

# How To Monitor Websites With Nagios XI 5

## Purpose

This document describes how to monitor websites effectively with Nagios XI. There are three different wizards to help you monitor the health of websites and to be notified when unexpected changes occur on the website or processes are not working as expected.

- Website Wizard is used to monitor the steady-state aspects of a website
- Website URL wizard is very similar and allows you to monitor the status and content of a specific URL
- Web Transaction Wizard monitors transactions and other interactive activities on your website

If you are monitoring websites with Nagios XI 2024, see [Monitoring Websites 2024](#).

## Considerations

When monitoring websites, it is often recommended to check the operational status of several key metrics, including:

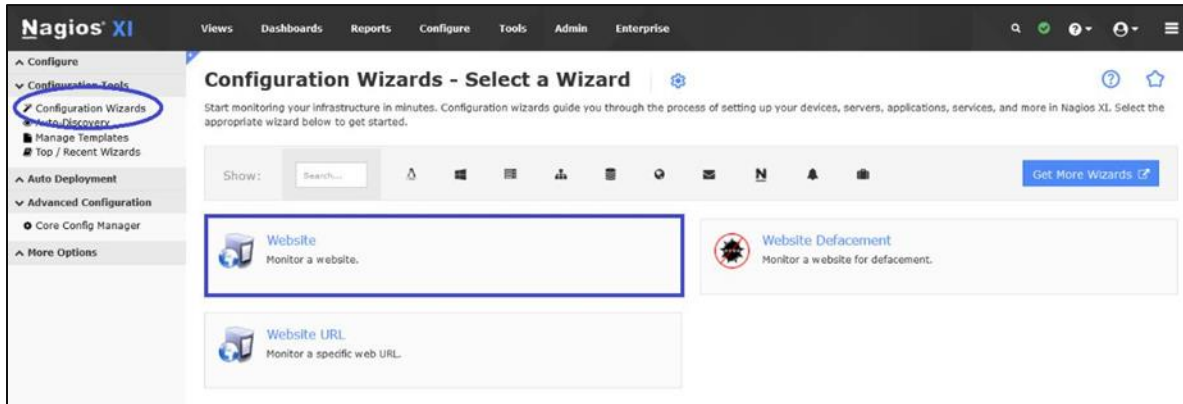
- HTTP response validity and load time
- DNS resolution and IP address match
- Website content
- SSL certificates
- Web transaction success and run time

Your monitoring needs will vary depending on the complexity of your website, its purpose, and its intended end-user.

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## Running A Wizard

To begin using one of the wizards, navigate via the top menu bar to **Configure > Run a configuration wizard** and select the required wizard from the list. In the following screenshot you can see how the search field allows you to quickly find a wizard.

