# Code deployment with Azure pipelines

In order to deploy airflow app we need to:

* Create a VM and Container Registry
* Create a Service Principal
* Add Service Principal credentials to the Azure pipelines Library
* Assign correct values about container registry in the yaml file

## Create a VM and Container Registry

In order to do that we can use the azure\_terraform\_create\_vm repo: [github.com](https://github.com/bulka4/azure_terraform_create_vm)

It creates those resources automatically using Terraform.

## Create a Service Principal

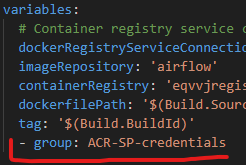
In order to do that we can use the azure\_cli > create\_container\_registry\_service\_principal.ps1 script.

We need to provide there arguments for Container Registry name, Service Principal name and role we want to assign to that Service Principal which will allow for either pulling or pushing containers to the registry.

## Add Service Principal credentials to the Azure pipelines Library

We need to add those credentials to the Library so they can be passed securely to the yaml file.

In our yaml file we define a variable group name which will be used:



And we need to create a variable group with the same name in the Library and add there variables which are used in the yaml file:

* SP\_ID – service principal ID
* SP\_PASSWORD - service principal password

Then we can use those variables in our yaml file:



## Assign correct values about container registry in the yaml file

We need to assign correct values to the dockerRegistryServiceConnection and containerRegistry variables in the azure-pipelines.yml file.

**dockerRegistryServiceConnection value:**

In order to provide that value to the yaml file we need to set up the container registry service connection in the Azure DevOps.

We need to go to the ‘project settings > Service connections’ and click on ‘New service connection’. Then we choose:

* ‘Docker Registry’ service
* ‘Azure Container Registry’ registry type
* ‘Service Principal’ authentication type
* We login to our account in the pop up window

Once we have the service connection created for our container registry, we can click on it to see its ID. That ID needs to be set up as the ‘dockerRegistryServiceConnection’ variable in the yaml file.

**containerRegistry value:**

For that value we need to choose name of our container registry resource and we can get that value by going to that resource on the Azure website.

## Other important notes

* When running pipeline for the first time it might be needed to go to the devOps website for that pipeline and grant permissions there.