Operative Document for show Instructions about Azure

{ Provisioning and Using it }

Title	Description
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Company	XxXx
Version	v.0
History	Deploy completely infrastructure Networks and Vm

GOAL :

Deploy a completely Azure Infrastructure with Six machines :

(one load-balancer , one master and three workers , and one other machine as Dns server) .

REQUIREMENTS :

Azure

SUBSCRIPTION

USER (email) AND PASSWORD ACCOUNT (Azure)

RESOURCE GROUP OF WORK (INSIDE AZURE)

GitLab

ACCESS TO REPOSITORY FOR THIS TUTORIAL

USER (email) AND PASSWORD ACCOUNT (GitLab)

Linux/Unix Operative System

BASH , GIT , AZURE-CLI AND A STABLE INTERNET CONNECTION

LEGEND / STEPS

Steps

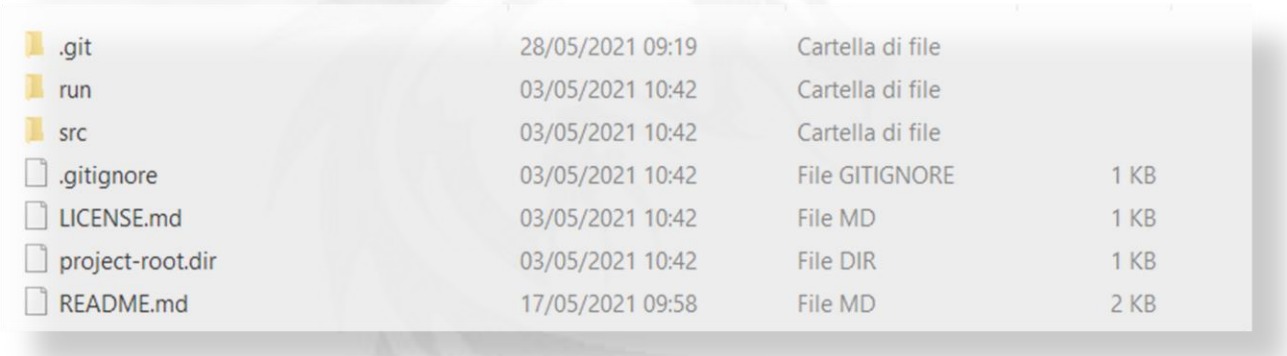
First Step – Git Clone

Git Clone

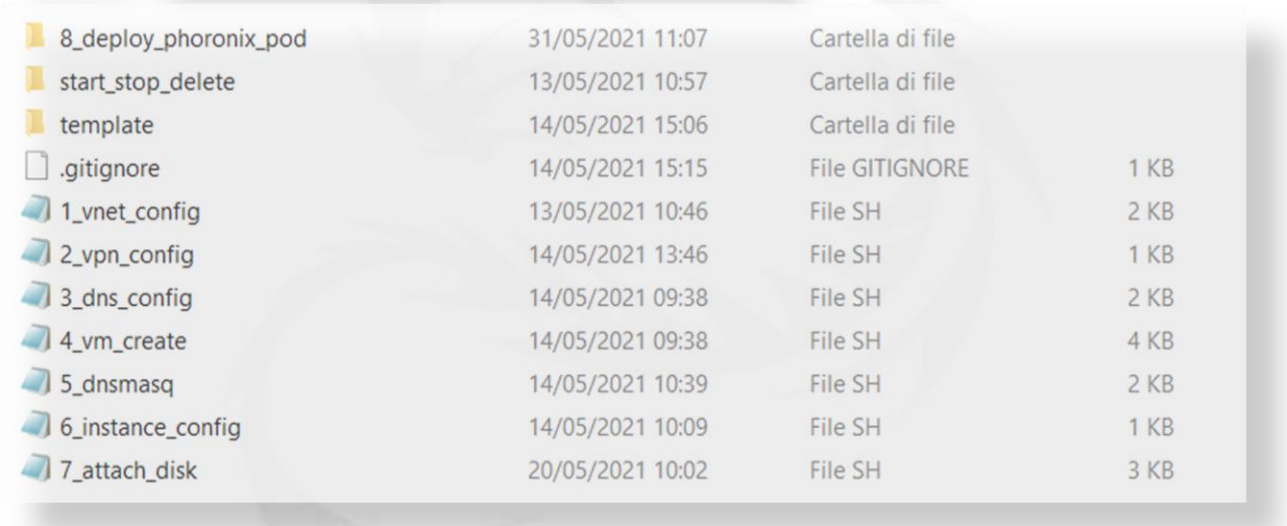
Before continuing, you must be sure to have git tools installed in your Linux system.

