



Curriculum

**SE Foundations** ^

Average: 137.49% v

You have a captain's log due before 2024-04-21 (in 1 day)! Log it now!  
(/captain\_logs/5596018/edit)

# 0x1B. Web stack debugging #4

DevOps

SysAdmin

Scripting

Debugging

⚙ Weight: 1

📅 Project over - took place from Mar 11, 2024 6:00 AM to Mar 15, 2024 6:00 AM

☒ An auto review will be launched at the deadline

## In a nutshell...

- **Auto QA review:** 7.0/7 mandatory & 5.0/5 optional
- **Altogether: 200.0%**
  - Mandatory: 100.0%
  - Optional: 100.0%
  - Calculation:  $100.0\% + (100.0\% * 100.0\%) == 200.0\%$





## Requirements

### General

- All your files will be interpreted on Ubuntu 14.04 LTS
- All your files should end with a new line
- A `README.md` file at the root of the folder of the project is mandatory
- Your Puppet manifests must pass `puppet-lint` version 2.1.1 without any errors
- Your Puppet manifests must run without error
- Your Puppet manifests first line must be a comment explaining what the Puppet manifest is about
- Your Puppet manifests files must end with the extension `.pp`
- Files will be checked with Puppet v3.4

### Install puppet-lint

```
$ apt-get install -y ruby  
$ gem install puppet-lint -v 2.1.1
```



# Tasks

## 0. Sky is the limit, let's bring that limit higher

mandatory

Score: 100.0% (*Checks completed: 100.0%*)

In this web stack debugging task, we are testing how well our web server setup featuring Nginx is doing under pressure and it turns out it's not doing well: we are getting a huge amount of failed requests.

For the benchmarking, we are using ApacheBench which is a quite popular tool in the industry. It allows you to simulate HTTP requests to a web server. In this case, I will make 2000 requests to my server with 100 requests at a time. We can see that 943 requests failed, let's fix our stack so that we get to 0, and remember that when something is going wrong, logs are your best friends!



```
root@0a62aa706eb3:/# ab -c 100 -n 2000 localhost/
This is ApacheBench, Version 2.3 <$Revision: 1528965 $>
Copyright 1996 Adam Twiss, Zeus Technology Ltd, http://www.zeustech.net/
Licensed to The Apache Software Foundation, http://www.apache.org/
```

Benchmarking localhost (be patient)

```
Completed 200 requests
Completed 400 requests
Completed 600 requests
Completed 800 requests
Completed 1000 requests
Completed 1200 requests
Completed 1400 requests
Completed 1600 requests
Completed 1800 requests
Completed 2000 requests
Finished 2000 requests
```

```
Server Software:      nginx/1.4.6
Server Hostname:      localhost
Server Port:          80
```

```
Document Path:        /
Document Length:      201 bytes
```

```
Concurrency Level:    100
Time taken for tests:  0.353 seconds
Complete requests:    2000
Failed requests:      943
    (Connect: 0, Receive: 0, Length: 943, Exceptions: 0)
Non-2xx responses:    1057
Total transferred:    1196526 bytes
HTML transferred:     789573 bytes
Requests per second:  5664.01 [#/sec] (mean)
Time per request:     17.655 [ms] (mean)
Time per request:     0.177 [ms] (mean, across all concurrent requests)
Transfer rate:        3309.15 [Kbytes/sec] received
```

#### Connection Times (ms)

	min	mean[+/-sd]	median	max
Connect:	0	0 1.1	0	8
Processing:	2	17 3.8	17	24
Waiting:	2	17 3.8	17	24
Total:	9	17 3.3	17	24

