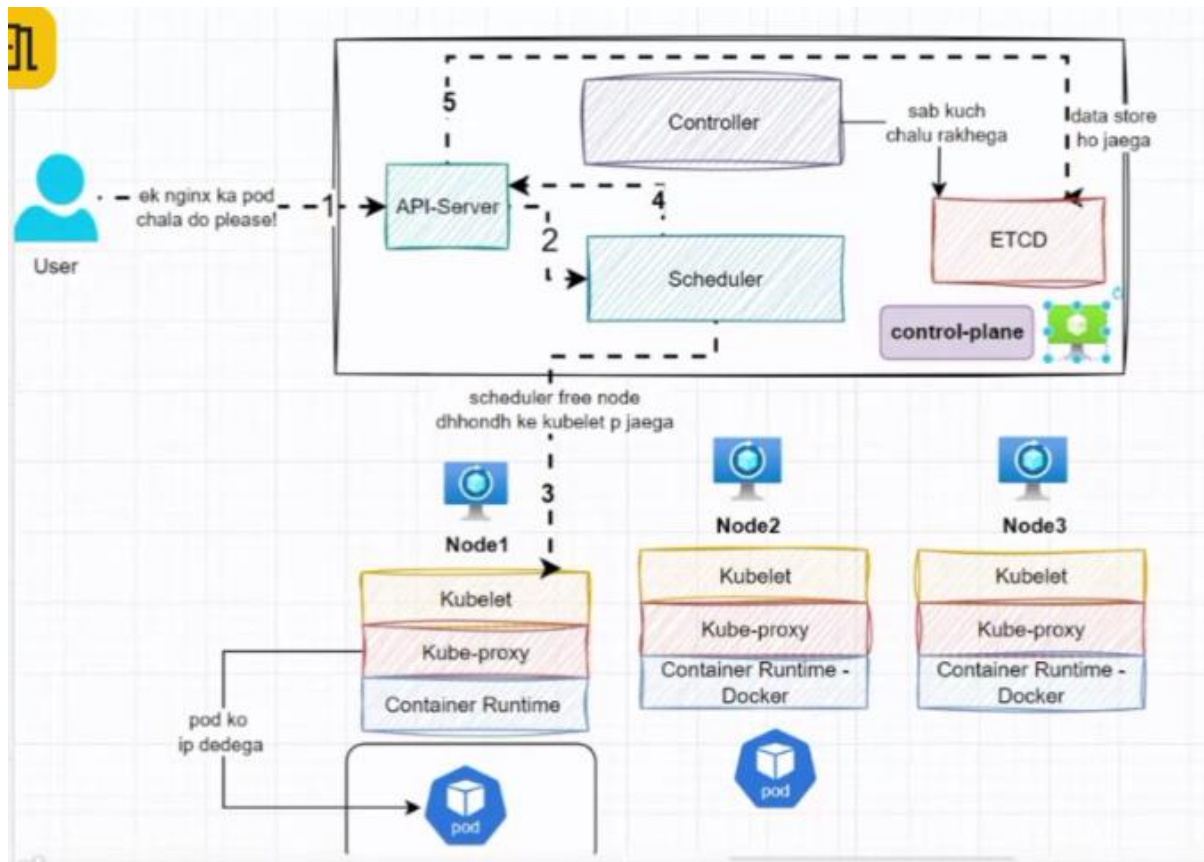


AGENDA – Running nginx pod on kubernetes paas service



1) We can have multiple master nodes for different configuration to maintain availability

▼ Install Tools

- Install and Set Up kubecti on Linux
- Install and Set Up kubecti on macOS
- Install and Set Up kubecti on Windows

