



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)

0x18. Webstack monitoring

DevOps

SysAdmin

monitoring

⚙ Weight: 1

📅 Project over - took place from Mar 6, 2024 6:00 AM to Mar 7, 2024 6:00 AM

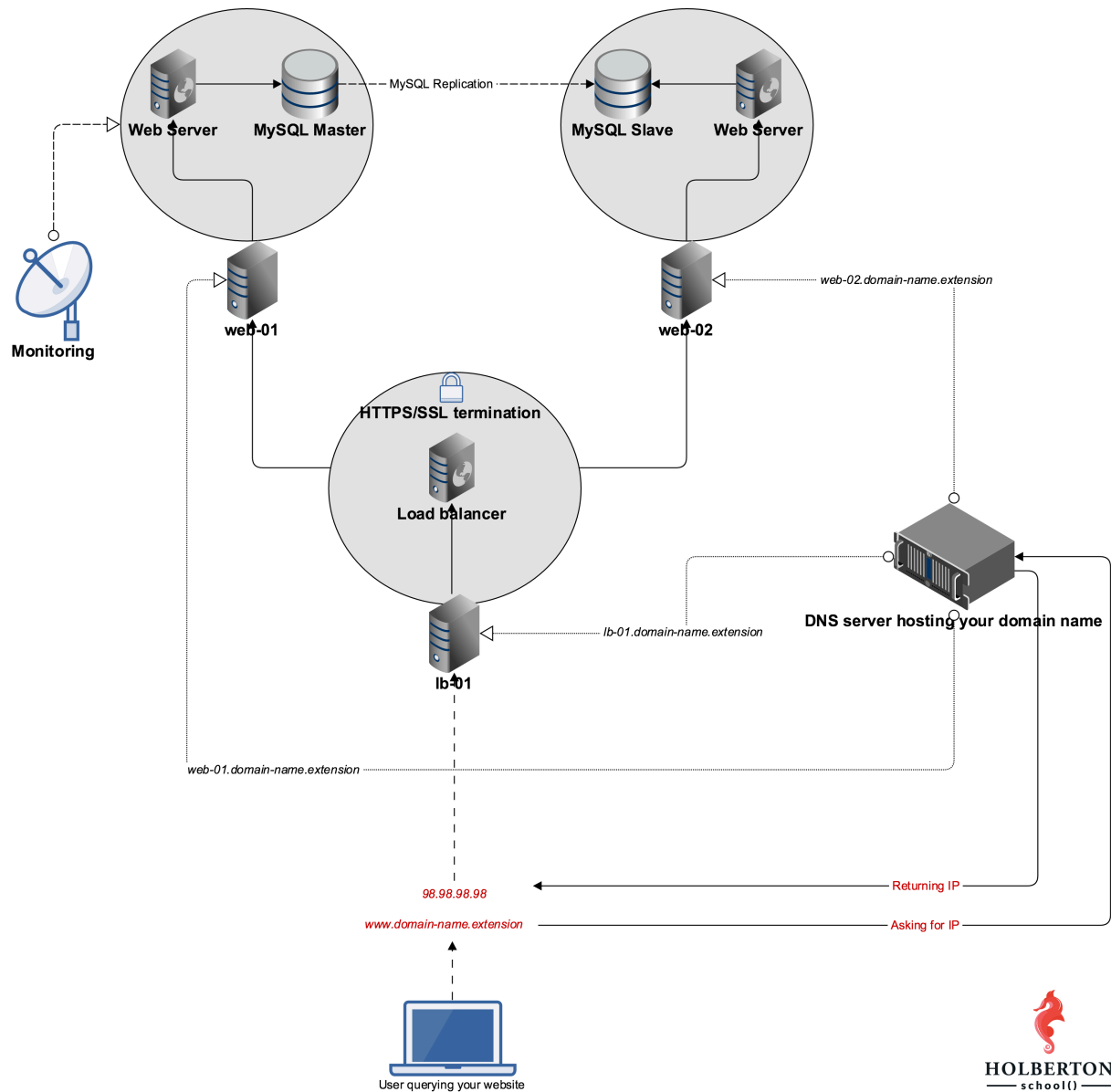
☒ An auto review will be launched at the deadline

In a nutshell...

- **Auto QA review:** 8.85/12 mandatory
- **Altogether: 73.75%**
 - Mandatory: 73.75%
 - Optional: no optional tasks



Monitoring



Background Context

"You cannot fix or improve what you cannot measure" is a famous saying in the Tech industry. In the age of the data-ism, monitoring how our Software systems are doing is an important thing. In this project, we will implement one of many tools to measure what is going on our servers.

