

How To Monitor Websites With Nagios XI

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

Target Audience

This document is intended for use by both Nagios Administrators and end-users.

Considerations

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

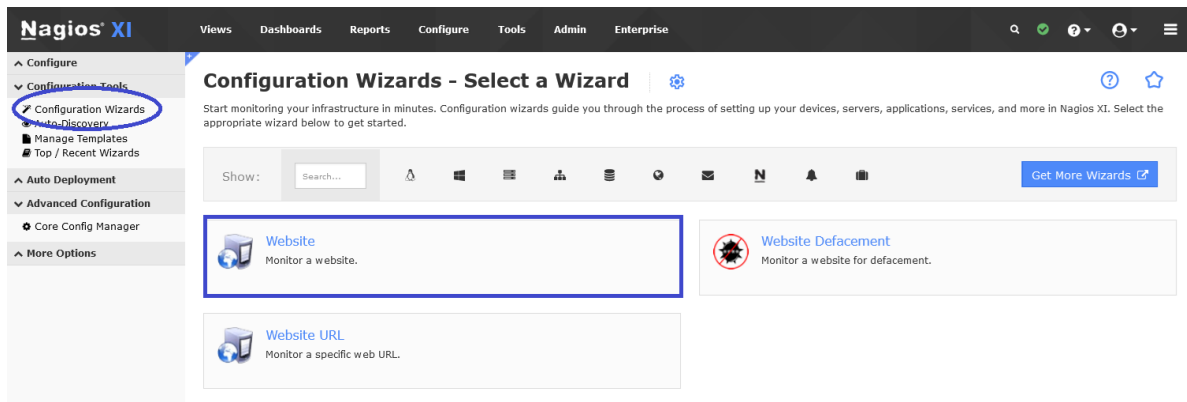
- HTTP response validity and load time
- DNS resolution and IP address match
- Website content
- SSL certificates
- Web transaction success and run time

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

How To Monitor Websites With Nagios XI

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.



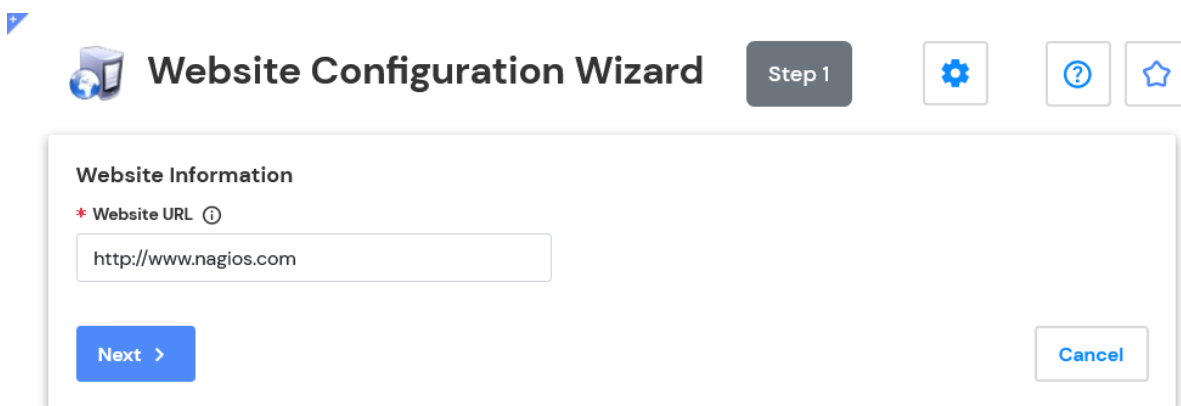
The Website Wizard

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 walk through 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 your 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.

How To Monitor Websites With Nagios XI



Website Configuration Wizard Step 1

Website Information

* Website URL ⓘ

http://www.nagios.com

Next > Cancel

Click Next once you've entered a 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 is 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 began with https.