► Administer a Cluster

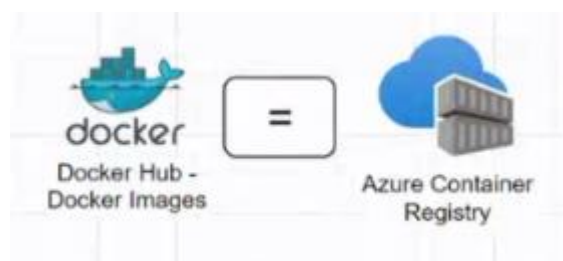
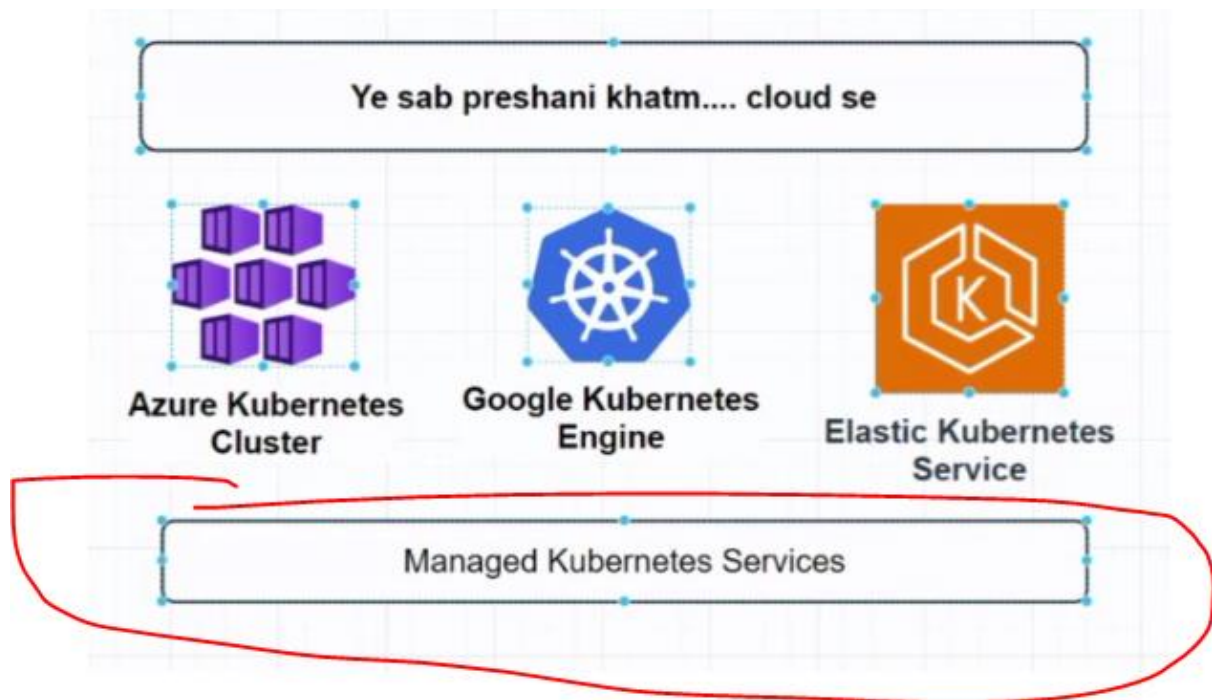
kubeadm

You can use the `kubeadm` tool to create and manage Kubernetes clusters. It performs the actions necessary to get a minimum viable, secure cluster up and running in a user friendly way.

