

Title: How to create azure vm using Jenkins pipeline

➤ Why Should i Write a Technical Blog:

When my manager asked me to do this task, after reading many documentations and searching on many different websites, I did not find complete information about this task anywhere, for that I also took the support of YouTube, but I did not get complete information there, but on the basis of the information received, I completed each part of the task under the guidance of the senior. Completed the entire hour well .After finishing today I felt to help many people by writing documentation about this in a good complete form so I am writing this complete blog which will surely benefit many people.

➤ Task description:

In this task we are going to learn how to create vm through the jenkins Pipeline, we can create one or more vms at a time with help of azure CLI code.

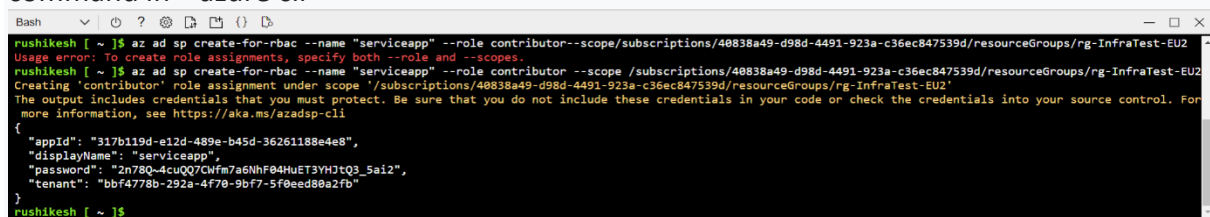
➤ Prerequisite:

- 1.You should have installed Azure cli on your system.
 - 2.You should have azure account with permission owner or contributor.
 - 3 You should have installed and configure jenkins on your system.
- After all installation & configuration now you are ready to go...!!

➤ Stepwise performance:

1.To start jenkins and install Azure CLI & Azure credential plugins.

2. Login your azure account open azure CLI create a service principal perform following command in azure cli

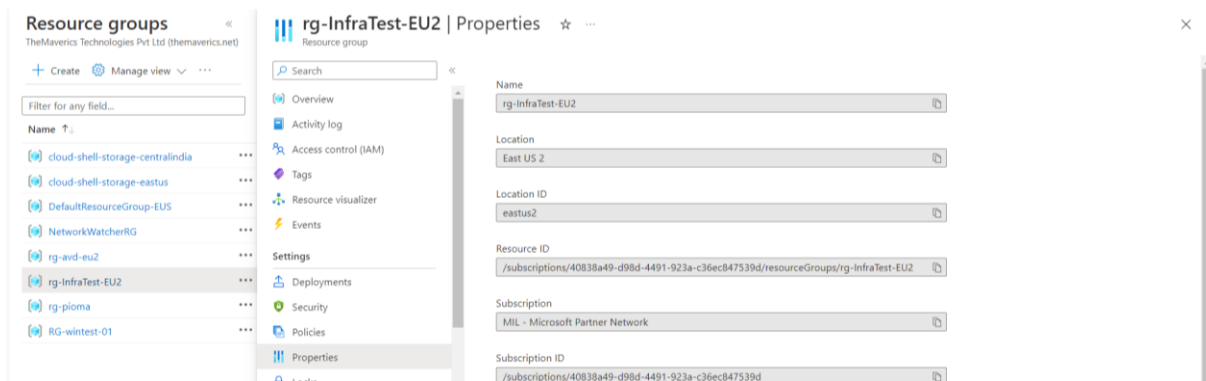


```
Bash
rushikesh [ ~ ]$ az ad sp create-for-rbac --name "serviceapp" --role contributor --scope /subscriptions/40838a49-d98d-4491-923a-c36ec847539d/resourceGroups/rg-InfraTest-EU2
Usage error: To create role assignments, specify both --role and --scopes.
rushikesh [ ~ ]$ az ad sp create-for-rbac --name "serviceapp" --role contributor --scope /subscriptions/40838a49-d98d-4491-923a-c36ec847539d/resourceGroups/rg-InfraTest-EU2
Creating 'contributor' role assignment under scope '/subscriptions/40838a49-d98d-4491-923a-c36ec847539d/resourceGroups/rg-InfraTest-EU2'
The output includes credentials that you must protect. Be sure that you do not include these credentials in your code or check the credentials into your source control. For
more information, see https://aka.ms/azadsp-cli
{
  "appId": "317b119d-e12d-489e-b45d-36261188e4e8",
  "displayName": "serviceapp",
  "password": "2n78Q-4cuQ07Cwfm7a6Nhf04HuET3YHJtQ3_5ai2",
  "tenant": "bbf4778b-292a-4f70-9bf7-5f0eed88a2fb"
}
rushikesh [ ~ ]$
```