How To Monitor Websites With Nagios XI



Website Configuration Wizard

Step 2



Website Details

Website URL

http://www.nagios.com

Host Name ⓘ

www.nagios.com

IP Address ⓘ

198.58.120.98

Website Options

Use SSL ⓘ

Port ⓘ

80

* On Redirect ⓘ

ok

Credentials (optional) ⓘ

Username

Password

How To Monitor Websites With Nagios XI

Website Services

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

- HTTP ⓘ
- Ping ⓘ
- DNS Resolution ⓘ
- DNS IP Match ⓘ
- Web Page Content ⓘ
Content
- Web Page Regular Expression ⓘ
Reg Ex

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 the 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.

Showing 1-4 of 4 total records

Page 1 of 1 15 Per Page Go Search...

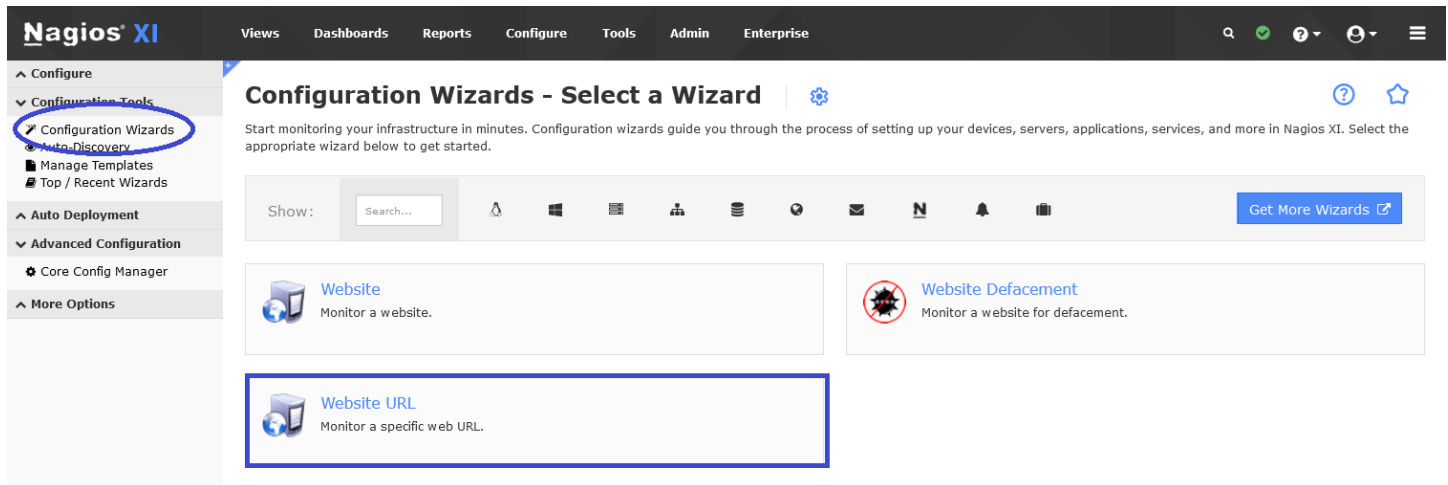
Host	Service	Status	Duration	Attempt	Last Check	Status Information
www.nagios.com	DNS IP Match	Ok	1h 5m 51s	1/5	2024-11-29 03:11:06	DNS OK: 0.259 seconds response time. www.nagios.com returns 198.58.120.98
	DNS Resolution	Ok	1h 5m 20s	1/5	2024-11-29 03:11:42	DNS OK: 0.076 seconds response time. www.nagios.com 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%

Page 1 of 1 15 Per Page Go

How To Monitor Websites With Nagios XI

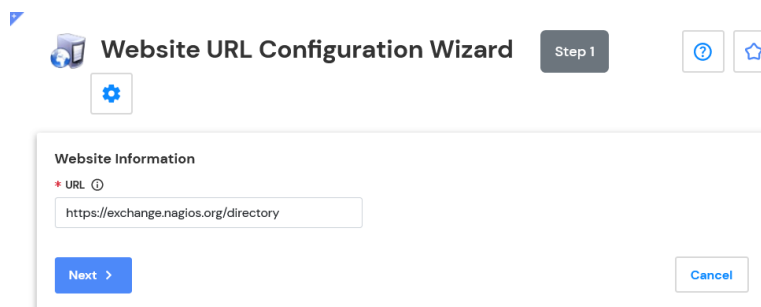
The Website URL Wizard

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 a URL.