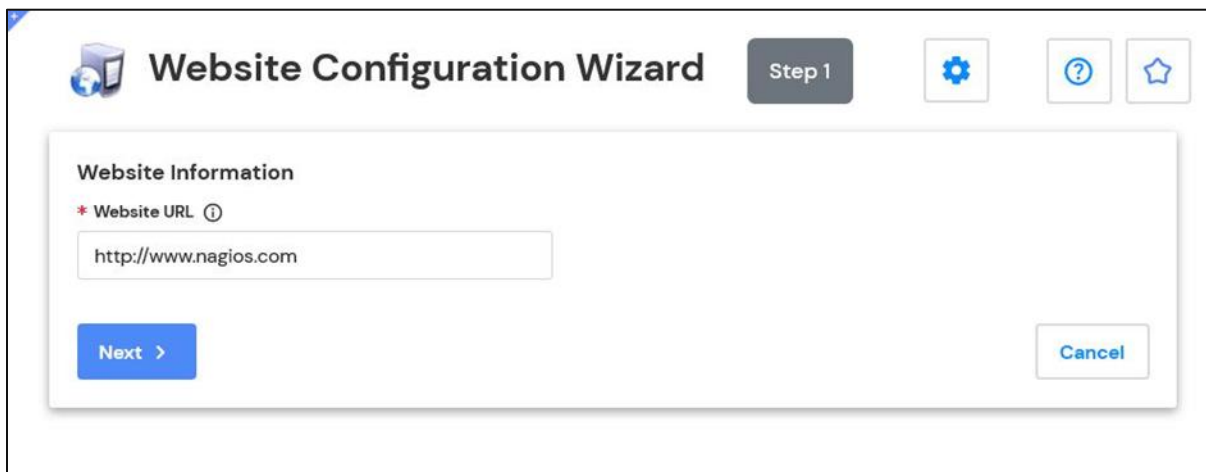


## The Website Wizard

This is the wizard you will use for most types of sites, where you are checking common server/site metrics. The best way to understand its capabilities is to see them, so a walkthrough of using this wizard follows.

Select the **Website wizard** from the list of wizards.

On **Step 1** enter the URL to your website. This can be either the front page of the domain or any sub-page. The latter will only have a purpose of checking of existence of that page and content monitoring on it.



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Click **Next** once you've entered the URL.

**Step 2** is where you define the monitoring options. Here you can define which services you want to add for this site, including whether:

- To use SSL (HTTPS) and what port to use
- What to do if a redirect response is received, in this example follow was chosen
- Credentials if required
- Test responds with a valid HTTP response
- The option of a ping check • DNS resolution check
- The DNS response matches the IP address that was resolved when you ran the wizard
- A particular string is found on the page (either a literal string 192.168.172.18 or as a regular expression (^192\.168)|(^10\.)|(^172\.1[6-9])|(^172\.2[0-9])|(^172\.3[0-1]))
- The SSL certificate's expiry date is sufficiently far away

The **Use SSL** option and **SSL Certificate** check will only be available if the URL you gave in **Step 2** begin with https.

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## Website Configuration Wizard

Step 2

### Website Details

Website URL

Host Name ⓘ

IP Address ⓘ

### Website Options

Use SSL ⓘ

Port ⓘ

\* On Redirect ⓘ

Credentials (optional) ⓘ

### Website Services

Specify which services you would like to monitor for the website.

HTTP ⓘ

Ping ⓘ

DNS Resolution ⓘ

DNS IP Match ⓘ

Web Page Content ⓘ






Web Page Regular Expression ⓘ

< Back   Next >   Cancel

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Once you've finished making your selections click **Next** and then complete the wizard by choosing the required options in **Step 3 – Step 5**.

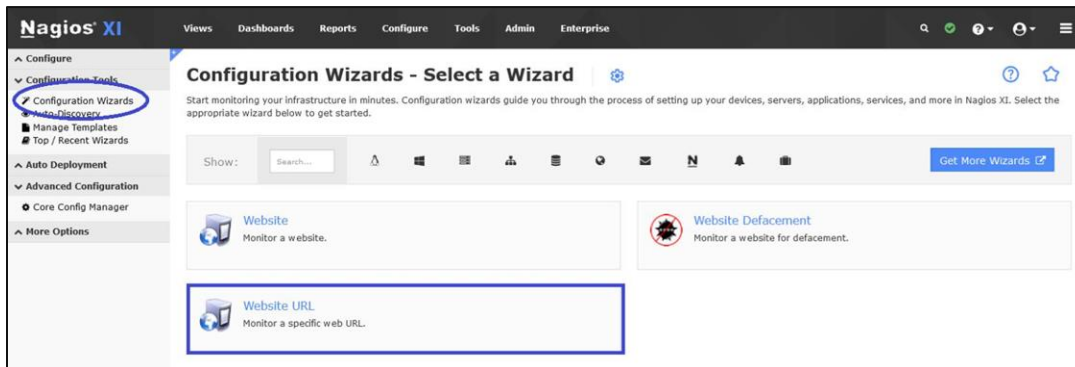
To finish up, click on **Finish** in the final step of the wizard. This will create new hosts and services and begin monitoring. Once the wizard applies the configuration, click the **View status details for your website** link to see the new host and services that were created.

