click each application to view its details.

Table 22- NetApp Hola – viewing application details

Field	Description
<i>Application Name</i>	Displays the name of the application.
<i>Application ID</i>	Displays the ID of the application.
<i>Application Version</i>	Displays the version of the application.
<i>Online Help URL</i>	Displays the link to the WireGauge page on the NetApp Community website.
<i>Home URL</i>	Displays the link to the WireGauge page on TechNet website.
<i>Tech Support URL</i>	Displays the link to the Tools Online Support Center website.
<i>Application Run</i>	Displays the folder in your local system from where the application is being run.

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