From zero to hero

Infrastructure as Code

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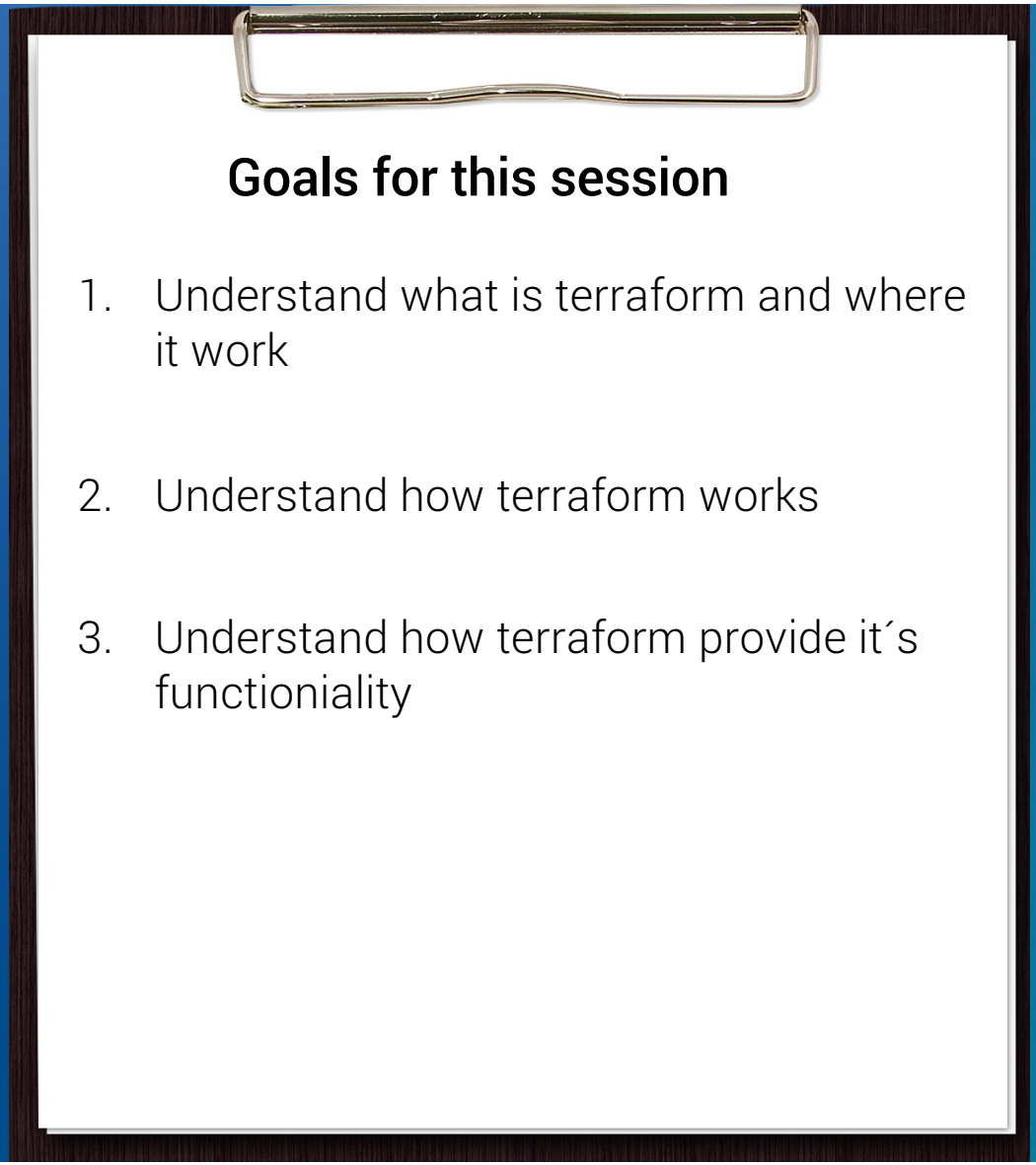
ti&m

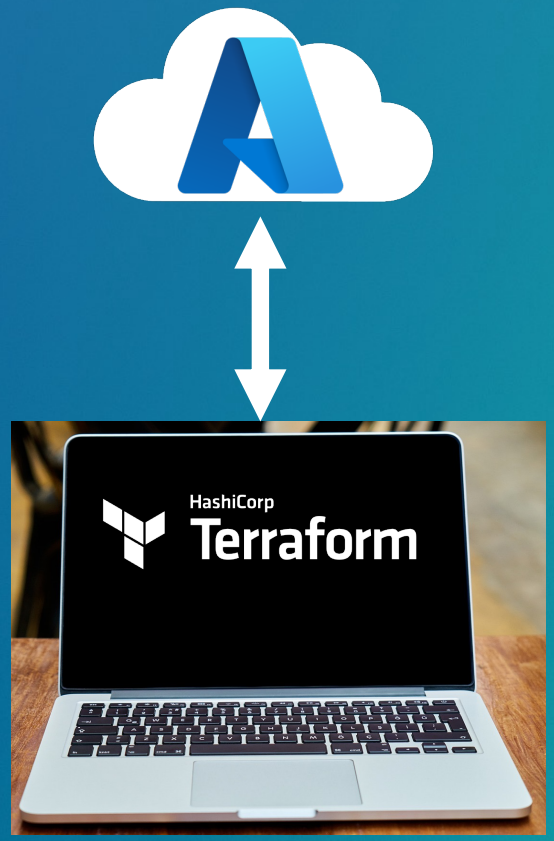


Goals for this session

1. Understand what is terraform and where it work
2. Understand how terraform works
3. Understand how terraform provide it´s functioniality

What is terraform ?

