**Pallavarajan Balaraman**

**Round 1 Task**

**Work Overview:**

* K8s Cluster created in Azure, though I am currently working in On-Prem CaaS Solution (Openshift#3.11)
* Deployed node app serving the index.js to respond “Hello World..” via the registered domain. (url: myapp.pallavdevops.in)
* For high Availablity of cluster- Node autoscalable feature can be utilized while deploying the cluster in Azure AKS – I haven’t used it for costing
* For High Availability of App – HPA configured for deployed Node app
* For CICD, I used Azure Devops Pipeline:
  + Get the Source code 🡪 Build and Push the Docker image to Azure ACR Registry 🡪 Trigger new deployment to NodeApp Deployment in K8s
  + Its simple Pipeline, But in production (org) I have configured in Jenkins for complete Continuous Delivery pipeline [ Source Code🡪 Integration testing 🡪 Deploy to NonProd 🡪 Approval (PO) 🡪 Deploy to Prod 🡪 Mail Notification
* For storing the API keys or DB passwords, can be utilized via:
  + Create a secret in K8s cluster
  + Configure to mount the secret as volume in the application to be used as password to connect
  + For more security, we can add the secret in Vault (Azure KeyVault) and use CSI service to auto fetch the secret from vault and inject it into the Deployment as K8s Volumes
* For securing the webserver
  + Generate the CSR with private key for the Application
  + We can apply for a SSL cert from CA via our CSR
  + I have utilized nginx sidecar to for SSL configuration in nginx.conf in my current organization
  + For more Security, Cert can be added to Secret and utilized as volume mount inside nginx deployment

**Creation of K8s cluster in Public Cloud (Azure):**

Graphical user interface, text, application, email

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**Deployment of Application in K8s:**

Graphical user interface, text

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**App using Loadbalancer IP configured in AzureDNS**

Graphical user interface, text, application

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**AutoScalable Application using HPA in K8s:**

Definition:

Text

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**CICD Impelementation using AzureDevops Pipeline:**

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A screenshot of a computer

Description automatically generated with medium confidence