Note: please ignore first line of command

az ad sp create-for-rbac - -name "serviceapp" --role contributor --scope "paste resource group location"

you get resource group location click on resource group -> select resource group -> properties -> Resource ID copy path then paste to above command



We get output in following form

Appid = client id

Displayname

Password = secret

Tenant = tenant id

➤ Information about output term:

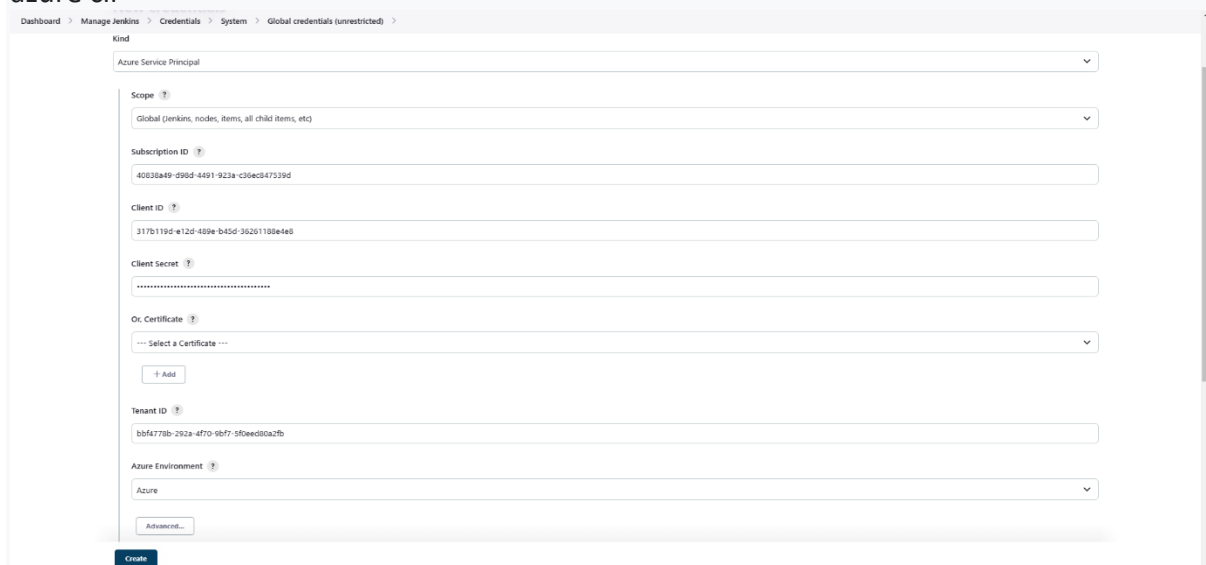
Subscription ID: This is the unique identifier for your Azure subscription. It can be found in the Azure portal under "Subscriptions".

Tenant ID: This is the unique identifier for your Azure Active Directory (AAD) tenant. It can be found in the Azure portal under "Azure Active Directory" -> "Properties".

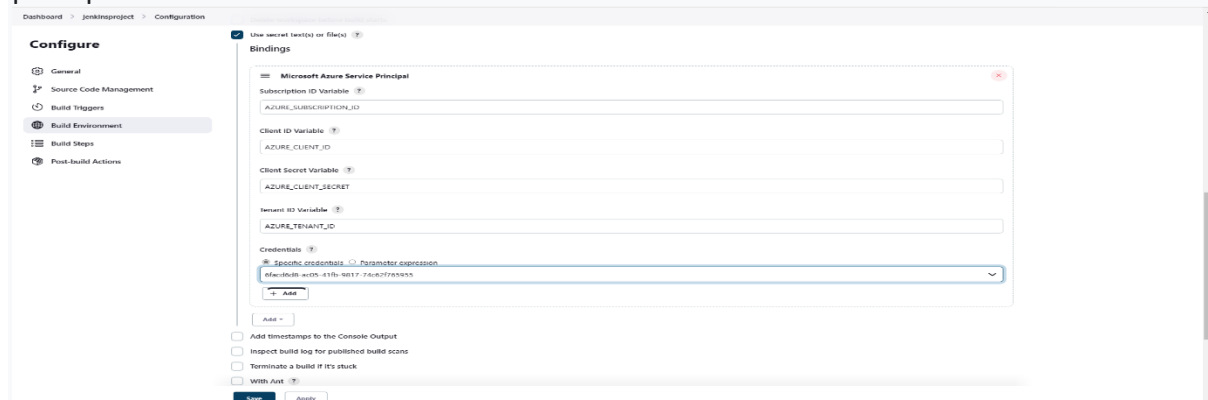
Client ID: This is the application ID for the service principal that will be used to authenticate with Azure.