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

How To Monitor Websites With Nagios XI



Website URL Configuration Wizard

Step 2



URL Details

Host Name ⓘ

Service Name Prefix ⓘ

IP Address

URL Options

Use SSL ⓘ

Port ⓘ

Basic Auth Credentials ⓘ

Username ⓘ

Password ⓘ



How To Monitor Websites With Nagios XI

URL Services

Specify which services you would like to monitor for the URL

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 ⓘ

< Back Next > Cancel

- 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 the new hosts and services and begin monitoring. Once the wizard applies the configuration, click the View status details for your

How To Monitor Websites With Nagios XI

website link to see the new host and services that were created.

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

Page 1 of 1 15 Per Page Go

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

Page 1 of 1 15 Per Page Go

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.

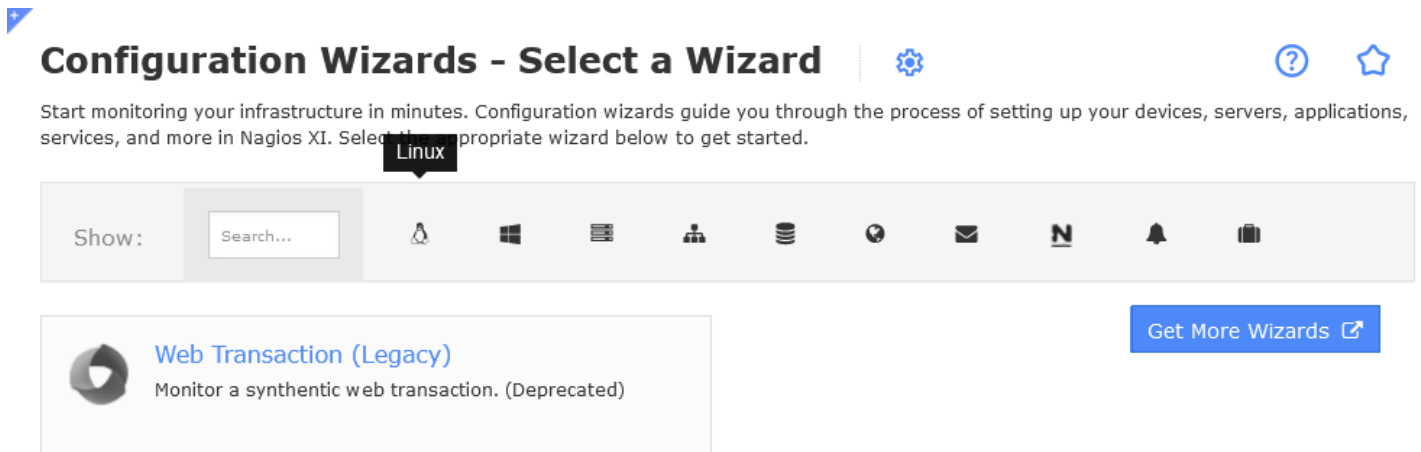
This wizard relies on a tool called WebInject, which handles the transition logic between stages of the transaction. Therefore you will need to understand how to write the configuration XML in the WebInject syntax to configure these kinds of checks. Some examples are given below. See the [WebInject manual](#)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




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 pretty complicated somewhat quickly. Here is a simple example where we will search the Nagios Exchange for "box293". I know that the search











How To Monitor Websites With Nagios XI


results will come back with the word "box293" in the result so I am going to look for this. If for some reason "box293" was not present on the web page the service will go into a critical state.




Configuration Wizards - Select a Wizard |   

Start monitoring your infrastructure in minutes. Configuration wizards guide you through the process of setting up your devices, servers, applications, services, and more in Nagios XI. Select the appropriate wizard below to get started.

