AZURE ASSIGNMENT

Resource group:

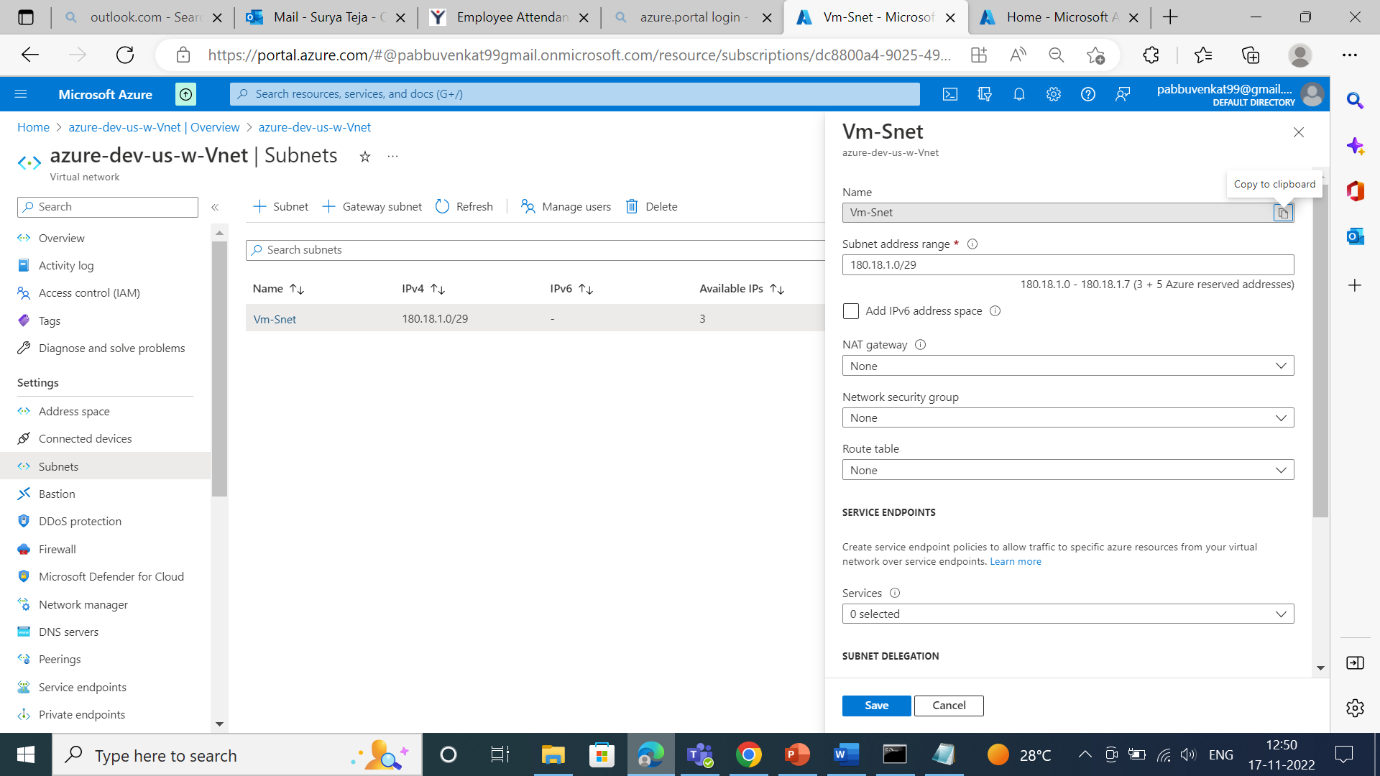
* Resource group is nothing but the collection of resources.
* It is a platform where we can place all the resources for a particular application

