

Below Link for

<https://github.com/in28minutes/devops-master-class>

In azure DevOps Jobs are run parallel

Github repository contains the backup of all the 8 Azure DevOps pipelines created in the course. You can bookmark and refer to them if you have any problems.

<https://github.com/in28minutes/devops-master-class/tree/master/projects/microservices/01-currency-exchange-microservice-basic/pipeline-backups>

Kubernetes initial has node on top of it it has PODS on top of it has Container. If 2 container are with in pods then they can talk each other in local host with creating the network by default is bridge network .

If we delete the pods with in new seconds new pods will generated with different ID .

Kubectrl delete pods ID. Basically Kubernetes replica set that will continuously monitor the desired number of replica set is needed , If it is less than required then it will automatically starts the new pod

Deployment will make sure that application will not be down while switching over the releases

Kubernetes service will allow to receive the traffic via contact IP , since PODS are temporary and it will be deleted , IP address change etc . When we expose the deployment Kubernetes service will be auto created with a IP that is been used to communicate

Cluster IP service will not have access to external world

Kubectrl get componentstatuses -- Will give the components running inside the master node

Kubectrl rollout history deployment <deployment name>

Watch command is use full to hit the request in 2 minutes and see the response

Watch curl <requesturl>

Kubectrl diff -f deployment.yaml will give the changes made

minReadySeconds property in yaml file will take care

In kubernetes by default yaml configuration TYPE is LoadBalancer , In this scenario for each mS one load balancer is created . SO it is costly . To avoid this we need to create the type to Nodeport . IN node port there will be no external IP's assigned

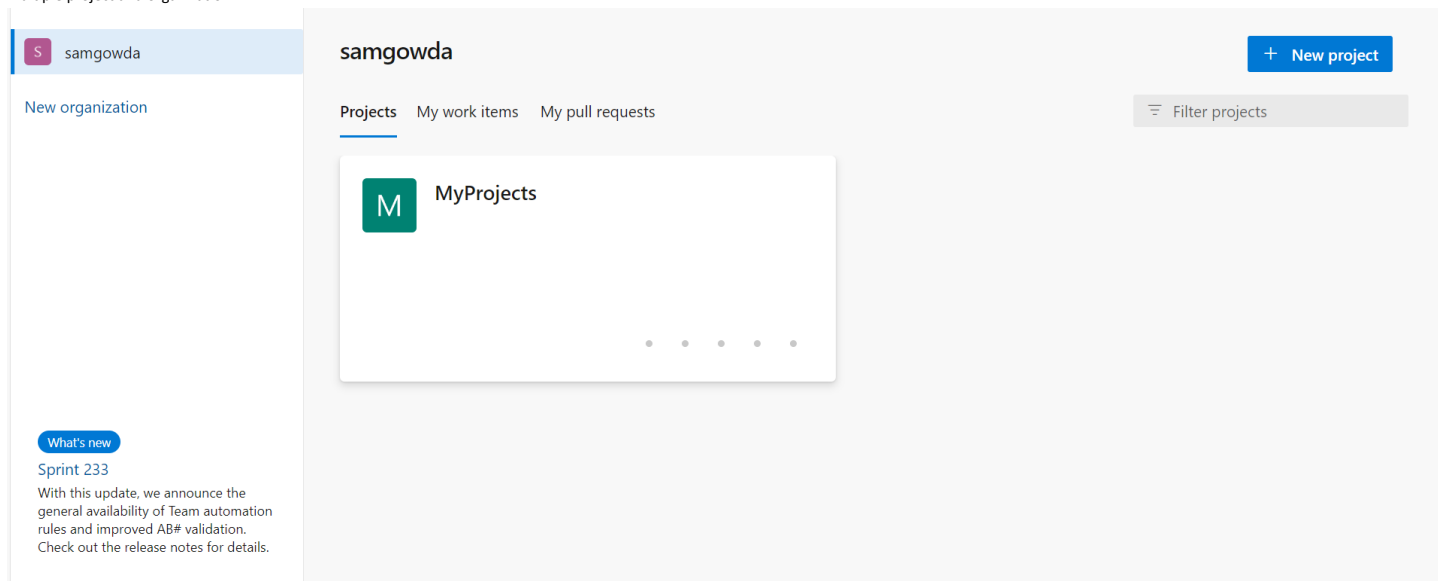
In this scenario we need to create the Ingress to

Azure DevOps

Link for overview of Azure CI & CD : <https://devblogs.microsoft.com/devops/announcing-general-availability-of-azure-pipelines-yaml-cd/>

Previously Azure Dev ops is called VSTS(Visual Studio Team Services) .