Web stack monitoring can be broken down into 2 categories:

- Application monitoring: getting data about your running software and making sure it is behaving as expected
- Server monitoring: getting data about your virtual or physical server and making sure they are not overloaded (could be CPU, memory, disk or network overload)

(/)



Resources

Read or watch:

- What is server monitoring (/rltoken/km_XUDAfXEB0XZQsIWEo5Q)
- What is application monitoring (/rltoken/z9jsikINjrsUo2QY5_Xz8g)
- System monitoring by Google (/rltoken/_8KlBlUNzMgKi_LiGMBWAw)
- Nginx logging and monitoring (/rltoken/V3GsrDcMHPdgrizShj4RCg)

Learning Objectives

At the end of this project, you are expected to be able to explain to anyone (/rltoken/Bd9r8twsVT3S_8j7-kOLrg), **without the help of Google**:

General

- Why is monitoring needed
- What are the 2 main area of monitoring
- What are access logs for a web server (such as Nginx)
- What are error logs for a web server (such as Nginx)

Copyright - Plagiarism

- You are tasked to come up with solutions for the tasks below yourself to meet with the above learning objectives.
- You will not be able to meet the objectives of this or any following project by copying and pasting someone else's work.
- You are not allowed to publish any content of this project.
- Any form of plagiarism is strictly forbidden and will result in removal from the program.



Requirements

General

- Allowed editors: `vi` , `vim` , `emacs`
- All your files will be interpreted on Ubuntu 16.04 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
- All your Bash script files must be executable
- Your Bash script must pass `Shellcheck` (version `0.3.7`) without any error
- The first line of all your Bash scripts should be exactly `#!/usr/bin/env bash`
- The second line of all your Bash scripts should be a comment explaining what is the script doing

Your servers

Name	Username	IP	State	
468844-web-01	ubuntu	54.87.241.54	running	Actions ▼
468844-web-02	ubuntu	100.26.178.186	running	Actions ▼
468844-lb-01	ubuntu	54.174.77.188	running	Actions ▼

Tasks

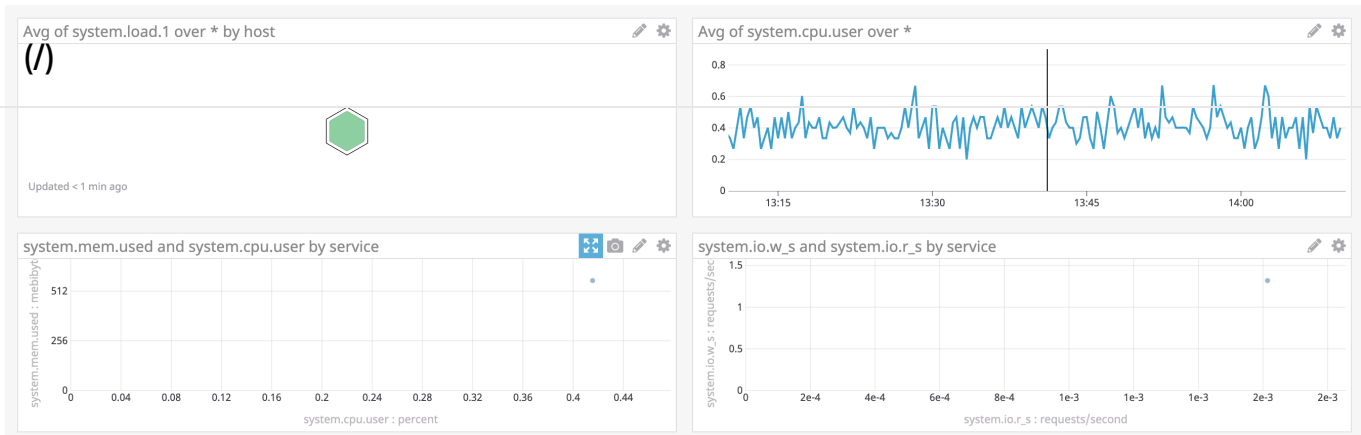
0. Sign up for Datadog and install datadog-agent

mandatory

Score: 65.0% (Checks completed: 100.0%)

For this task head to <https://www.datadoghq.com/> (/rltoken/Ufs6rTHMET5LB1Uoylx0nw) and sign up for a free Datadog account. When signing up, you'll have the option of selecting statistics from your current stack that Datadog can monitor for you. Once you have an account set up, follow the instructions given on the website to install the Datadog agent.