Host	Service	Status	Duration	Attempt	Last Check	Status Information
www.nagios.com 	DNS IP Match 	Ok	1h 5m 51s	1/5	2024-11-29 03:11:06	DNS OK: 0.259 seconds response time. www.nagios.com returns 198.58.120.98
	DNS Resolution 	Ok	1h 5m 20s	1/5	2024-11-29 03:11:42	DNS OK: 0.076 seconds response time. www.nagios.com returns 198.58.120.98
	HTTP 	Ok	1h 4m 56s	1/5	2024-11-29 03:07:00	HTTP OK: HTTP/1.1 301 Moved Permanently - 475 bytes in 0.073 second response time
	Ping 	Ok	1h 4m 28s	1/5	2024-11-29 03:07:37	OK - www.nagios.com: rta 45.058ms lost 0%

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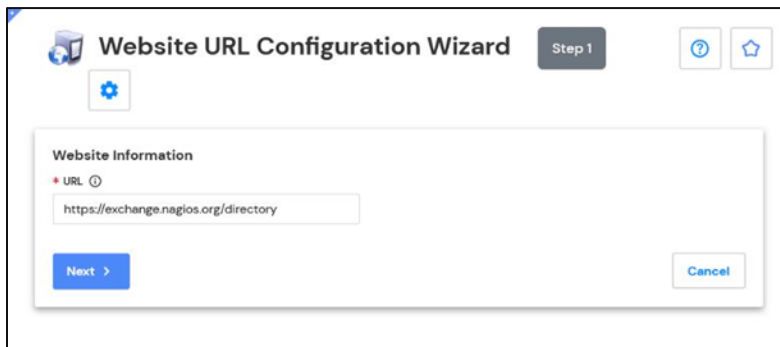
## The Website URL Wizard

The **Website URL** wizard is very similar to the **Website** wizard. Select the **Website URL** wizard from the list of wizards.



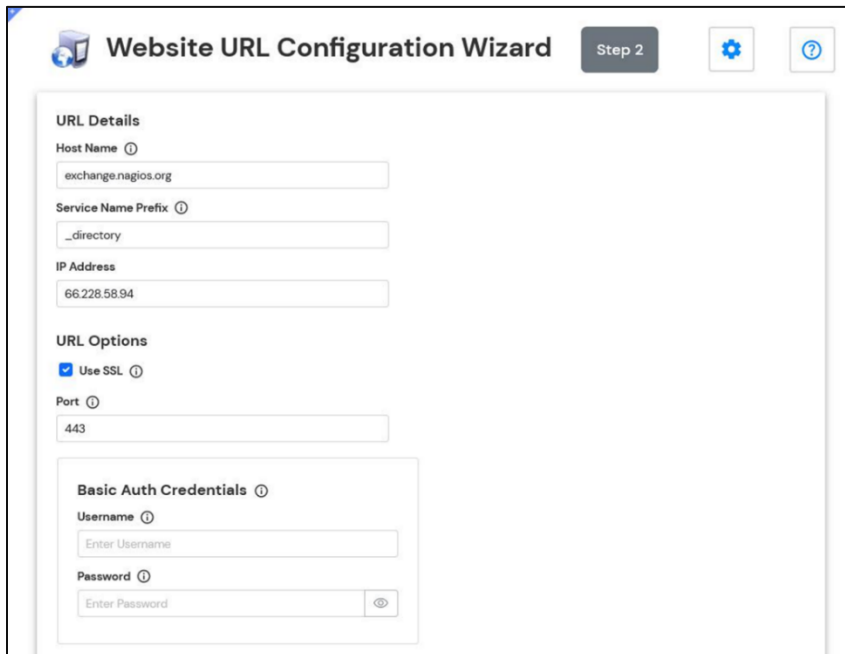
On **Step 1** enter the URL to your website.

Click **Next** once you've entered the URL.