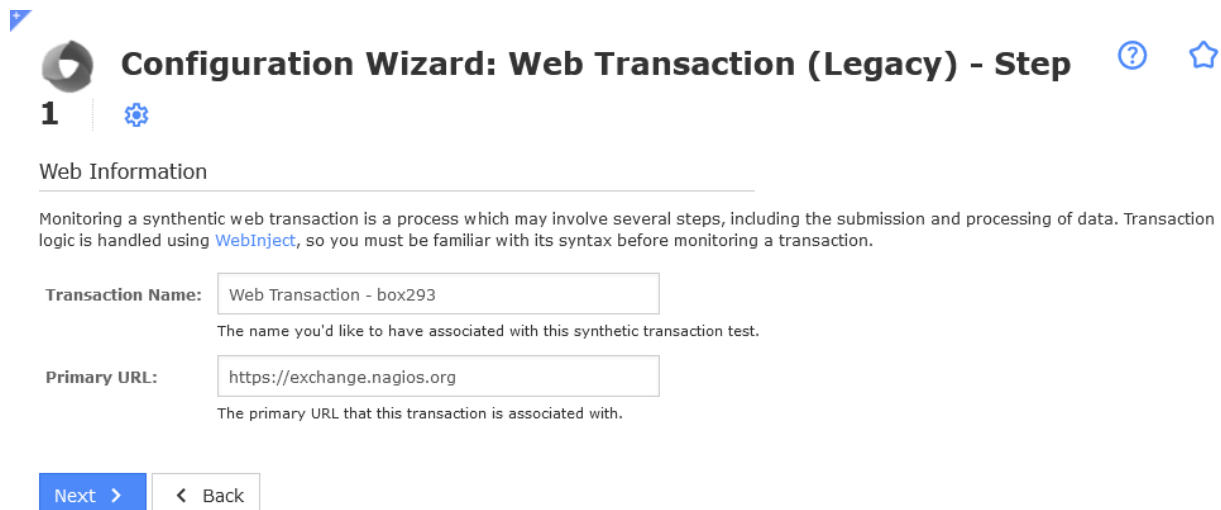
Show:          




 **Web Transaction (Legacy)**
Monitor a synthetic web transaction. (Deprecated)


[Get More Wizards](#) 

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.



 **Configuration Wizard: Web Transaction (Legacy) - Step 1**  

1 

Web Information

Monitoring a synthetic web transaction is a process which may involve several steps, including the submission and processing of data. Transaction logic is handled using [WebInject](#), so you must be familiar with its syntax before monitoring a transaction.

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

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

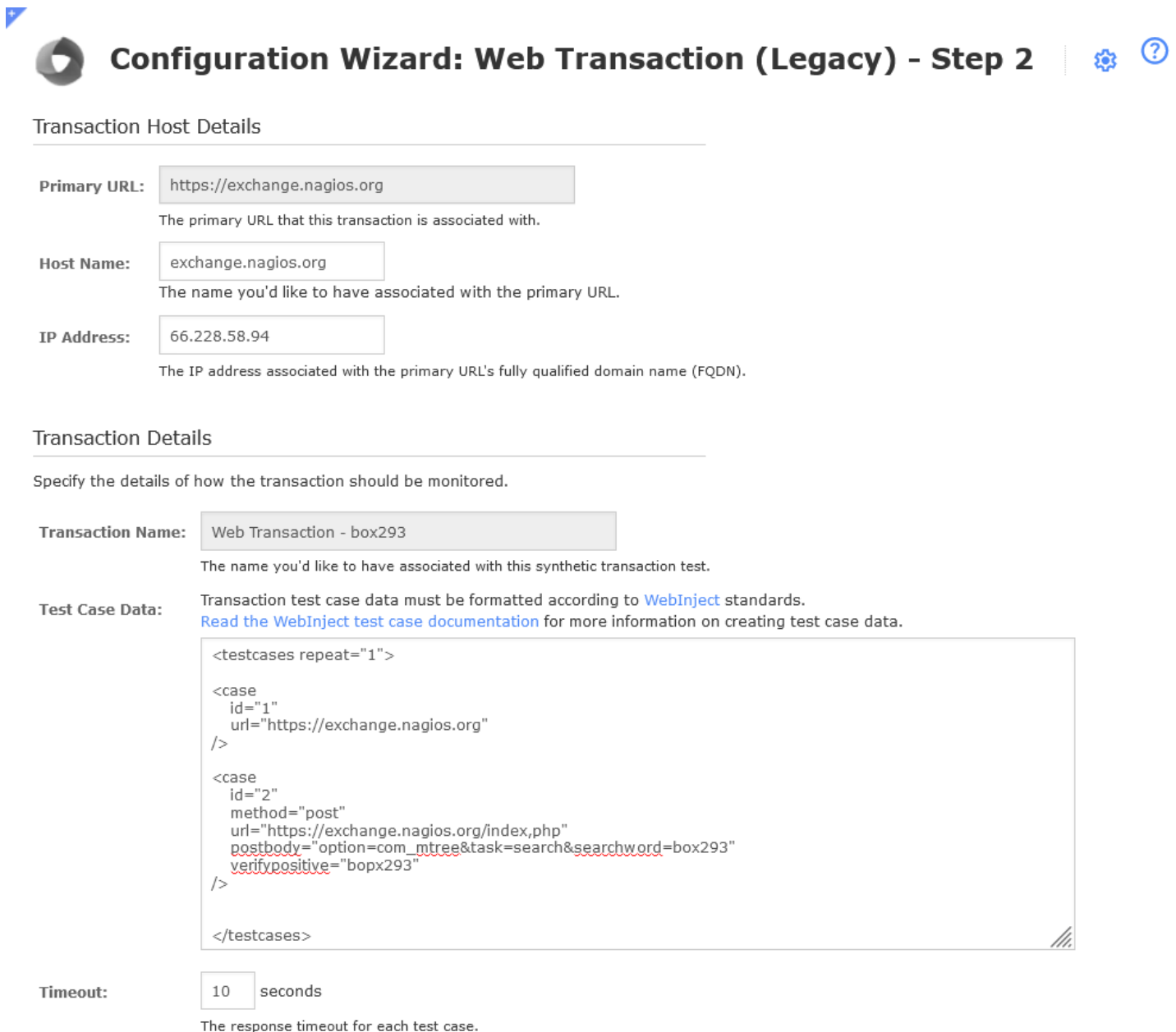
[Next >](#) [< Back](#)

