école iT

3K8S

Introduction

You work for the Assocation des joueurs d'echecs which want to publish all their actions on a blog. !

They ask for a scallable solution, and theirs developper want to use docker images.

For this Proof of Concept, you will deploy a Wordpress into a Kubernetes cluster

Subject

⚠ All works you done without explaination in your technical documentation will not be considered.

Diagram (2 points)

You must create a diagram showing all the different component and their relation (as shown during the course)

Wordpress (8 points)

Deployment (3 points)

You must deploy a Wordpress using this image: https://hub.docker.com/_/wordpress

Keep in mind to securely store environments variables to secrets when it's necessary !

Volumes (2 points)

You will allocate a 10GB disk volume for persistent data inside your project.

Connectivity (3 points)

You will expose your Wordpress online thought an ingress route.

Take care about explaining how you deploy an Ingress Controller inside your cluster.

MariaDB (5 points)

Deployment (3 points)

You must deploy a MySQL 8.0.33

Service (1 point)

The service should be exposed only inside of the cluster

Volume (1 point)

The volume of the MySQL must be a 5GiB volume.

Any other size than 5GIB will not be considered.

The volume should not be able to be mount twice a time !

Bonus (5 points)

Resources limits (2 points)

All resources should use only the required resources.

Take care to place corrects resources limits to ensure the best pod scheduling in your cluster.

Create your own Kubernetes cluster (3 points)

Create a cluster of 3 nodes to deploy your resources.

Rules

This project must be your creation and done by your own. Plagiarism or copy / past are forbidden and will result of a 0.

This is project can be done in group of 2 students maximum.

Each group containing more than 2 members will be discarded and not evaluated.

Delivery

You must deliver a `ZIP` containing:

- Technical Documentation (.pdf)
- Projects files (.zip).

⚠️ File extension should be strictly respected. If you deliver file in a different format than expected, the file will be entirely discarded.