After you create the account there will be option to create the project under organization . You can create multiple project and organization



IN case if you don't want to run specific pipe line then we need to go to pipe line setting ,

Variable in Azure Pipeline is created at Job , steps and stages . In azure we have predefined pipeline variables . We can make use of them to get the information . Below is the link

[Azure Pipeline Variables-Link](#)

Terraform

It is IAC - Infrastructure as Code tool

Is used to provision services on the cloud like load balancer , VM

Application Insight

Monday, February 19, 2024 6:35 AM

We need to configure the key application insights service key in to application properties and add the dependency to POM XML

As part of the application deployment process , We need to create the web app service where we need to select the operating system and java based app . Type of VM's needed

Once we create the WebApp . Below is screen

The screenshot shows the Microsoft Azure portal interface for a Web App named 'myBackend-Application'. The left sidebar contains navigation options like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Microsoft Defender for Cloud, Events (preview), Log stream, Deployment, Deployment slots, Deployment Center, Settings, and Configuration. The main content area shows the 'Overview' tab with details such as Resource group (MyApplications), Status (Running), Location (East US), Subscription (Free Trial), and Subscription ID. It also lists the Default domain, App Service Plan (ASP-MyApplications-94aa (B1: 1)), Operating System (Linux), Health Check (Not Configured), and Tags. The bottom of the page shows the Windows taskbar with the search bar and various application icons.

Under configuration option we can specify the environment variable .

Under scaling Option we can select the upgrade or downgrade option

The screenshot shows the 'Scale up (App Service plan)' page for 'myBackend-Application'. The left sidebar has a search bar with 'scal' and a list of settings including Scale up (App Service plan), Scale out (App Service plan), App Service plan, and App Service plan. The main content area displays a table of App Service plans with columns: Name, ACU/vCPU, vCPU, Memory (GB), Remote Storage (GB), Scale (instance), and SLA. The table is divided into two sections: 'Dev/Test (For less demanding workloads)' and 'Production (For most production workloads)'. The 'Basic B1' plan is selected in the Dev/Test section. The bottom of the page shows the Windows taskbar with the search bar and various application icons.

Name	ACU/vCPU	vCPU	Memory (GB)	Remote Storage (GB)	Scale (instance)	SLA
Dev/Test (For less demanding workloads)						
Free F1	60 minutes/day...	N/A	1	1	N/A	N/A
<input checked="" type="checkbox"/> Basic B1	100	1	1.75	10	3	99.95%
Basic B2	100	2	3.5	10	3	99.95%
Basic B3	100	4	7	10	3	99.95%
Production (For most production workloads)						
Premium v3 P0V3	195*	1	4	250	30	99.95%
Premium v3 P1V3	195	2	8	250	30	99.95%

Selecting the right app service is the key element in Azure for cost optimization . ACU (Azure computing Unit) . Isolated Option used to build your own network . So it will be more secure

Under the App service created you can search with Advanced option and click on go will . Then u can use appropriate option to view the log

Az webapp log tail --name <applicationname> -- resource-group <resourcegroup name > this command for viewing from command prompt .

Best Practices of Azure

1. To avoid cost you can delete the resource group that is not been used

2. Select Best VM for each environment example B1, B2 or V1, V2
3. Set billing Alert
4. Check the cost every day by going manually to azure website

TO deploy the code to Azure

Add azure webapp maven plugin dependency in pom.xml

use az login command to log in to azure using command line , it will redirect to windows page where you need to enter the user name and password

mvn azure-webapp:deploy - command for deploy project , make sure you are in project directory where pom.xml is present

ARR Affinity option is under app services , We can make it off for web application so that load will be distributed across the multiple instances .

Basic VM does not have auto scale , SO we need to select V1 series under scale up option we need to select the custom autoscale .

Microsoft Insight is needed to register for V1 auto scale that needs to be registered under subscription

Subscription -> microsoftinsights ---> register

IN production we need to configure scale out and scale up

Deployment slots is for deploying the code to different environment : WE need to add deployment slot tag in pom .xml