#### Percentage of the requests served within a certain time (ms)

50%	17
66%	19
75%	20
80%	20
90%	21



```
95%      23
(/)98%    23
99%      23
```

```
100%     24 (longest request)
root@0a62aa706eb3:/#
root@0a62aa706eb3:/# puppet apply 0-the_sky_is_the_limit_not.pp
Notice: Compiled catalog for 0a62aa706eb3.local in environment production in 0.01 seconds
Notice: /Stage[main]/Main/Exec[fix--for-nginx]/returns: executed successfully
Notice: Finished catalog run in 1.12 seconds
root@0a62aa706eb3:/#
root@0a62aa706eb3:/#
root@0a62aa706eb3:/# ab -c 100 -n 2000 localhost/
This is ApacheBench, Version 2.3 <$Revision: 1528965 $>
Copyright 1996 Adam Twiss, Zeus Technology Ltd, http://www.zeustech.net/
Licensed to The Apache Software Foundation, http://www.apache.org/
```

```
Benchmarking localhost (be patient)
Completed 200 requests
Completed 400 requests
Completed 600 requests
Completed 800 requests
Completed 1000 requests
Completed 1200 requests
Completed 1400 requests
Completed 1600 requests
Completed 1800 requests
Completed 2000 requests
Finished 2000 requests
```

```
Server Software:      nginx/1.4.6
Server Hostname:      localhost
Server Port:          80
```

```
Document Path:        /
Document Length:       612 bytes
```

```
Concurrency Level:     100
Time taken for tests:   0.301 seconds
Complete requests:     2000
Failed requests:        0
Total transferred:     1706000 bytes
HTML transferred:      1224000 bytes
Requests per second:   6650.99 [#/sec] (mean)
Time per request:      15.035 [ms] (mean)
Time per request:      0.150 [ms] (mean, across all concurrent requests)
Transfer rate:         5540.33 [Kbytes/sec] received
```

```
Connection Times (ms)
              min  mean[+/-sd] median  max
Connect:      0    4   2.5      3    12
Processing:   2   11   5.2     10    31
```



```
Waiting:      1   10   5.2    8    29
(✓)otal:      5   15   5.2   14    31
```

Percentage of the requests served within a certain time (ms)


```
50%      14
66%      17
75%      18
80%      19
90%      22
95%      26
98%      27
99%      28
100%     31 (longest request)
root@0a62aa706eb3:/#
```

### Repo:

- GitHub repository: alx-system\_engineering-devops
- Directory: 0x1B-web\_stack\_debugging\_4
- File: 0-the\_sky\_is\_the\_limit\_not.pp

☒ Done!

Check your code

 Get a sandbox

QA Review

## 1. User limit

#advanced

Score: 100.0% (Checks completed: 100.0%)

Change the OS configuration so that it is possible to login with the `holberton` user and open a file without any error message.



```
root@079b7269ec1b:~# su - holberton
-su: /etc/profile: Too many open files
-su: /home/holberton/.bash_profile: Too many open files
-su-4.3$ head /etc/passwd
-su: start_pipeline: pgrp pipe: Too many open files
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
-su-4.3$
-su-4.3$
-su-4.3$ logout
-su: /home/holberton/.bash_logout: Too many open files
-su: /etc/bash.bash_logout: Too many open files
root@079b7269ec1b:~#
root@079b7269ec1b:~#
root@079b7269ec1b:~# puppet apply 1-user_limit.pp
Notice: Compiled catalog for 079b7269ec1b.ec2.internal in environment production in 0.02 seconds
Notice: /Stage[main]/Main/Exec[change-os-configuration-for-holberton-user]/returns: executed successfully
Notice: Finished catalog run in 0.06 seconds
root@079b7269ec1b:~#
root@079b7269ec1b:~#
root@079b7269ec1b:~# su - holberton
holberton@079b7269ec1b:~$ head /etc/passwd
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
holberton@079b7269ec1b:~$
```

## Repo:


- GitHub repository: [alx-system\\_engineering-devops](#)
- Directory: [0x1B-web\\_stack\\_debugging\\_4](#)



• File: 1-user\_limit.pp  
(/)

☒ Done!

Check your code

 Get a sandbox

QA Review

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