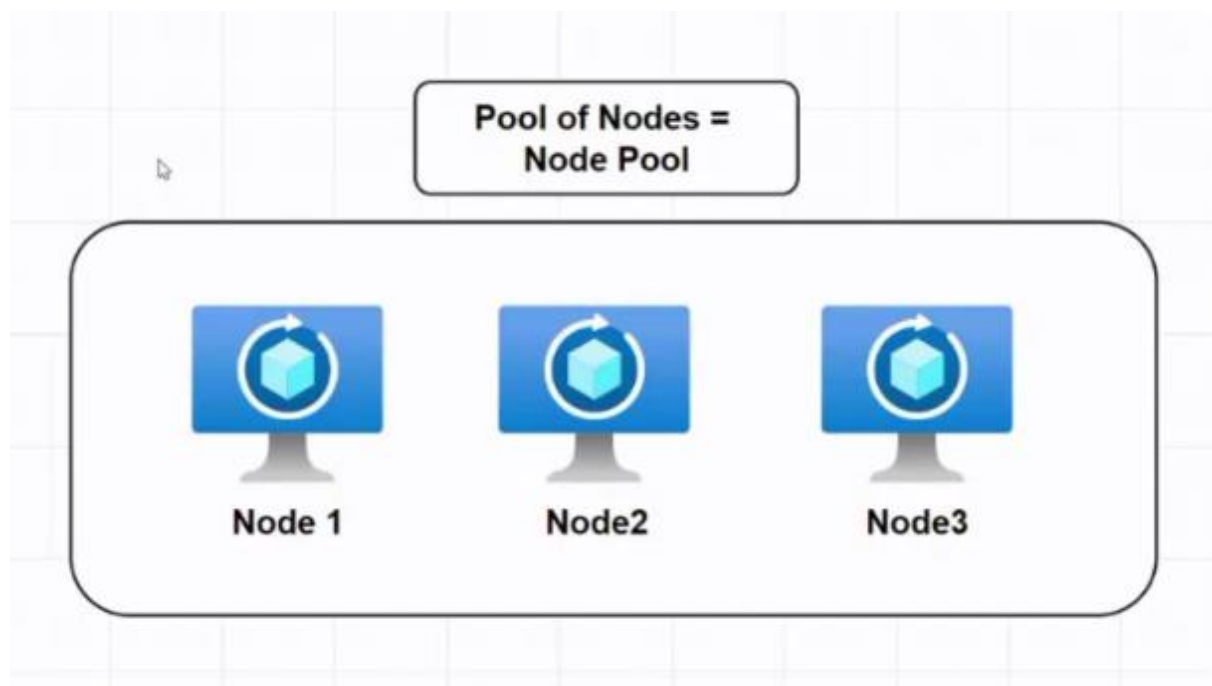
Installing `kubeadm` shows you how to install `kubeadm`. Once installed, you can use it to [create a cluster](#).

[View kubeadm Install Guide](#)

Feedback



2) ACR – Azure Container Registry, where we keep container image



3) SEARCH = AZURE KUBERNETES SERVICES

Microsoft Azure Upgrade Search resources, services, and docs (G+/) Copilot

Home >

Kubernetes services

Default Directory (devopsnain@gmail.onmicrosoft.com)

+ Create Manage view Refresh Export to CSV Open query Assign tags

- Automatic Kubernetes cluster (preview)**
Automated operations for streamlined application deployment.
- Kubernetes cluster**
Customizable setup for added control and flexibility.
- Add a Kubernetes cluster with Azure Arc
- Create a Kubernetes cluster with Azure Arc

Type equals all Resource group equals all Location equals all

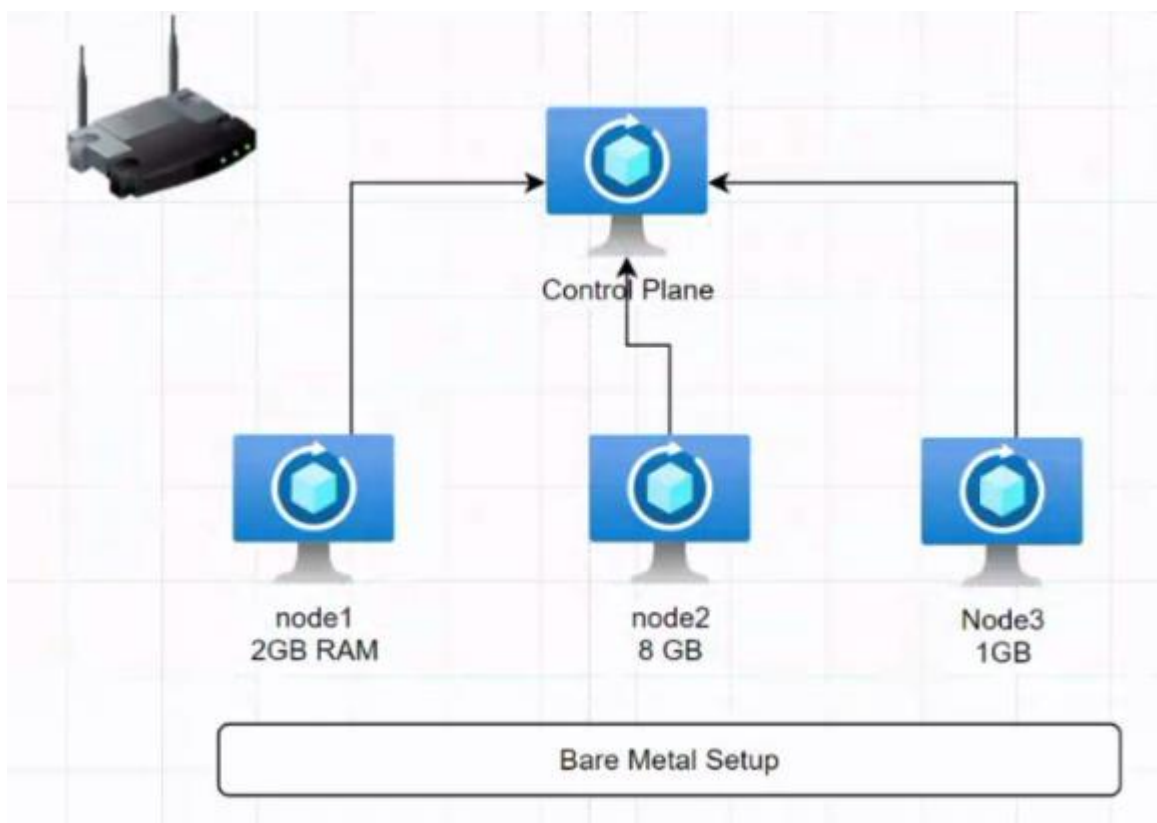
Type ↑↓ Resource group ↑↓ Kuberne... ↑↓ Location ↑↓

