

- Check carefully that no malicious aliases was used to fool you and make you evaluate something other than the content of the official repository.
- To avoid any surprises, carefully check that both the evaluating and the evaluated students have reviewed the possible scripts used to facilitate the grading.
- If the evaluating student has not completed that particular project yet, it is mandatory for this student to read the entire subject prior to starting the defence.
- Use the flags available on this scale to signal an empty repository, non-functioning program, a norm error, cheating etc. In these cases, the grading is over and the final grade is 0 (or -42 in case of cheating). However, with the exception of cheating, you are encouraged to continue to discuss your work (even if you have not finished it) in order to identify any issues that may have caused this failure and avoid repeating the same mistake in the future.

Attachments

 subject.pdf (<https://cdn.intra.42.fr/pdf/pdf/19743/en.subject.pdf>)

Preliminaries

If cheating is suspected, the evaluation stops here. Use the "Cheat" flag of the scale. Please do this calmly, wisely and with caution.

Simple preliminaries

- Defense can only happen if the student being evaluated is present. This way everybody progresses: by exchanging ideas and sharing knowledge with each other.
- Nothing submitted (or wrong file or directory): 0, the evaluation is over.
- As soon as you come across an exercise that isn't fully functional, the evaluation stops. The following exercises won't be evaluated.
- In order to grade your peer, you have to clone their git repository on their station.

 Yes

 No

General instructions

- Check if the setup.sh file is at the root of the repository.
- Execute "setup.sh"

✓ Yes

✗ No

Mandatory part

This project consist of clustering an application and deploying it with Kubernetes. Check if all the next points are respected. At the first error, you stop the correction and put a zero.

Services environment

- Verify if the application is deployed with all containers only with "setup.sh" script.
- Check using the dashboard if the evaluated has all the different containers.
They are nginx, ftps, wordpress, phpmyadmin, mysql, grafana, influxDB.
These containers must have the same name. If this is not the case or if a container is missing, the correction stops.
- Check if all containers are build with Alpine Linux. If not, the correction stops here.
- Also, check that each container has its Dockerfile, which was built using setup.sh.
The evaluated have to build himself the images that he will use. It is forbidden to take already build images or use services like DockerHub.

If one is missing, or if one does not start with "FROM: alpine" or any other local image, the correction stops here.

✓ Yes

✗ No

Expose it !

- Check that redirections to your services are done with a Load Balancer.
To do that use "kubectl get services":
Grafana, ftps, Wordpress, phpmyadmin & nginx must be "LoadBalancer" type and EXTERNAL-IP field cannot be 127.0.0.1 or end with .0 or .255.
Influxdb & mysql must be "ClusterIP" type.
Other entry can appear, but none must be "NodePort" type.
Also, check that "setup.sh" file don't use any "kubectl port-forward" command.

✓ Yes

✗ No

Nginx

- Try to access http (port 80) and verify that you are automatically redirected to https (port 443).
Then, execute the command "curl -I (i) http://IP" and check if return code is a "301 Moved Permanently" and the "Location" line is the same IP but in https.
Page displayed does not matter, as long it's not a web error (404, 503 etc).
SSL certificate are not necessarily recognized, certificate error on https is normal.

proxy".

If one point listed previously differ, the correction stops.

 Yes

 No

FTP(s) server

- Check if the FTPS server is listening on port 21. Make sure it is a FTPS server (s for secure) and not a basic FTP server.

If the FTPS server does not work as it should, the correction stops here.

- Check if you can upload and download files without any errors.

 Yes

 No

Hello Word(Press), MySQL and PhpMyAdmin

- Check if the WordPress website works under port 5050. Connect to it using the administrator account, check if several users is present, after leave a comment under post. Make sure your comment is added to the database entries.

For that, you can access PhpMyAdmin interface, must be under port 5000 and check the database ("wp_comments" table).

Wordpress and PhpMyAdmin needs its own nginx server.

The database must persist in case failure.

To test this, you can remove the MySQL container with the Kubernetes dashboard.

It must recreate itself automatically, after check if your comment is still in the database.

If something does not work as expected, the correction stops here.

 Yes

 No

Grafana and InfluxDB

- Check if grafana is running under port 3000. Connect to the interface.

You have to check if grafana is monitoring all containers. To do that search for the dashboard list, click on the dashboards one by one.

Like MySQL database, after deleting the InfluxDB container, check that the data prior to deletion is still present in Grafana.

If something does not work as expected, the correction stops here.

 Yes

 No

Persistence!

- Check that in the event of a crash/shutdown of one of the services, the associated container relaunches correctly.

To do this, use "kubectl exec deploy/SERVICE -- kkill APP" (replacing SERVICE and APP of course).

Stop web containers (usually nginx or php-fpm APP) and stop grafana APP for this same container.

If a container hasn't relaunched after several minutes, if the MySQL or InfluxDB data is lost or if a service has restarted badly (in particular ftps), the correction stops here.

✓ Yes

✗ No

Ratings

Don't forget to check the flag corresponding to the defense

✓ Ok

★ Outstanding project

📄 Empty work

💬 No author file

⚙️ Invalid compilation

📖 Norme

📑 Cheat

💥 Crash

💧 Leaks

🚫 Forbidden function

Conclusion

Leave a comment on this evaluation

Finish evaluation

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