You must get a repository for execute the first step, the command for do that is: "git clone https://***/***/***/***.git".

We are interesting to see this result:



Direct to : provisioning > src > code > scripts-support > azure :



This folder contains more tools (bash scripts, that can make complete and comfortable azure environment for kubernetes) .

Second Step – Virtual Network

1_vnet_config

- ❖ use this script for make a complete virtual network for all our environment (the base for the next elements) .
  * It is mandatory .

Example of Execution for each script

(inside the folder , open the terminal)

- ❖ bash ./1_vnet_config.sh \
  subscriptionid \
  groupname \
  number_for_vnet

If you aren't already logged consider executing ''bash ./1_vnet_config.sh'' without parameters , it will request you to put an username and password for Azure account.

Azure authentication makes you sure to be recognized from the system (for least 2 hours) .

About the parameters

- subscriptionid = string of 37 elements
  ****_****_****_****_********
- groupname = literal string for your Resource group
- number_for_vnet = usually used 24 or 25 or 26 ,
  it's a number (from 1 to 99) .
  Used for enumerating the complex system will be generate by the next scripts

for more info about ask to company workers or read the code.

Third Step – Virtual Network Gateway

In this step we are installing a virtual network gateway component .

Like explained by the code a virtual network component in azure provides to make accessible the azure network like a normal local network (Lan) .

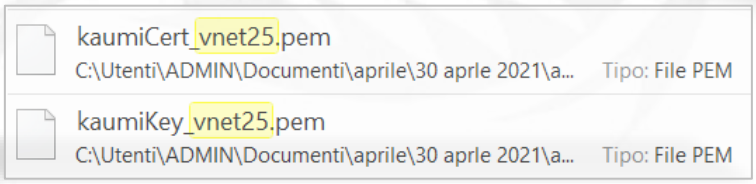
This network is created thanks to openvpn technology , in Linux/Unix it's easy to configure using Network-Manager tool .

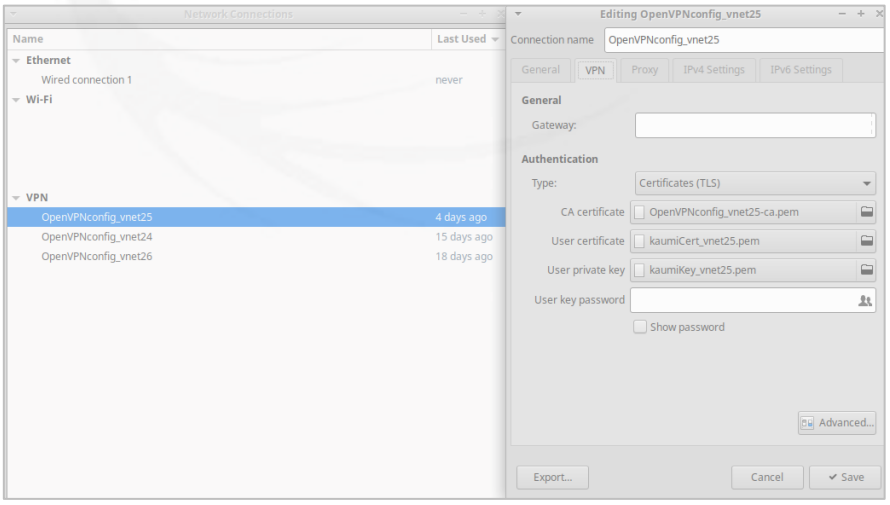
For execute this script that upgrade your gateway settings , is required a certification (caCert..pem) , you can find useful instructions for make that in this Path :

src › code › scripts-support › azure › template › cert

Open "tutorial" text file for more info about .