- Declarative IaC Tool
- Works with several targets
- Works native on the client like powershell
- Open Source
- From HashiCorp
- IaC Files will be written in HCL



How it works / Easy Abstraction

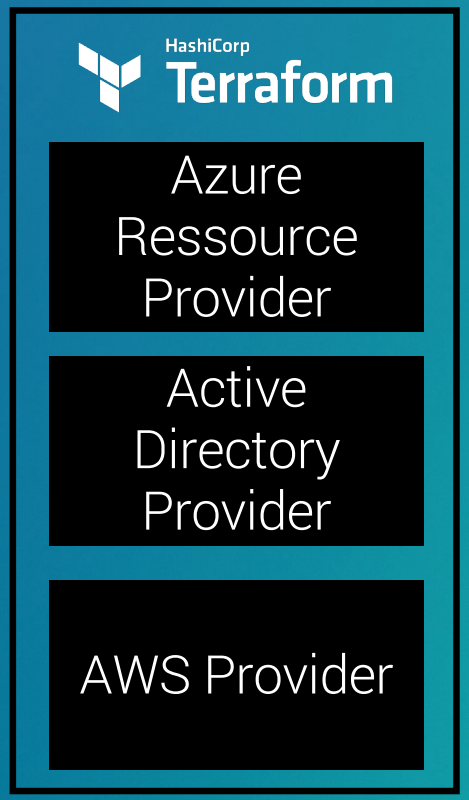
How it interacts with targets / Provider

HashiCorp Terraform

- Azure Ressource Provider
- Active Directory Provider
- AWS Provider

Provider

- Must be installed
- Works like a extension
- Provide the functionality
- Developed from several organization



How it knows what is deployed / State

State

HashiCorp Terraform

Azure Ressource Provider

Active Directory Provider

AWS Provider

State

- Can be store local or remote
- Can be read from people
- Looks like JSON
- List of deployed resources from terraform

State

Manage several env / Workspace

Workspace default

Workspace Prod

State Test

State Prod

HashiCorp Terraform

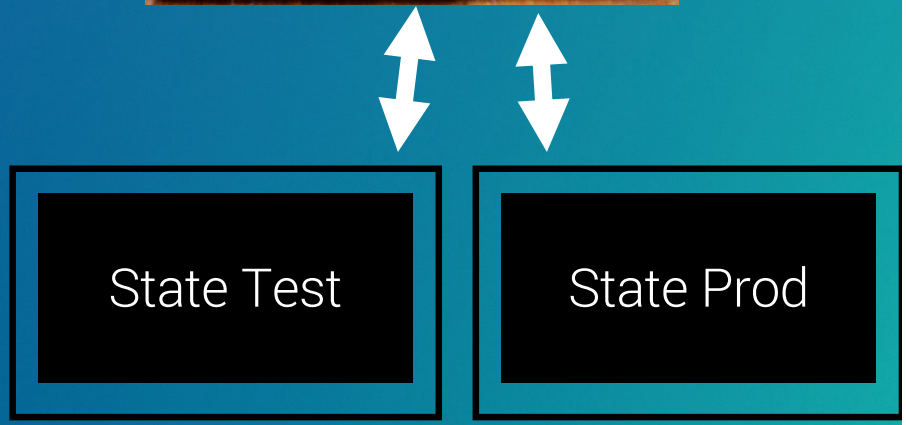
Azure Ressource Provider

Active Directory Provider

AWS Provider

Workspace

- Set the state which will be compared



And what does terraform itself?

- Compare the actual state in your infrastructure with saved state
- Creates a dependency graph for changes
- Plan the change actions

Manage several env / Workspace

Providers

State Test

State Prod

How it works

How it works / init

- Install providers
- Saved the installed version from provider in a lock file
- Initialize a working directory from terraform itself
- Must be executed after a provider change

How it works

How it works / validate

- Check your written files if it´s executable

How it works

How it works / plan

- Use your provider to get actual state of the infrastructure
- Compare it with your saved state
- Recognize changes
- Build a dependecy graph for the changes that it must be do
- Write a execution plan for the changes

How it works

How it works / apply

- Execute the produced execution plan
- Can produce errors as results of the real api
- Save the new state

We digitalize your company.

5-10 Minutes
Go in teams of 2 people each and make a short description of the functionality of terraform

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