Client Secret: This is the secret that is associated with the client ID.

3. Again go to jenkins go to manage jenkins ->manage credential ->system ->global credential ->add credential fill some detail we get from after creation of service principal in azure cli



4. In Jenkins dashboard select new project then select freestyle project
5. Then under build environment -> user secret text or file -> add -> Microsoft azure service principal

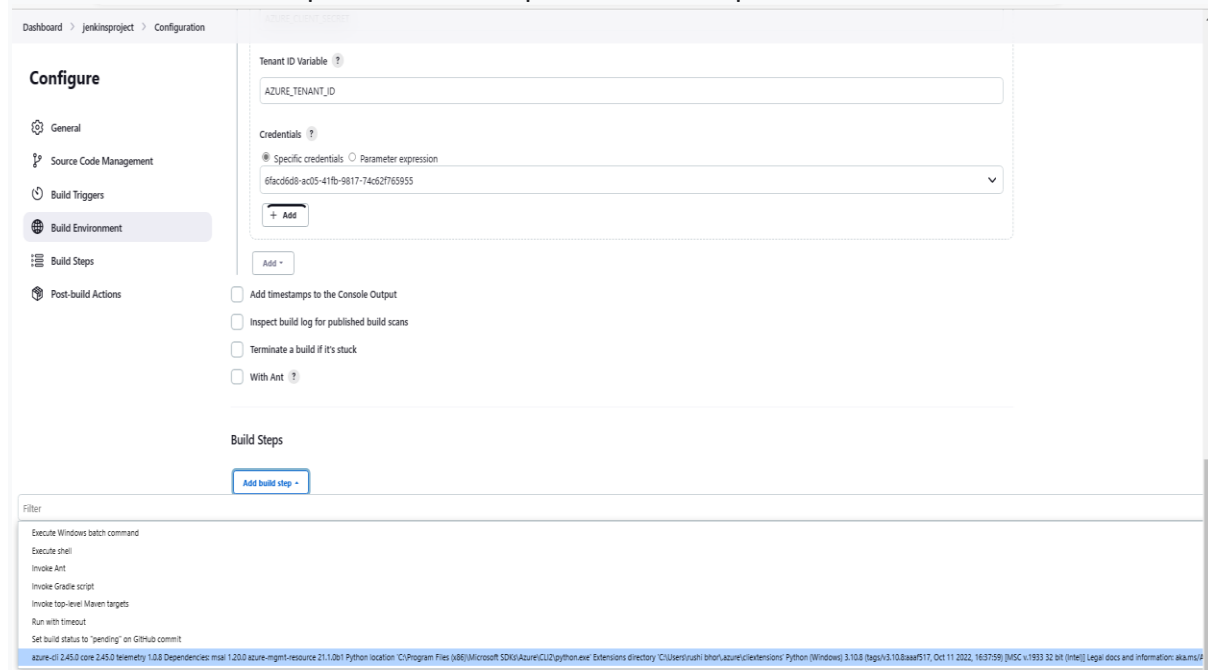


The screenshot shows the Jenkins Configuration page for a project named 'jenkinsproject'. The 'Build Environment' tab is selected in the left sidebar. The 'Bindings' section is expanded, showing a 'Microsoft Azure Service Principal' configuration. The fields are filled with the following values:

- Subscription ID Variable: AZURE_SUBSCRIPTION_ID
- Client ID Variable: AZURE_CLIENT_ID
- Client Secret Variable: AZURE_CLIENT_SECRET
- Tenant ID Variable: AZURE_TENANT_ID
- Credentials: Specific credentials (selected), Parameter expression (disabled)

Below the bindings, there are checkboxes for 'Add timestamps to the Console Output', 'Inspect build log for published build scans', 'Terminate a build if it's stuck', and 'With Ant'. The 'Save' button is highlighted in blue.