No Kubernetes services to display

Use Azure Kubernetes Service to create and manage Kubernetes clusters. Azure will handle cluster operations including creating, scaling, and upgrading, freeing up developers to focus on their application. To create a cluster with Azure Kubernetes Service.

+ Create

4) All 3 nodes should be connected to master (i.e. control plane) which will create our whole cluster. This can also be called as BARE METAL SETUP.



5) Suppose creating "Add node pool"

Microsoft Azure Upgrade Search resources, services, and docs (G+)

Home > Kubernetes services >

Create Kubernetes cluster

Basics **Node pools** Networking Integrations Monitoring Advanced Tags Review + create

Node pools

In addition to the required primary node pool configured on the Basics tab, you can also add optional node pools to handle a variety of workloads [Learn more](#)

+ Add node pool Delete

<input type="checkbox"/>	Name	Mode	Node size	OS SKU	Node count	Availability
No items found						

Creating an Azure Kubernetes Service cluster without a system mode node pool is not permitted

Enable virtual nodes

Previous Next Review + create

6) Select a node size

Home > Kubernetes services > Create Kubernetes cluster > Add a node pool >

Select a VM size

Search by VM size... Display cost: Monthly vCPUs: All RAM (GiB): All Add filter

Showing 725 VM sizes. Subscription: Free Trial Region: Central India Current size: Standard_B2s Learn more about VM sizes

VM Size	Type	vCPUs	RAM (GiB)	Data disks	Max IOPS	Location
Most used by Azure users						
D2s_v3	General purpose	2	8	4	3200	16 (S)
B2s	General purpose	2	4	4	1280	8 (S)
B2ms	General purpose	2	8	4	1920	16 (S)
DS2_v2	General purpose	2	7	8	6400	14 (S)
B4ms	General purpose	4	16	8	2880	32 (S)
D4s_v3	General purpose	4	16	8	6400	32 (S)
DS3_v2	General purpose	4	14	16	12800	28 (S)
D8s_v3	General purpose	8	32	16	12800	64 (S)

Select Prices presented are estimates in INR that include only Azure infrastructure costs and any discounts for the subscription and location. The prices don't include any applicable software costs. Final charges will appear in your local currency in cost analysis and billing views. View Azure pricing calculator

7) After creating cluster in portal we got API server address and Azure provides us the token to enter into cluster


```

Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\HP> az login
Select the account you want to log in with. For more information on login with Azure CLI, see https://go.microsoft.com/fwlink/?linkid=2271136

Retrieving tenants and subscriptions for the selection...

[Tenant and subscription selection]

No      Subscription name      Subscription ID      Tenant
-----
[1] *   Free Trial           fdfcb29b-787d-45d2-a1e6-298e64272bc9   Default Directory

The default is marked with an *; the default tenant is 'Default Directory' and subscription is 'Free Trial' (fdfcb29b-787d-45d2-a1e6-298e64272bc9).
Select a subscription and tenant (Type a number or Enter for no changes):

```

9) Now run commands given to set cluster subscription and download cluster credentials

1 Open Cloud Shell

2 Run the following commands

Set the cluster subscription

```
az account set --subscription fdfcb29b-787d-45d2-a1e6-298e64272bc9
```

Download cluster credentials

```
az aks get-credentials --resource-group rgaks3 --name aks3 --overwrite-existing
```

Sample commands

Once you have run the command above to connect to the cluster, you can run any kubectl commands. Here are a few examples of useful commands you can try.