For allow other users to join in this network you have need to create a certification for these users .
We expect to have certification files like these , for example take a user called "kaumi" :





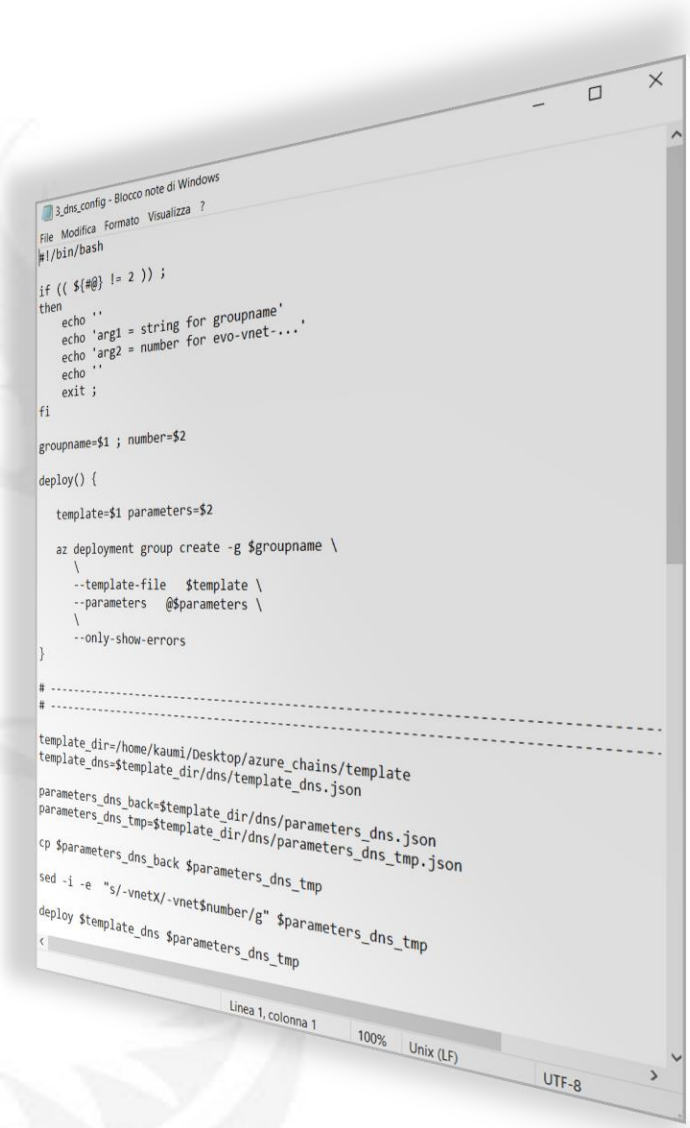
Fourth Step – Private DNS

In this step we're installing a private Dns component

Private Dns provides to guarantee a static ip for each machine inside the virtual network, it's possible using their host name . (Now machine is not existing , so for consequence it possible put machines are not existing yet) .

It will be useful in general and when we must connect to these for make some tests .

This script prepares our infrastructure to have static ip reachable by the virtual network gateway, already defined before.



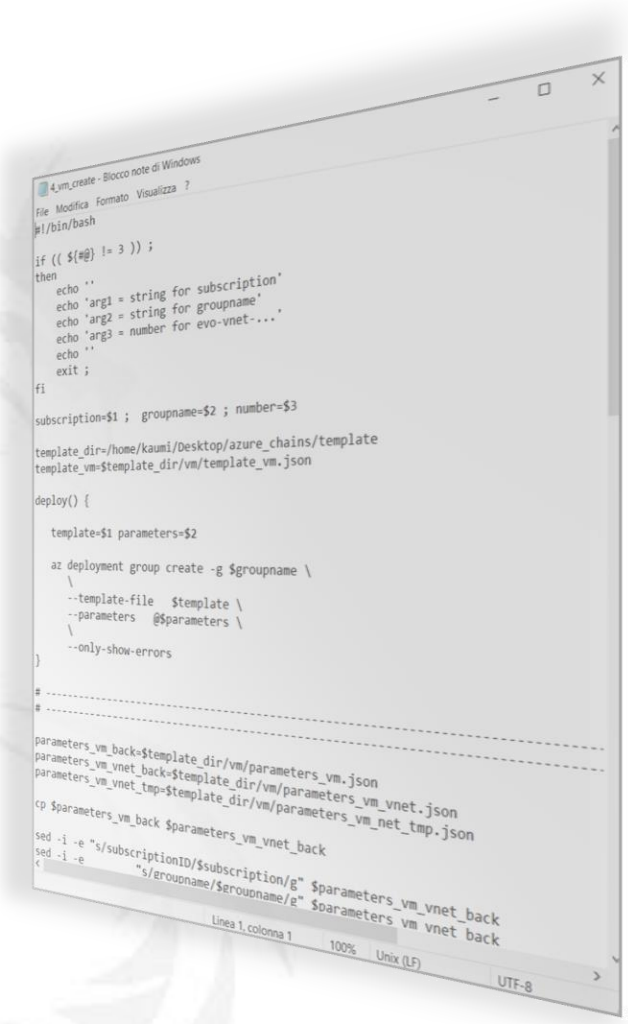
Fifth Step – Virtual Machines

In this step we will mount in our infrastructure Six virtual machine with Linux installed on it .

