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| GSP321 : Set Up and Configure a Cloud Environment in Google Cloud: Challenge Lab :- |
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|  | Task - 1 : Create development VPC manually :- |
|  |  |
|  | gcloud compute networks create griffin-dev-vpc --subnet-mode custom |
|  |  |
|  | gcloud compute networks subnets create griffin-dev-wp --network=griffin-dev-vpc --region us-east1 --range=192.168.16.0/20 |
|  |  |
|  | gcloud compute networks subnets create griffin-dev-mgmt --network=griffin-dev-vpc --region us-east1 --range=192.168.32.0/20 |
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|  | Task - 2 : Create production VPC manually :- |
|  |  |
|  | gsutil cp -r gs://cloud-training/gsp321/dm . |
|  |  |
|  | cd dm |
|  |  |
|  | sed -i s/SET\_REGION/us-east1/g prod-network.yaml |
|  |  |
|  | gcloud deployment-manager deployments create prod-network \ |
|  | --config=prod-network.yaml |
|  |  |
|  | cd .. |
|  |  |
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|  | Task - 3 : Create bastion host :- |
|  |  |
|  | gcloud compute instances create bastion --network-interface=network=griffin-dev-vpc,subnet=griffin-dev-mgmt --network-interface=network=griffin-prod-vpc,subnet=griffin-prod-mgmt --tags=ssh --zone=us-east1-b |
|  |  |
|  | gcloud compute firewall-rules create fw-ssh-dev --source-ranges=0.0.0.0/0 --target-tags ssh --allow=tcp:22 --network=griffin-dev-vpc |
|  |  |
|  | gcloud compute firewall-rules create fw-ssh-prod --source-ranges=0.0.0.0/0 --target-tags ssh --allow=tcp:22 --network=griffin-prod-vpc |
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|  | Task - 4 : Create and configure Cloud SQL Instance :- |
|  |  |
|  | gcloud sql instances create griffin-dev-db --root-password password --region=us-east1 |
|  |  |
|  | gcloud sql connect griffin-dev-db |
|  |  |
|  | CREATE DATABASE wordpress; |
|  | GRANT ALL PRIVILEGES ON wordpress.\* TO "wp\_user"@"%" IDENTIFIED BY "stormwind\_rules"; |
|  | FLUSH PRIVILEGES; |
|  |  |
|  | exit |
|  |  |
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|  | Task - 5 : Create Kubernetes cluster :- |
|  |  |
|  | gcloud container clusters create griffin-dev \ |
|  | --network griffin-dev-vpc \ |
|  | --subnetwork griffin-dev-wp \ |
|  | --machine-type n1-standard-4 \ |
|  | --num-nodes 2 \ |
|  | --zone us-east1-b |
|  |  |
|  |  |
|  | gcloud container clusters get-credentials griffin-dev --zone us-east1-b |
|  |  |
|  | cd ~/ |
|  |  |
|  | gsutil cp -r gs://cloud-training/gsp321/wp-k8s . |
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|  | Task - 6 : Prepare the Kubernetes cluster :- |
|  |  |
|  | // Open Editor -> wp-k8s -> wp-env.yaml |
|  | Change username and password to :- |
|  | username : wp\_user |
|  | password : stormwind\_rules |
|  |  |
|  | // Save. |
|  |  |
|  | cd wp-k8s |
|  |  |
|  | kubectl create -f wp-env.yaml |
|  |  |
|  | gcloud iam service-accounts keys create key.json \ |
|  | --iam-account=cloud-sql-proxy@$GOOGLE\_CLOUD\_PROJECT.iam.gserviceaccount.com |
|  | kubectl create secret generic cloudsql-instance-credentials \ |
|  | --from-file key.json |
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|  | Task - 7 : Create a WordPress deployment :- |
|  |  |
|  | // In editor : "wp-deployment.yaml" -> replace YOUR\_SQL\_INSTANCE with "griffin-dev-db". |
|  |  |
|  | // Save. |
|  |  |
|  | kubectl create -f wp-deployment.yaml |
|  | kubectl create -f wp-service.yaml |
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|  | Task - 8 : Enable monitoring :- |
|  |  |
|  | // Navigation Menu -> Kubernetes Engine -> Services and Ingress -> Copy Endpoint's address. |
|  |  |
|  | // Navigation Menu -> Monitoring -> Uptime Checks -> + CREATE UPTIME CHECK |
|  | Title : Wordpress Uptime |
|  | // Next -> Target |
|  | Hostname : {Endpoint's address} (without http...) |
|  | Path : / |
|  | // Next -> Next -> Create |
|  |  |
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|  | Task - 9 : Provide access for an additional engineer :- |
|  |  |
|  | // Navigation Menu -> IAM & Admin -> IAM -> ADD |
|  | New Member : {Username 2 from Lab instruction page} |
|  | Role : Project -> Editor |
|  |  |
|  | // Save. |