- Sign up for Datadog - **Please make sure you are using the US website of Datadog (<https://app.datadoghq.com>)**
- Use the **US1** region
- Install `datadog-agent` on `web-01`
- Create an application key
- Copy-paste in your Intranet user profile (here `(/rltoken/elXu5CcaGpeK7GxerBb7wQ)`) your DataDog API key and your DataDog application key .
- Your server `web-01` should be visible in Datadog under the host name `XX-web-01`
 - You can validate it by using this API `(/rltoken/5BtVPmgz96y7jZDGGHOQ)`
 - If needed, you will need to update the hostname of your server

Repo:

- GitHub repository: `alx-system_engineering-devops`
- Directory: `0x18-webstack_monitoring`

☒ Done!

[Check your code](#)

[Get a sandbox](#)

[QA Review](#)

1. Monitor some metrics

mandatory

Score: 65.0% (*Checks completed: 100.0%*)

Among the litany of data your monitoring service can report to you are system metrics. You can use these metrics to determine statistics such as reads/writes per second, which can help your company determine if/how they should scale. Set up some `monitors` within the `Datadog` dashboard to monitor and alert you of a few. You can read about the various system metrics that you can monitor here: `System Check (/rltoken/4RPOEVDtqKXuvyU4Gkj2Bw)`.





Metric Monitor
ID: 10310452
Created at Jun 26 2019 11:20
by Jesse Hedden

QUERY `avg(last_5m):avg:system.io.r_s{*} > 100`

MESSAGE `{{#is_alert}}Reads per second alert test{{/is_alert}}`

TAGS

Filter monitor groups and their events

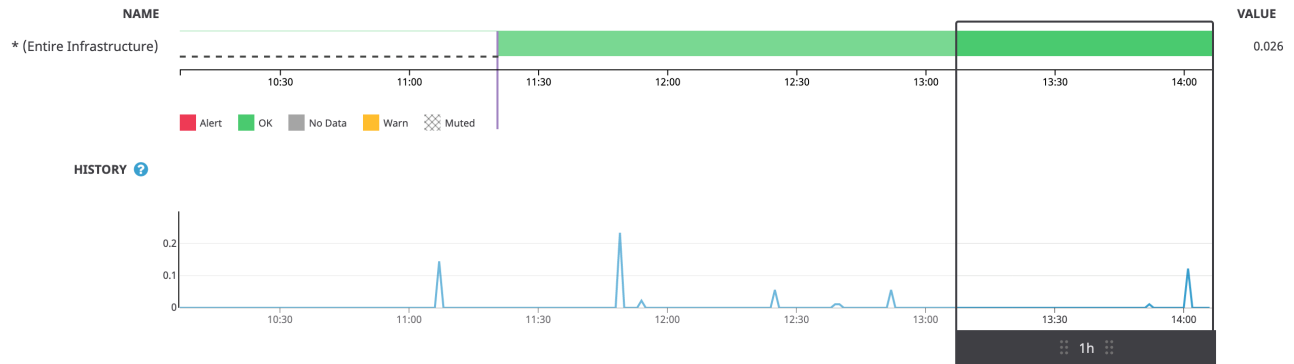
☐ Alert 0 ☐ Warn 0 ☐ No Data 0 ☒ OK 1 | 1 of 1 groups

4h The Past 4 Hours

▼ Status & History

GROUP STATUS

Showing 1 of 1 groups | Sort by Triggered ↓



- Set up a monitor that checks the number of read requests issued to the device per second.
- Set up a monitor that checks the number of write requests issued to the device per second.

Repo:

- GitHub repository: `alx-system_engineering-devops`
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☒ Done!

Check your code

Get a sandbox

QA Review

2. Create a dashboard

mandatory

Score: 100.0% (Checks completed: 100.0%)

Now create a dashboard with different metrics displayed in order to get a few different visualizations.

- Create a new dashboard
- Add at least 4 widgets to your dashboard. They can be of any type and monitor whatever you'd like
- Create the answer file `2-setup_datadog` which has the `dashboard_id` on the first line. **Note:** in order to get the id of your dashboard, you may need to use Datadog's API `(/rltoken/n2KPoJtwzx8LjCpmCB4KVQ)`

Repo:

- GitHub repository: alx-system_engineering-devops
- (/).• Directory: 0x18-webstack_monitoring
- File: 2-setup_datadog

☒ Done!

Check your code

[>_ Get a sandbox](#)

QA Review

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