On **Step 2** you will need to make sure the Host Name and IP Address fields are correctly populated.

How To Monitor Websites With Nagios XI

You will then need to provide the Test Case Data that will be used for this transaction. The text field will be already be populated with the first **case** of **id 1**.

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="bopx293"
  />
</testcases>
```

Timeout: seconds
The response timeout for each test case.

How To Monitor Websites With Nagios XI

Global Timeout: seconds

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

[< Back](#)

[Next >](#)

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.

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 the 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.

Showing 1-1 of 1 total matches for 'box' ✖

Page of 1 15 Per Page Go 🔍

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

Page of 1 15 Per Page Go

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

```
<testcases repeat="1">
```

```
<case
```

How To Monitor Websites With Nagios XI

```
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>
```

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 located 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.

How To Monitor Websites With Nagios XI

To demonstrate that the test case data is actually working, I will 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 I've made the change I'll 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)
```

```
TEST CASE PASSED
```

```
Response Time = 3.482 sec
```

```
-----
```

```
Test: exchange_nagios_org__Nagios_Exchange_Search__box293_testdata.xml - 2
```

How To Monitor Websites With Nagios XI

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>

Example: Using An Online Store

This example provides an more comprehensive demonstration of how WebInject could use on 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 due to the fact that the website may have been updated by now, however the concept is still the same and worth retaining in the documentation.

How To Monitor Websites With Nagios XI

- 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+86yw3m9jrqi18@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"
```


How To Monitor Websites With Nagios XI

```
method="post"
postbody="email=${USER}&password=${PASS}&_authentication_token={PARSEDRESULT}"
verifypositive="https://members.oreilly.com/account/benefits"

parseresponse="found at |;"
/>

<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"
```

How To Monitor Websites With Nagios XI

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

Finishing Up

This completes the documentation on the different ways to monitor websites with Nagios XI.

If you have additional questions or other support related questions, please visit us at our Nagios Support Forums or Knowledgebase:

[Visit Nagios Support Forum](#)

[Visit Nagios Knowledgebase](#)

www.nagios.com

Nagios[®]

Copyright © 2024 Nagios Enterprises, LLC. All rights reserved. Trademarks are the property of their respective owner.