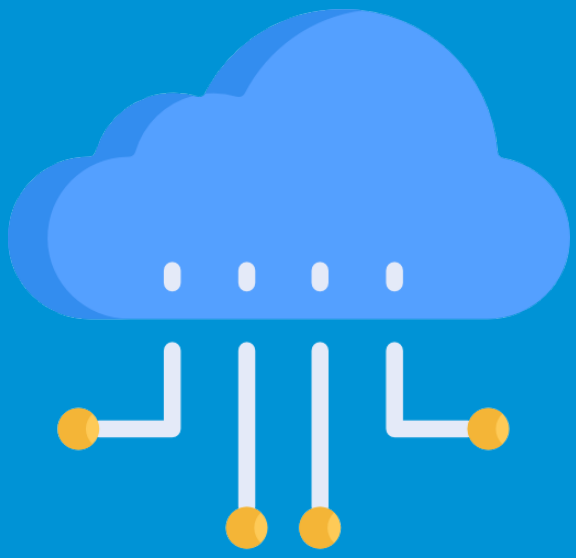
{EPITECH}

TERRACLOUD

BOOTSTRAP



TERRACLOUD

Given the source code and a containerized image of an application, you have to deploy it.
You may already heard about the various options available nowadays : IaaS, PaaS, SaaS, ….
But before choosing and using one, you must grasp them :

- ✓ Why should we use them ?
- ✓ How should we use them ?
- ✓ What their acronym means ?
- ✓ …

IaaS

Application deployment

Starting with IaaS, you will have to deploy virtual machine and configure them :

- ✓ choose an operating system ;
- ✓ configure web server, database and load balancer ;
- ✓ deploy high-available application.

Take time to ask you some questions, such as:

- ✓ How many server do you need for and highly available application using IaaS ?
- ✓ How do you ensure redundancy in case of losing one server ?
- ✓ What's the easiest and reproducible way to deploy services ?

Resources deployment

Now you have defining an infrastructure, you can deploy virtual machine and start configuring virtual machine, in order to deploy application.

- ✓ What technology can you use to deploy all virtual machines needed ?
- ✓ How can you configure and deploy to these virtual machines after they have been created ?

Try to create a virtual machine on Azure Portal and deploy application stack

Automating

It is now established that a systems and networks engineer who performs the same operation 3 times has already done it 2 times too many. :)

Today, several tools allow you to automate your deployments/configurations:

- ✓ Terraform ;
- ✓ Ansible ;
- ✓ Github actions ;
- ✓ ...

This also makes it possible to have installation documentation formats, templates that will be used by the whole team.

You will have to generate and configure tools to interact with another. Generate resources, inventory with Terraform, and use them in Ansible. Start by using terraform to :

- ✓ generate some SSH key ;
- ✓ generate some virtual machines ;
- ✓ generate an Ansible inventory.

Then use Ansible to :

- ✓ install the usual binaries (podman, debugging tools) ;
- ✓ deploy your applications.

PaaS

After that, you will have to test PaaS technology. On Azure, you will use Azure Website service. Try to deploy an Azure Website environment, and setup an application on it.

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