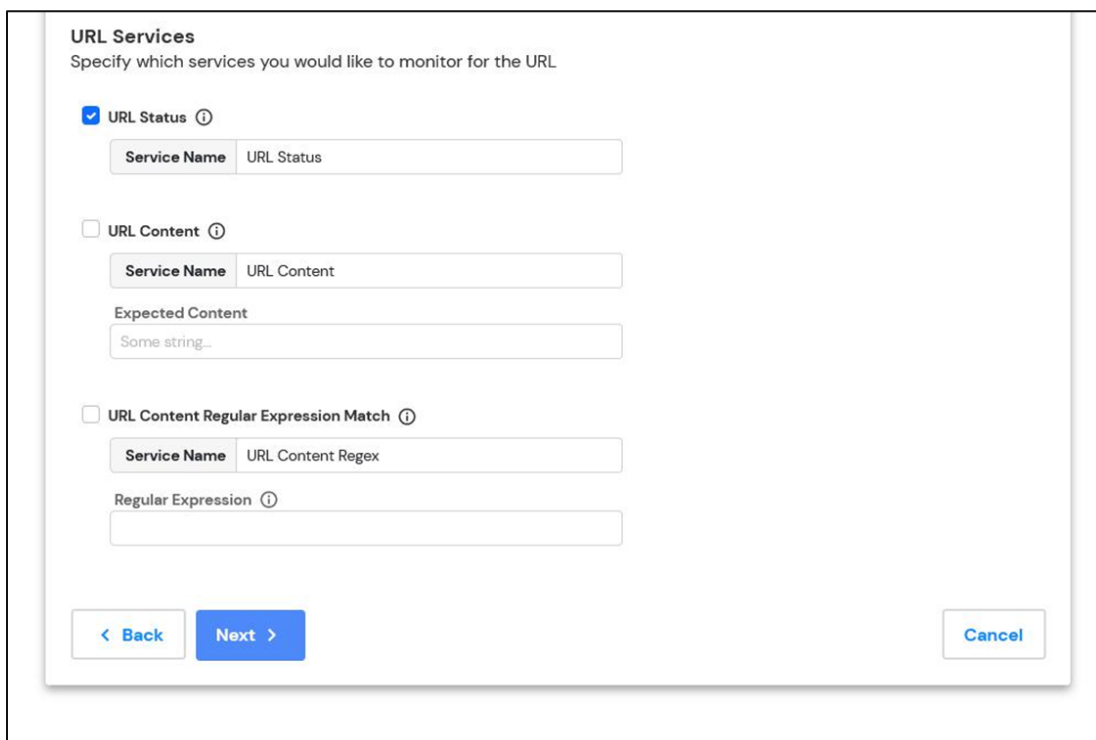
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**Step 2** is where you define the monitoring options. Here you can define which services you want to add for this site:



The screenshot shows the 'Website URL Configuration Wizard' at 'Step 2'. The 'URL Details' section contains the following fields:

- Host Name:** exchange.nagios.org
- Service Name Prefix:** \_directory
- IP Address:** 66.228.58.94
- URL Options:**  Use SSL
- Port:** 443
- Basic Auth Credentials:**
  - Username:** Enter Username
  - Password:** Enter Password (with a toggle to show/hide)



The screenshot shows the 'URL Services' section of the wizard. It asks to 'Specify which services you would like to monitor for the URL'. The following options are available:

- URL Status:** Service Name: URL Status
- URL Content:** Service Name: URL Content, Expected Content: Some string\_
- URL Content Regular Expression Match:** Service Name: URL Content Regex, Regular Expression: (empty field)

Navigation buttons at the bottom: < Back, Next >, and Cancel.

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Showing 1-3 of 3 total matches for 'URL' ✖

Host	Service	Status	Duration	Attempt	Last Check	Status Information
exchange.nagios.org	_directory URL Content	Ok	51m 23s	1/5	2024-11-29 03:11:25	HTTP OK: HTTP/1.1 200 OK - 113724 bytes in 1.089 second response time
	_directory URL Content Regex	Ok	50m 53s	1/5	2024-11-29 03:11:55	HTTP OK: HTTP/1.1 200 OK - 113724 bytes in 1.041 second response time
	_directory URL Status	Ok	50m 25s	1/5	2024-11-29 03:12:22	HTTP OK: HTTP/1.1 200 OK - 113724 bytes in 1.079 second response time

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- Service Name Prefix
- To use SSL (HTTPS) and what port to use
- Credentials if required
- A URL Status service
- A particular string is found in the content of the page
- A particular string is found in the content of the page using a regular expression

Once you've finished making your selections click **Next** and then complete the wizard by choosing the required options in **Step 3 – Step 5**.