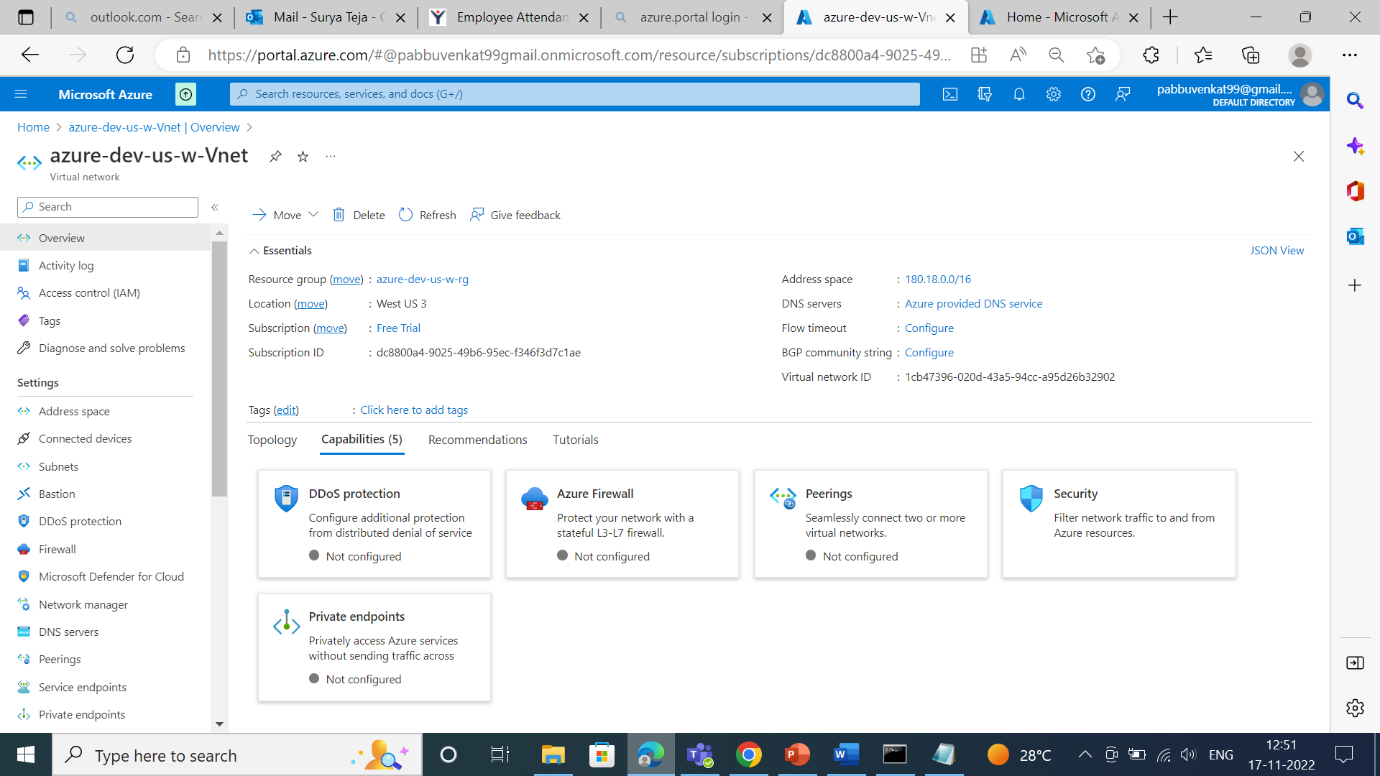
Graphical user interface, text, application, email

Description automatically generated

Virtual network:

* Whatever the resources are running or created that should be in our control.
* So, we are creating virtual network.
* Short form of virtual network is Vnet.
* If we want to launch the virtual network, we must create default subnet.





Azure Kubernetes services:

* To deploy our micro services.
* Instead of maintaining huge application we are maintaining it into multiple manageable services. (Micro services)
* We are creating the AKS subnet i.e, how many ips are needed to assign in AKS cluster and it is depending upon the micro services we deploy.