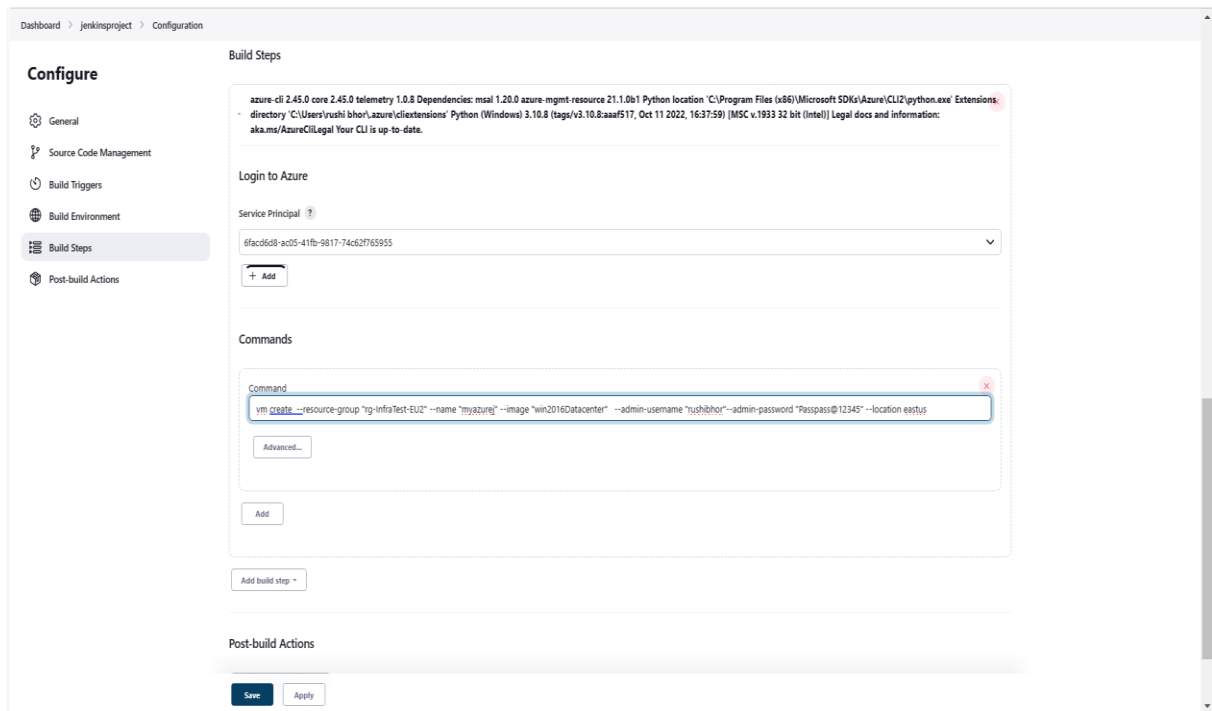
6. Next select build step -> add build step -> select last option azure cli



The screenshot shows the Jenkins Configuration page for a project named 'jenkinsproject'. The 'Build Environment' tab is selected in the left sidebar. The 'Build Steps' section is expanded, showing a list of build steps. The 'Add build step' button is highlighted in blue. Below the list, there is a filter input field and a list of build steps:

- Execute Windows batch command
- Execute shell
- Invoke Ant
- Invoke Gradle script
- Invoke top-level Maven targets
- Run with timeout
- Set build status to 'pending' on GitHub commit
- azure-cli 2.45.0 core 2.45.0 telemetry 1.0.8 Dependencies msal 1.20.0 azure-mgmt-resource 21.1.0b1 Python location: C:\Program Files (x86)\Microsoft SDKs\Azure\CLI2\python.exe Extensions directory: C:\Users\pushi\AppData\Local\Azure\cliextensions\ Python (Windows) 3.10.8 (tags/v3.10.8:aa4517, Oct 11 2022, 16:57:59) [MSC v1933 32 bit (Intel)] Legal docs and information: aka.ms/azcli

7. In service principal select key of credential and add azure cli script of vm in command section



8. last step save all these steps and run job

After completing all these steps, you should go to your azure account in the virtual machine section, you will see a virtual machine created in the azure account with the same name as the machine created in it Jenkins pipeline.

That's how I completed my task successfully.

I would like to thanks to Sir for giving this challenging task. While doing this task, I learnt a lot of things related to Azure, jenkins.

If you have any doubt or suggestions you're most welcome, just DM me or can ask in Comments.