Lab 2: View NGINX Processes

Estimated time for completion: **10 minutes**

Requirements

The following tasks must be completed before beginning this lab:

- Getting Started with NGINX, (the Getting Started Guide in LearnF5)
- Log into Hosted Environment, your lab initialization instructions are located in the LearnF5 course

Scenario

In this exercise, you will inspect the main NGINX configuration file, and use the various NGINX command line options to view running NGINX processes.

Objectives

At the end of this lab you will be able to:

- Determine the NGINX processes running
- Determine the process ID location
- Use basic NGINX commands

IMPORTANT
You can copy and paste the commands and text from the examples to your terminal or editor, (just make sure you don't copy and paste the $ prompt!)

Exercise 1: Viewing Configuration.

1. You should already be logged into your lab system.

2. Determine the NGINX version by using the following command:

   `$ nginx -v`

   You should have two version numbers displayed, the Open Source version is shown after the text **`nginx version:`** and the NGINX Plus version is shown (in parentheses).

```
nginx version: nginx/1.21.3 (nginx-plus-r25)
```

3. Determine what NGINX processes are running with the following command:

   `$ ps aux | grep nginx`

   There should be a main (master) NGINX process and at least one worker process displayed, with their corresponding Process ID's (highlight added below).

```
root      1078  0.0  0.0  33752   912 ?        Ss   16:58   0:00
nginx: master process /usr/sbin/nginx -c /etc/nginx/nginx.conf
nginx     1082  0.0  0.4  38516  4116 ?        S    16:58   0:00
nginx: worker process
```

4. Verify the process ID matches the **`ps`** command output using the following command:

   `$ cat /var/run/nginx.pid`

```
1078
```

   The output indicates that the correct process ID is referenced in the **`nginx.pid`** file.

5. Change directories to the primary configuration file directory:

   `$ cd /etc/nginx`

6. Now look at the NGINX Process ID information again:

   `$ ls -lF`

```
total 40
drwxr-xr-x 2 root root 4096 Sep 29 21:24 conf.d/
-rw-r--r-- 1 root root 1007 Nov 27 2018 fastcgi_params
-rw-r--r-- 1 root root 2837 Nov 27  2018 koi-utf
-rw-r--r-- 1 root root 2223 Nov 27  2018 koi-win
-rw-r--r-- 1 root root 5290 Sep  5 23:00 mime.types
lrwxrwxrwx 1 root root   22 Dec  7  2018 modules ->
/usr/lib/nginx/modules/
-rw-r--r-- 1 root root 1029 Dec  7  2018 nginx.conf
-rw-r--r-- 1 root root  636 Nov 27  2018 scgi_params
-rw-r--r-- 1 root root  664 Nov 27  2018 uwsgi_params
-rw-r--r-- 1 root root 3610 Nov 27  2018 win-utf
```

   You should see the **`nginx.conf`** file and the **`conf.d`** directory.

NOTE
In Linux, a **`/`** after an item indicates it's a directory, this is caused by the inclusion of a lower case **`l`** in the command.

7. Next, we'll check to make sure the configuration file **`nginx.conf`** has correct syntax:

   `$ sudo nginx -t`

   You'll receive a message that the syntax is **`ok`**.

```
nginx: the configuration file /etc/nginx/nginx.conf syntax is ok
nginx: configuration file /etc/nginx/nginx.conf test is successful
```

NOTE
You are required to use the **sudo** command to execute most of the **nginx** commands, as you do not have the necessary permissions as a regular user.

8. To display the entirety of the current NGINX configuration, use the following command:

   $ sudo nginx -T | less

NOTE
The below output is truncated for readability. You can be in any directory when using the **nginx** command.

```
nginx: the configuration file /etc/nginx/nginx.conf syntax is ok
nginx: configuration file /etc/nginx/nginx.conf test is successful
# configuration file /etc/nginx/nginx.conf:

user nginx;
worker_processes auto;
…
```

   This command and option checks the syntax and then concatenates all the NGINX configuration files and displays them in the terminal. Scroll up and down and use the **Home** and **End** keys to see the top and bottom of the file.

   To quit the **less** command, press the **q** character.

9. Now view the main **nginx.conf** file:

   $ cat nginx.conf | grep -w -A5 'events \|http \|stream'

```
events {
   worker_connections  1024;
}

http {
    include       /etc/nginx/mime.types;
    default_type  application/octet-stream;

     log_format  main  '$remote_addr - $remote_user [$time_local]
"$request" '
                       '$status $body_bytes_sent "$http_referer" '
```

This output helps show the NGINX contexts and hierarchical structure.

Expected Results

In these exercises, you were able to determine what NGINX processes are running on Linux and view the primary NGINX configuration file.