List all deployments in all namespaces

```
kubectl get deployments --all-namespaces=true
```

List all deployments in a specific namespace

```
kubectl get deployments --namespace <namespace-name>
```

```

PS C:\Users\HP> az account set --subscription fdfcb29b-787d-45d2-a1e6-298e64272bc9
PS C:\Users\HP> az aks get-credentials --resource-group rgaks3 --name aks3 --overwrite-existing
Merged "aks3" as current context in C:\Users\HP\.kube\config
PS C:\Users\HP>

```

10) Copy path and enter into it

```

Merged "aks3" as current context in C:\Users\HP\.kube\config
PS C:\Users\HP>

```

11) Now suppose we have to run nginx inside our cluster

12) SEARCH – kubectl

Install Tools

Set up Kubernetes tools on your computer.

kubectl

The Kubernetes command-line tool, [kubectl](#), allows you to run commands against Kubernetes clusters. You can use kubectl to deploy applications, inspect and manage cluster resources, and view logs. For more information including a complete list of kubectl operations, see the [kubectl reference documentation](#).

[Edit this page](#)
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[kubectl](#)
[kind](#)
[minikube](#)
[kubeadm](#)

kubectl

The Kubernetes command-line tool, [kubectl](#), allows you to run commands against Kubernetes clusters. You can use kubectl to deploy applications, inspect and manage cluster resources, and view logs. For more information including a complete list of kubectl operations, see the [kubectl reference documentation](#).

kubectl is installable on a variety of Linux platforms, macOS and Windows. Find your preferred operating system below.

- [Install kubectl on Linux](#)
- [Install kubectl on macOS](#)
- [Install kubectl on Windows](#)

Install kubectl on Windows

The following methods exist for installing kubectl on Windows:

- [Install kubectl binary on Windows \(via direct download or curl\)](#)
- [Install on Windows using Chocolatey, Scoop, or winget](#)

curl.exe -LO <https://dl.k8s.io/release/v1.31.0/bin/windows/amd64/kubectl.exe>

Run only in browser - <https://dl.k8s.io/release/v1.31.0/bin/windows/amd64/kubectl.exe>

And it will download a kubectl file just set it in environment variables

13) Search kubectl in cmd

```
Command Prompt
drain      Drain node in preparation for maintenance
taint      Update the taints on one or more nodes

Troubleshooting and Debugging Commands:
describe   Show details of a specific resource or group of resources
logs       Print the logs for a container in a pod
attach     Attach to a running container
exec       Execute a command in a container
port-forward Forward one or more local ports to a pod
proxy      Run a proxy to the Kubernetes API server
cp         Copy files and directories to and from containers
auth       Inspect authorization
debug      Create debugging sessions for troubleshooting workloads and nodes
events     List events

Advanced Commands:
diff        Diff the live version against a would-be applied version
apply       Apply a configuration to a resource by file name or stdin
patch       Update fields of a resource
replace     Replace a resource by file name or stdin
wait        Experimental: Wait for a specific condition on one or many resources
kustomize   Build a kustomization target from a directory or URL

Settings Commands:
label       Update the labels on a resource
annotate    Update the annotations on a resource
completion  Output shell completion code for the specified shell (bash, zsh, fish, or powershell)

Subcommands provided by plugins:

Other Commands:
api-resources Print the supported API resources on the server
api-versions  Print the supported API versions on the server, in the form of "group/version"
config        Modify kubeconfig files
plugin        Provides utilities for interacting with plugins
version       Print the client and server version information

Usage:
  kubectl [flags] [options]

Use "kubectl <command> --help" for more information about a given command.
Use "kubectl options" for a list of global command-line options (applies to all commands).

C:\Users\HPD>
```