**Devops Introduction**

**My self-Ganesh Kumar Reddy , Basically I am from vempalli, Coming to my work experience I am having 4+ years of experience in devops. I was worked in GMS Solutions pvt.Ltd.. I was Started my career in the year of 2018.**

**Devops Tools & Technogies**

* **Related to version control & Source code management I have experience in Git**
* **Related building tool I have experience on Maven**
* **Related to CI/CD I have experience on Jenkins**
* **Related to Static code analysis I have experience on sonarqube.**
* **Related to configuration management tool I have experience on ansible.**
* **Related to configuration tool I have experience on docker**
* **Related to orchestration tool I have experience on kubernetes k8s**
* **Using seliium testing for testing purpose**
* **Related to ticketing tool , bug tracking & project management tool I have experience on jira or service now**
* **Related to cloud platform I have experience on Amazon Web Services(AWS).**
* **Related to AWS services or Resources I have experience on**

1. **VPC**
2. **EC2**
3. **IAM**
4. **S3**
5. **SNS**
6. **ROOT53**
7. **ELB**
8. **SECURITY GROUPS**
9. **CLOUD WATCH**
10. **LAMDA**

* **Then coming to scripting , I have experience on shell scripting**
* **Coming to platform , I have experience on Linux platform , I have basic knowledge on windows powershell.**

**Project details**

**Coming to my project details , I was worked on 2 projects**

1. **E commerce projct (home depot)**
2. **Banking project ( FGMC)**

**1st project ( home depot )**

**This project is about maintaining ecommerce website of 24/7. We should make sure that the site should be available all the time our team job is build and release code for deployment on servers. This particular site developed in 4 stages.**

1. **Integration stage**
2. **Testing**
3. **Stating stage and**
4. **Production stage**

**First guarantee mortgage corporation**

**This project is about maintaining banking website or application 24/7. We should make sure that the site should be available all the time**

**Same as above project**

**Day to Day Activities**

* **We use to work on micro services we should create one repo and push the source code. Along with source code we should put Jenkins files and Docker files for Deployment.**
* **For each deployment we use to write declarative pipelines, where we use to configure Jenkins pipelines Jobs.**
* **For every new code integration we use to go automatically triggers the ci pipeline by using web hook triggers.**
* **Once the pipeline is validated end to end then , we were merging the changes for respective branches like dev/featured to release master branch by adding reviewees**
* **Once the reviewers are conformed the code , that will be merging to the release branch or master branch & the release pipeline will be trigged automatically by using web hook triggers the deployment will happen accordingly**

**MY ROLE**

1. **My role is to monitor the daily automated builds & pipelines Jobs. That is used to work as build & Release engineer**
2. **Once the pipeline jobs are success I use to upgrade them into QA environment & CI setup**
3. **While upgrading if I face any issues I used to raise a (PR) from JIRA and I should go communicate with respective module owner and take the work around for unlocking those upgrade issues.**
4. **Once upgrade are success, I use to take health checks of all the nodes& trigger for automation the automation will be monitored by automation team.**
5. **Once automation is done, should check the automation status. How many are failed & how many node are success. I should mention this report in tracker sheet**
6. **Apart from this, I should take care on activities like end to end repo creation & branching activities & pipeline modifications.**
7. **Apart from that I use to do docker file modifications if any requirements are there means I should build docker images, launching the containers and push those images to the registry .**
8. **I use to monitor emails for clenup scripts with the help of coron tab.**
9. **I use to write ansible playbooks for modyfing the configurations accordingly creating the users also use to write ansible play books for local design deployment**
10. **I also use to write declarative pipe lines for official releases.**
11. **That is design – build – test- QA – docker push to registry**

**AWS activities :-**

* **I use to lauch ec2 instant in cloud & manually creating the VPC’s**
* **I use to take snapshots , attached the modified the values accordingly and also done peering based on the requirments**
* **I use to create users and provide access to aws resources**
* **I use to perform bucket level tasks like create , delete , block or unblock the access**
* **Attaching new policies using IAM**
* **I use to create matric using cloud watch & setup notifications using (SNS).**
* **I use to take care on ELB & Auto scalling.**
* **I use to take care on deployment activities as well as build activities.**

**What are the recent challenges which have you worked current project ?**

1. **In my current project recently implemented Jenkins CI/CD pipeline Azure kubernetes service while doing this active I have faced multiple issues**

**A ) Unable to communicate Azure kubernetes cluster from Jenkins server Initially when I started trouble shooting issue I found the way using service principles we can create the user and from the Jenkins server we can install Azure command line interface LLI once we install the Azure LLI in Jenkins server using Tel net ID , client ID , client server I can establish the connection once I establish the connection then using dot(.)Qube configuration file from the Jenkins server I have connected azure kubernetes service using this process my issue was resolved.**

1. **Application deployment is completed but kubernets parts are showing pending status**
2. **After deployment kubernets parts showing crash loop back off**

**When I deployed**

1. **How to troubleshoot crash loop back off ?**

**The first way to identify to root cause of the error is the start going through the list of potential causes and eliminate them one by one , Starting with the common ones first.**

1. **Check for back off restarting failed container**

**Runs – kubectl describe pod (name)**

**If we get Liveness probe failed and back off restarting failed container messages from the kubelet , as shown below, this indicates the container is not responding and is in the process of restarting.**

**From message**

**Kubectl liveness profile failed:cat: can’t open /tmp/ healthy ‘: no such file or directory**

**Kubelet back off restarting failed container**

**If we get the back off restarting failed container message this means that you are dealing with temporary resource overload, as a result of activity spike. The solution is to adjust period seconds or timeout seconds to give the application a longer window of time to respond.**

1. **Check logs from previous container instance**

**If kubernetes pod details didn’t provide any clues , your next stop should be to pull information from the previous container instance. Stage 3 check deployment logs- kubectl / logs-f deploy –n**

**Originally run kubectl get pods to identify the kubernetes pod that was existing the crash loop back off error.**

**Command – kubectl logs --- previous--- tail lo**

1. **Application deployment is completed but kubernetes parts are showing pending status**

**You don’t have enough resources: we may have exhausted the supply of CPU (or) memory in your cluster, in this case we need to delete pods adjust resource request are add new nodes to the cluster**

**We are using host port: when we find a pod to a host port there are a limited number of places that pod can be scheduled. In most cases, host port is unnecessary. Try using a service object to expose the pod. If we do require host port then we can only schedule as many parts as there are nodes.**

**I have created deployment file and manually added the resource to my node later I have redeployed again my issue got resolve.**