To finish up, click on **Finish** in the final step of the wizard. This will create new hosts and services and begin monitoring. Once the wizard applies the configuration, click the **View status details** for your website link to see the new host and services that were created.

## The Web Transaction Wizard

A more complex use case of website monitoring would be if you expect the content to be dynamic with user input and actions and want to test that those actions complete as expected. For instance, you might test that a search box works (and what results are returned), whether the purchase and checkout process of your web store is behaving properly, or that a user can log in successfully. The **Web Transaction** wizard can be used for these types of checks. Additionally, it allows for checking all three of those in succession, and other multistep procedures where each stage may be dependent on the previous one.

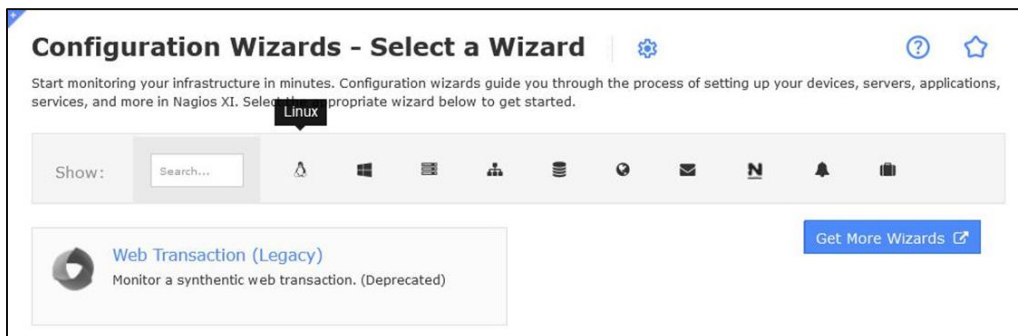
This wizard relies on a tool called **WebInject**, which handles the transition logic between stages of the transaction. Therefore, you will need to understand how to write the configuration XML in the WebInject syntax to configure these kinds of checks. Some examples are given below. See the [WebInject manual](#) for more information.



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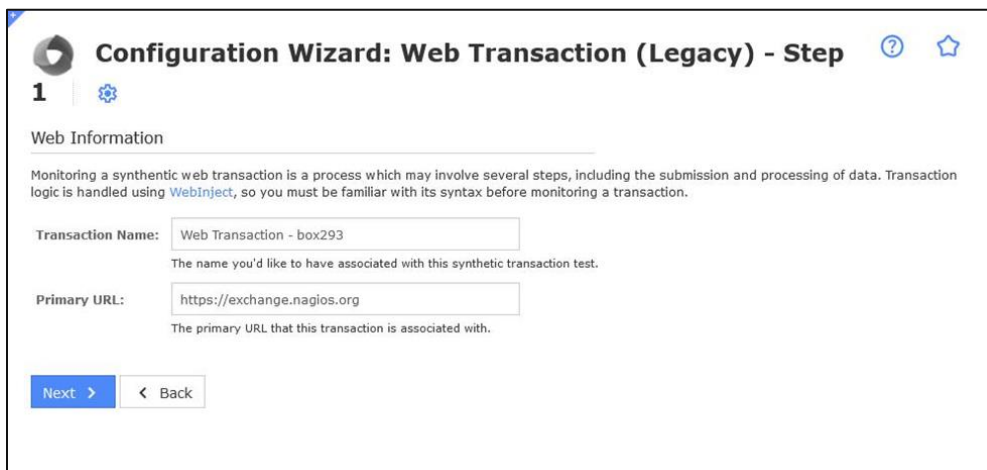
Note that certain special characters need to be escaped. For instance, the < should be replaced with \x3C so as not to interfere with the XML. Within POST data URL escapes are used, so for instance @ becomes %40.

Providing an example of such a process can get complicated somewhat quickly. Here is a simple example of searching the Nagios Exchange for "box293". The search results will come back with the word "box293" in the result to look for this. If for some reason "box293" was not present on the web page the service would go into a critical state.