There isn't more to say , it is a simple deployment of templates on azure system .

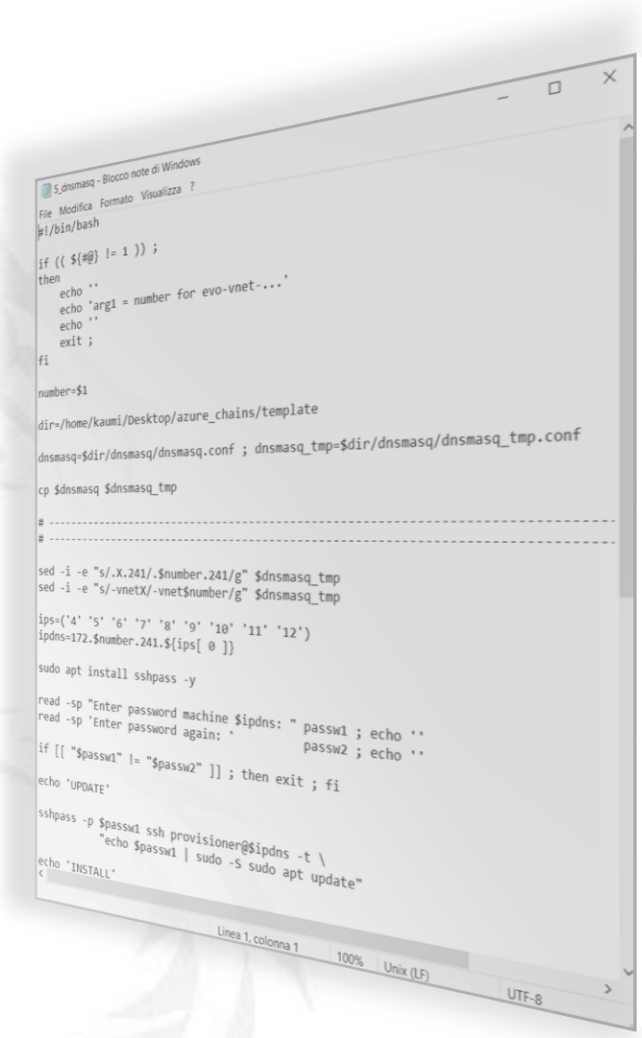
Try to search more info on code .

Maybe you can see more about template and parameters : https://docs.microsoft.com/en-us/azure/azure-resource-manager/templates/parameters .
It can be difficult to digest .



for more info ask to company workers

Sixth Step – DNSmasq



This will inject in one machine inside our network dnsmasq component

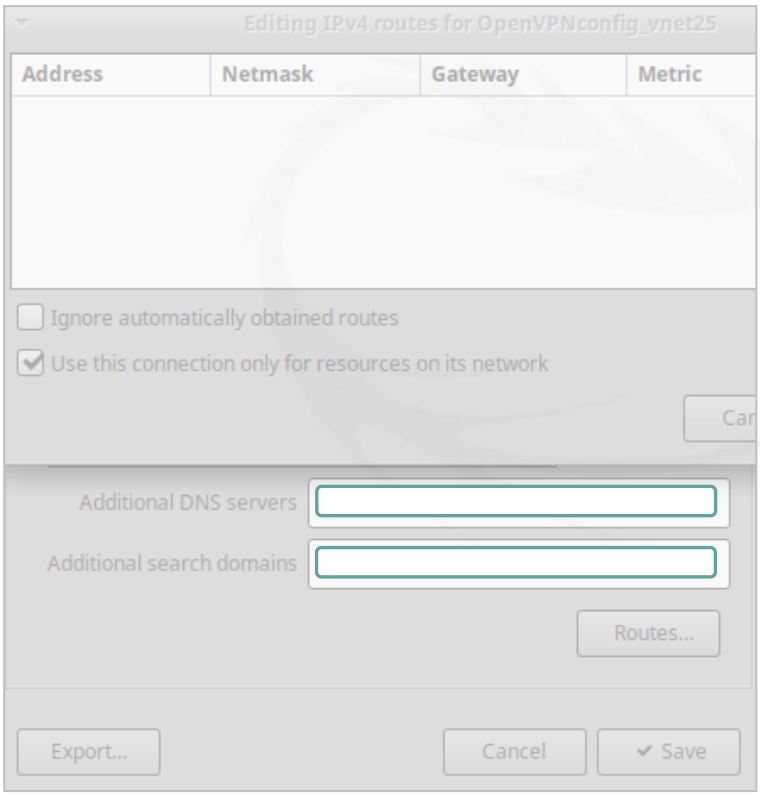
See it please : https://en.wikipedia.org/wiki/Dnsmasq .