Graphical user interface, text, application, Word

Description automatically generated

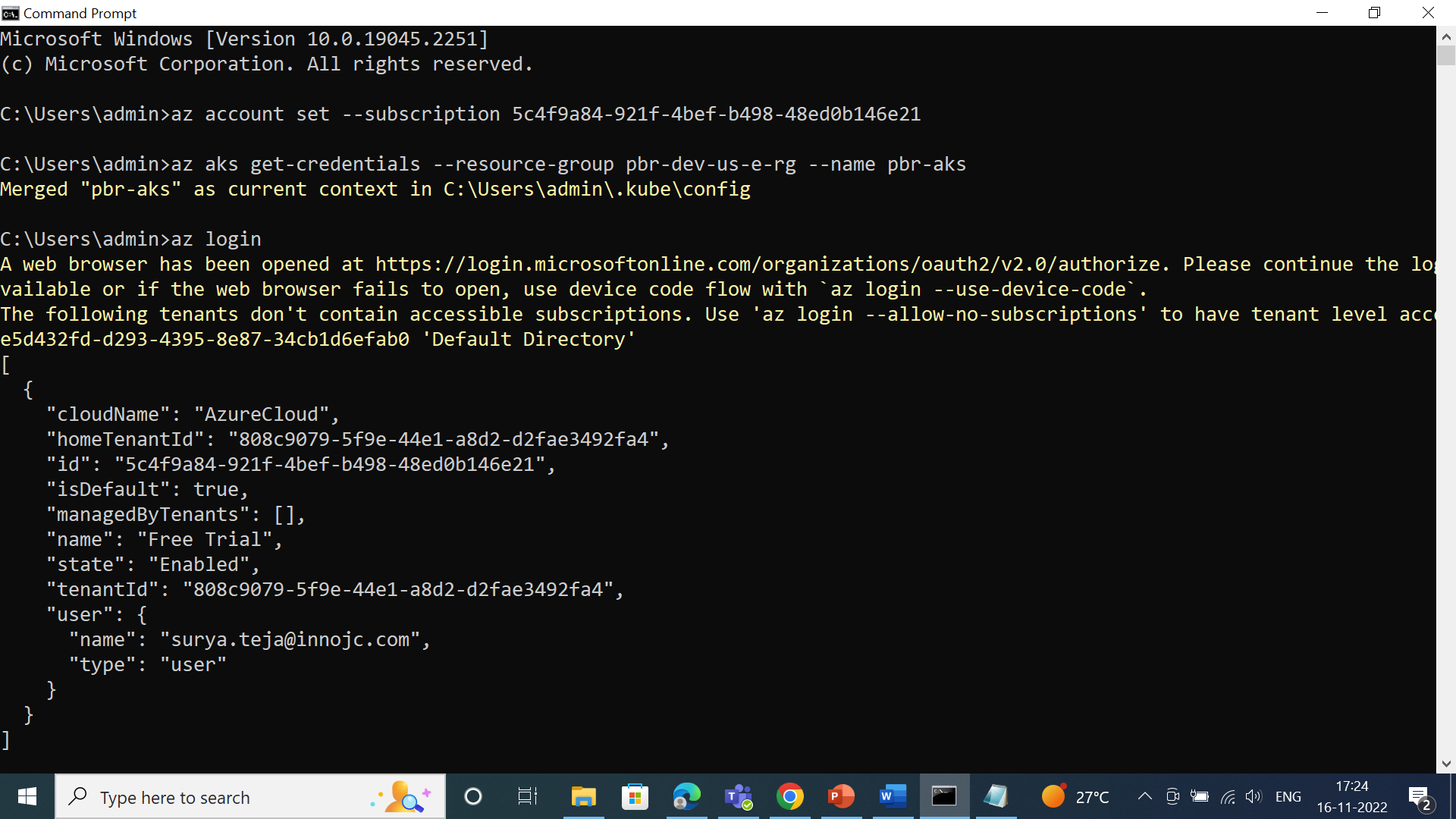
Graphical user interface, text, application, table, Word

Description automatically generated

Graphical user interface, text, application, email

Description automatically generated

* We must install the AZ-CLI and kubeCTL.
* AZ-cli is used to manage many azure devops services from the command line.
* KubeCTL is a command line tool, and it is used to communicate and control Kubernetes clusters.
* We are deploying the Kubernetes cluster and connecting the cluster and creating the name spaces using AZ-cli and kubeCTL.
* We must connect through azure portal



* Deploying the azure Kubernetes cluster

Graphical user interface, text, application, email

Description automatically generated

* After login into aks cluster the config file will be generated.
* Config file contains secured data and token information, and it will be generated with the help of client certificate data, client key data and token.

Graphical user interface, text

Description automatically generated

* When we launch AKS cluster by default, we get namespaces.
* Namespaces is nothing but organize cluster into virtual sub-clusters.
* Deploying the pods, pod is a small scale of deployment nothing but small program with the help of this we can deploy all our services.
* Commands >kubectl get namespaces

>kubectl get pods

Text

Description automatically generated

* We should not deploy services in default namespaces because due to security.