Select the **Website Transaction** wizard from the list of wizards.

On **Step 1** enter the **Transaction Name** you want to assign to this WebInject test. You will also need to provide the **Primary URL** for this website. Click **Next**.



On **Step 2** you will need to make sure the **Host Name** and **IP Address** fields are correctly populated. You will then need to provide the **Test Case Data** that will be used for this transaction. The text field will already be populated with the first **case** of **id 1**.

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In the screenshot below you can see an additional case of **id 2** has been added.

**Configuration Wizard: Web Transaction (Legacy) - Step 2**

**Transaction Host Details**

Primary URL:   
The primary URL that this transaction is associated with.

Host Name:   
The name you'd like to have associated with the primary URL.

IP Address:   
The IP address associated with the primary URL's fully qualified domain name (FQDN).

**Transaction Details**

Specify the details of how the transaction should be monitored.

Transaction Name:   
The name you'd like to have associated with this synthetic transaction test.

Test Case Data: Transaction test case data must be formatted according to [WebInject standards](#).  
[Read the WebInject test case documentation](#) for more information on creating test case data.

```
<testcases repeat="1">
  <case
    id="1"
    url="https://exchange.nagios.org"
  />
  <case
    id="2"
    method="post"
    url="https://exchange.nagios.org/index.php"
    postbody="option=com_mtree&task=search&searchword=box293"
    verifypositive="box293"
  />
</testcases>
```

Timeout:  seconds  
The response timeout for each test case.

Global Timeout:  seconds  
A global timeout for running all tests. A warning message will be returned if total execution time exceeds this value.

The full text is included on the following page.

The magic being performed here is: url = This is the URL that is being used for this test case.

- **postbody** = These are the fields / commands that are posted to the url. This varies depending on your actual website. In this example it is searching for the word `box293`.
- **verifypositive** = This is what needs to exist in the data returned, in this example the word `box293` must exist for this case to be completed successfully.

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You can also specify the timeout periods that apply.

Once you've finished making your selections click **Next** and then complete the wizard by choosing the required options in **Step 3 – Step 5**. To finish up, click on **Finish** in the final step of the wizard. This will create new hosts and services and begin monitoring.

Once the wizard applies the configuration, click the **View status details** for the **Nagios Exchange** link to see the new host and services that were created.

Host	Service	Status	Duration	Attempt	Last Check	Status Information
exchange.nagios.org	Web Transaction box293	Ok	44m 55s	1/5	2024-11-29 03:20:59	WebInject OK - All tests passed successfully in 2.057 seconds

Here is the test case data shown on **step 2** of the wizard.

```
<testcases repeat="1">
<case
id="1"
url="https://exchange.nagios.org/"
/>
<case
id="2"
method="post"
url="https://exchange.nagios.org/index.php"
postbody="option=com_mtree&task=search&searchword=box293"
verifypositive="box293"
/>
</testcases>
```

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## Troubleshooting WebInject Transactions

If for some reason the transaction did not work correctly, you will need to go and adjust the test case data in the configuration file that was created by the wizard. You may also want to run the transaction at the command line to see exactly what is happening. All transaction configuration files are in the following directory on the Nagios XI server:

```
/usr/local/nagiosxi/etc/components/webinject/
```

In the wizard that was just run, two files were created:

```
exchange_nagios_org__Nagios_Exchange_Search___box293_config.xml  
exchange_nagios_org__Nagios_Exchange_Search___box293_testdata.xml
```

The file that ends in `_testdata.xml` is what contains the test case data, it's exactly as you pasted it into the configuration wizard. The file that ends in `_config.xml` is what tells WebInject how to run the test data.

To demonstrate that the test case data is working, change the `postbody = line` to search for the word "box294", which should return a critical result as there is nothing on the Nagios Exchange contaminating the word "box294".