Usually is used from hacker and software engineers for define a completely sub network

For be more practical try to think about : https://www.google.it .

Google
It's a name for reach a server (more servers in true)

So, this step allows you to reach any machine inside the network, using its host name, and you can do that only because you have installed a dnsmasq for use a machine inside the network like a dns server (like a route table).



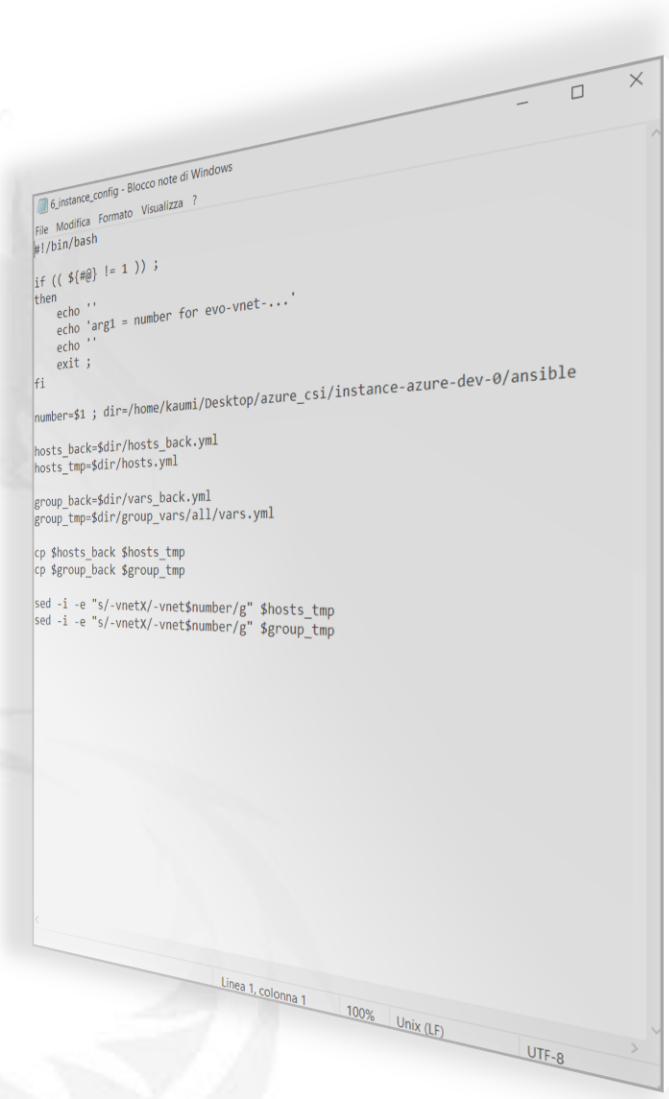
Seventh Step – config for instance

In this step we will configure our instance for the deployment of our provisioner . (Collection of scripts made using ansible language) .

It will set hosts and Vars by the number of the network chose before .

Examples:

- ****-vnetX will be : ****-vnet25



Eighth Step – Attach Disk

In this step we're configuring our machines installed before , like you can see by the picture and from the name I chose .

In this time we make and attach three different disk HDD of 32gb size .

We are using the lower sku HDD level for this operation .

* Note : From the test I done I can say that there aren't tangible difference of power between HDD and SSD sku .

After that we will format it using mkfs.xfs and so xfs as file system type .
(xfs will be useful for openebs storage class) .

for more info ...

... ask to company workers