To create namespace command

>kubectl create ns surya

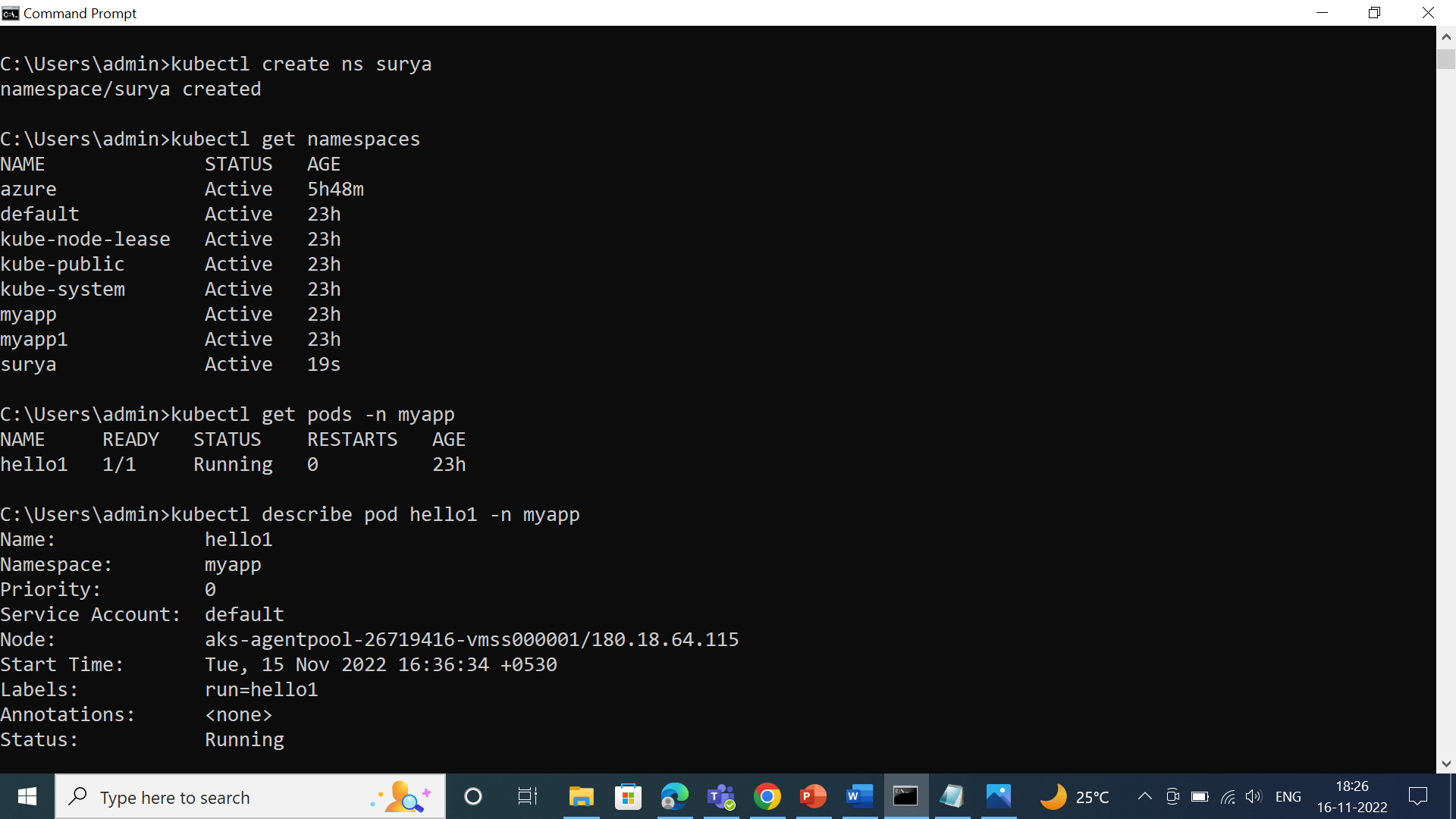
>kubectl get namespaces

To know the pod

>kubectl get pod -n myapp

To describe the whole pod information

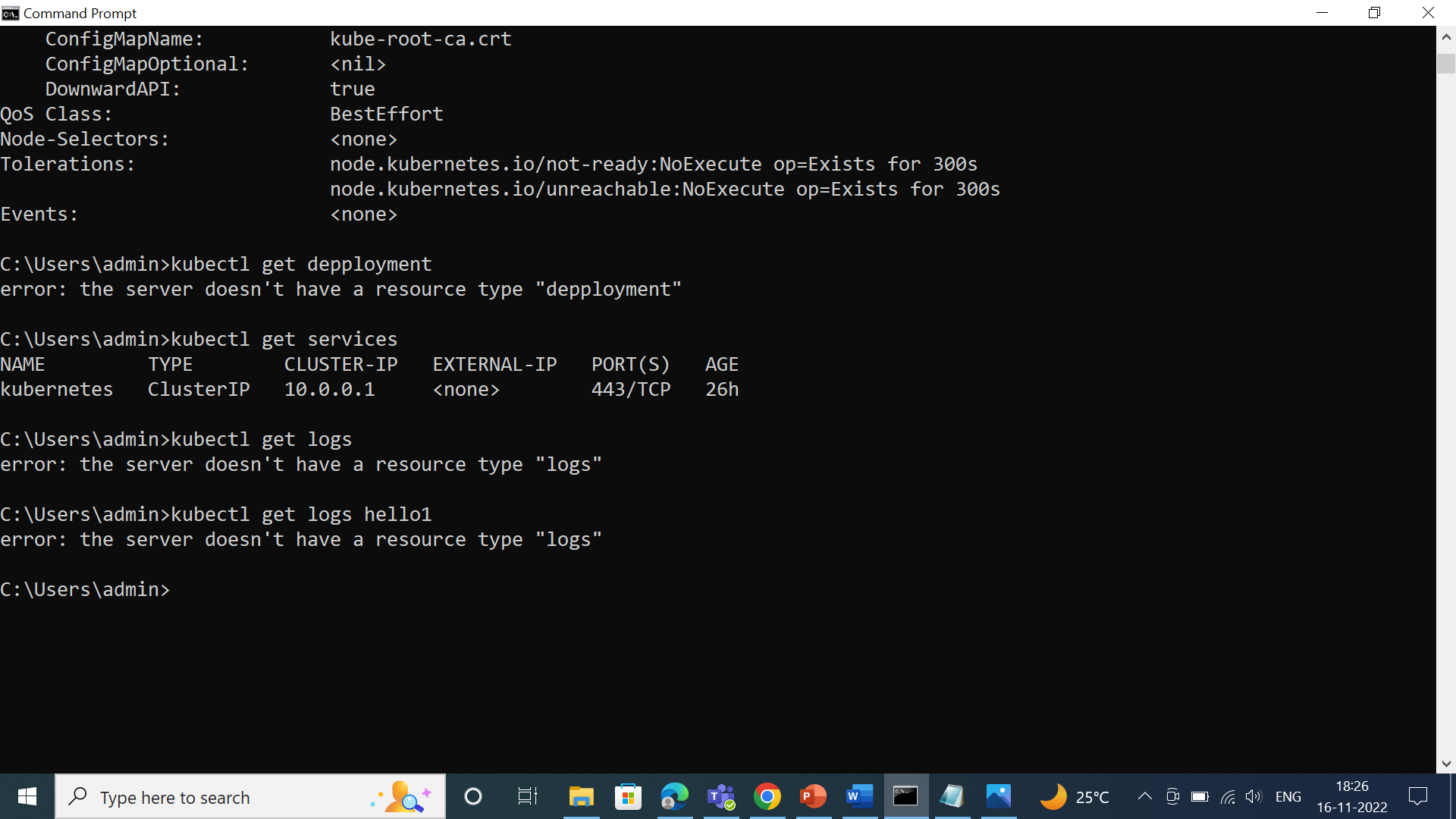
>kubectl describe pod hello1 -n myapp



To know the deployment and services

>kubectl get deployment

>kubectl get services



ACR (azure container registry):

* Azure container registry is nothing, but we place image or to maintain the image in public cloud.
* In real time we are going to create repository and we are placing the image in the repository.
* If we want to send the image from on premise to public cloud, we have to install AZ CLI.
* We need to provide access to the AKS subnet because to pick up the image and to deploy the service.

Graphical user interface, text, application

Description automatically generated

Graphical user interface, text, application

Description automatically generated

Key vault:

* With the help of key vault, we can able to secure the sensible information.
* Azure key vault is a cloud service that provides a secure store for secrets.
* We can securely store keys, passwords, certificates,and other secrets.

We can create and manage key vault through azure portal.

Graphical user interface, text, application

Description automatically generated

Text, table

Description automatically generated

Azure Active Directory (AAD):

* AAD is a Microsoft enterprise cloud-based identity and accesses management (IAM) solution.
* Azure AD is the backbone of 365 system.
* For an organization azure AD helps employee’s signup to multiple services and accesses them anywhere over the cloud with a single set of login credentials.

Graphical user interface, text, application, email

Description automatically generated

* In real time we are giving the group level access and individual, now we are creating the group in azure active directory.
* Azure group is the name of the group in azure AD.

Graphical user interface, text, application

Description automatically generated

* Owner (Surya) only can read, contribute and modify the group nothing but managing now we are adding members to the group.

Graphical user interface, text, application, email

Description automatically generated

Graphical user interface, text, application, email

Description automatically generated

* Now, we are giving access in resources like: APIM, AKS, virtual network and whatever the resources we are created.
* We are giving READ and CONTRIBUTE access in API resource.
* READ - View all resources but not allow to make CONTRIBUTE – Manage all the resources and can make changes.

Graphical user interface, application

Description automatically generated