Once this change is made, run the test from the command line using the following commands:

```
cd /usr/local/nagiosxi/etc/components/webinject/ ./webinject.pl -c  
exchange_nagios_org__Nagios_Exchange_Search___box293_config.xml
```

You should receive the following output:

```
WebInject CRITICAL - Test case number 2 failed |time=10.126;30;;0
```

If you wanted more verbose output, you need to edit the `_config.xml` file and change the `reporttype` to standard:

```
<reporttype>standard</reporttype>
```

Now when you run the command above the output will be something like:

```
Starting WebInject Engine...
```

```
-----
```

```
Test: exchange_nagios_org__Nagios_Exchange_Search___box293_testdata.xml - 1  
Passed HTTP Response Code Verification (not in error range)
```

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TEST CASE PASSED

Response Time = 3.482 sec

-----  
Test: exchange\_nagios\_org\_\_Nagios\_Exchange\_Search\_\_\_box293\_testdata.xml - 2

Verify : "box293"

Failed Positive Verification

Passed HTTP Response Code Verification (not in error range)

TEST CASE FAILED

Response Time = 3.337 sec

-----  
Start Time: Thu Dec 8 17:09:14 2016

Total Run Time: 6.862 seconds

Test Cases Run: 2

Test Cases Passed: 1

Test Cases Failed: 1

Verifications Passed: 2

Verifications Failed: 1

When you've finished troubleshooting don't forget to change the reporttype back to nagios:

```
<reporttype>nagios</reporttype>
```

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## Example: Using An Online Store

This example provides a more comprehensive demonstration of how WebInject could be used online store and put an item in a shopping cart via the O'Reilly Media's web site. It's worth noting that this example was created some time in the past and may not actually work now because the website may have been updated by now, however the concept is still the same and worth retaining in the documentation.

- **Step 1** confirms that the login page loads
- **Step 2** provides your authentication credentials and then checks that they were accepted, and follows the redirect to the members page in **Step 3**
- **Step 4** checks the price on "Nagios, Second Edition (by Wolfgang Barth)"
- **Step 5** adds it to your shopping cart
- **Step 6** confirming it remains in your cart properly after that and appears to be in stock
- Finally, the **last two steps** log you out and check that the home page loads

By carefully crafting the different steps and plenty of sufficiently specific `verifypositive` and `verifynegative` parameters, a great deal of information can be confirmed through this single Nagios service.

```
<testcases repeat="1">
<testvar varname="USER">1rc94d+86yw3m9jrj18@sharklasers.com</testvar>
<testvar varname="PASS">holden123</testvar>
<case
id="1"
description1="Login page"
url="https://members.oreilly.com/account/login"
parseresponse='_authentication_token' type="hidden" value="|" |escape'
verifypositive="Sign in"
/>
<case
id="2"
description1="Sign in"
url="https://members.oreilly.com/account/login"
method="post"
postbody="email=${USER}&password=${PASS}&_authentication_token={PARSEDRESULT}"
verifypositive="https://members.oreilly.com/account/benefits"
parseresponse="found at |;"
```

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```
</>
<case
id="3"
description1="Members page"
url="{PARSEDRESULT}"
verifypositive="view or edit your account information"
/>
<case
id="4"
description1="Book price"
url="http://oreilly.com/catalog/9781593271794/"
verifypositive="59.95"
/>
<case
id="5"
description1="Book added to cart"
url="https://epoch.oreilly.com/shop/cart.orm?prod=9781593271794.BOOK"
verifypositive="Nagios, 2Ed"
/>
<case
id="6"
description1="Book still in cart"
url="https://epoch.oreilly.com/shop/cart.orm"
verifypositive="Nagios, 2Ed"
verifynegative="Backorder"
/>
<case
id="7"
description1="Logout"
url="https://members.oreilly.com/account/logout"
verifypositive="http://oreilly.com/"
parseresponse="found at |;"
/>
<case
id="8"
description1="Main page"
url="{PARSEDRESULT}"
verifypositive="News & Commentary"
```

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```
 />  
</testcases>
```

## Finishing Up

This completes the documentation on how to monitor websites effectively with Nagios XI. If you have additional questions or other support-related questions, please visit us at our Nagios Support Forum, Nagios Knowledge Base, or Nagios Library:

[Visit Nagios Support Forum](#)

[Visit Nagios Knowledge Base](#)

[Visit Nagios Library](#)