

GCP Architect Training

support@intellipaat.com - +91-7022374614 - US: 1-800-216-8930 (Toll Free)

GCP-Module-6-Assignment-1-GCP Cloud Deployment Manager COMPLETED by Nagesha KS

Please check the following screenshots for each question.

Tasks To Be Performed:

Using Cloud Deployment Manager, deploy the following things:

1. Ubuntu VM
2. App service of PHP


Welcome – Nagesha-GCP-Proje x +

console.cloud.google.com/welcome/new?project=nagesha-gcp-project-1

Google Cloud Nagesha-GCP-Project 1 Search (/) for resources, docs, products and more Search

Welcome, Nagesha K S

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You're working on project [Nagesha-GCP-Project 1](#)

Number: 872634317172 ID: nagesha-gcp-project-1

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Try our most advanced model: Gemini 1.5 Pro

Try Gemini →

Recommended based on your interest in Web, mobile, game, storage

Pre-built solution templates

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Deploy a three-tier web app

Create a dynamic web app with

08:49
12-10-2024

API Library – APIs and services

console.cloud.google.com/apis/library?project=nagesha-gcp-project-1

Google CloudNagesha-GCP-Project 1

13

API Library

Welcome to the API Library

The API Library has documentation, links and a smart search experience.

Search for APIs and services

FilterType to filter

Visibility

Public(469)

Private(2)

Category

Maps

Maps SDK for Android

Google

Maps for your native Android app.

Maps SDK for iOS

Google

Maps for your native iOS app.

Maps JavaScript API

Google

Maps for your website

Places API

Google Enterprise API

Get detailed information about 100 million places

VIEW ALL (25)

Windows

08:49

12-10-2024

API API Library - APIs and services

console.cloud.google.com/apis/library?project=nagesha-gcp-project-1

Google Cloud

Nagesha-GCP-Project 1

13

N

API Library

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Google Cloud Deployment Manager API

Filter

Type to filter

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Private (2)

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Maps

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Maps for your native Android app.

Maps SDK for iOS

Google

Maps for your native iOS app.

Maps JavaScript API

Google

Maps for your website

Places API

Google Enterprise API

Get detailed information about 100 million places

VIEW ALL (25)

Windows taskbar with icons for File Explorer, Edge, Photoshop, and others.

08:50 12-10-2024

API Library

Google Cloud Deployment Manager API

API Library > "o Google Cloud Deployment Manager API"

Filter Type to filter

1 result

Visibility ^

Public (1)

Category ^

DevOps (1)

Google Enterprise APIs (1)



Cloud Deployment Manager V2 API

Google Enterprise API

The Google Cloud Deployment Manager v2 API provides services for configuring, deploying, and viewing Google Cloud services and APIs via templates which specify deployments of Cloud resources.

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API Cloud Deployment Manager V2

console.cloud.google.com/apis/library/deploymentmanager.googleapis.com?project=nagesha-gcp-project-1

Google Cloud


Nagesha-GCP-Project 1

13

VERIFY ACCOUNT

To avoid losing access to Google Cloud services, an administrator must verify this account.

Product details



Cloud Deployment Manager V2 API

Google Enterprise API

The Google Cloud Deployment Manager v2 API provides services for configuring, deploying,...

ENABLE

TRY THIS API

OVERVIEW

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Overview

The Google Cloud Deployment Manager v2 API provides services for configuring, deploying, and viewing Google Cloud services and APIs via templates which specify deployments of Cloud resources.

Additional details

Type: [SaaS & APIs](#)

Activate Windows

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Windows taskbar with icons for File Explorer, Edge, Word, and others. System tray shows time 08:50 and date 12-10-2024.

API API/Service details – APIs and s

console.cloud.google.com/apis/api/deploymentmanager.googleapis.com/metrics?project=nagesha-gcp-project-1

Google Cloud Nagesha-GCP-Project 1 Search (/) for resources, docs, products and more Search 14

API APIs and services

Enabled APIs and servicesLibraryCredentialsOAuth consent screenPage usage agreements

API/Service details

DISABLE API

To use this API, you may need credentials.

CREATE CREDENTIALS

Cloud Deployment Manager V2 API

The Google Cloud Deployment Manager v2 API provides services for configuring, deploying, and viewing Google Cloud services and APIs via templates which specify deployments of Cloud resources.

By Google Enterprise API

Service name	Type	Status	Documentation	Explore
deploymentmanager.googleapis.com	Public API	Enabled	LEARN MORE	TRY IN API EXPLORER

METRICS

QUOTAS AND SYSTEM LIMITS

CREDENTIALS

Select graphs4 Graphs

1 hour6 hours12 hours1 day2 days4 days7 days14 days30 days

Filters: Versionsv1, v2 and v2betaCredentialsApp Engine default servic...Methods119 options selected

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Windows Taskbar

08:5112-10-2024

API API Library

Compute Engine API (for VM management)

API Library > "o Compute Engine API (for VM management)"

Filter Type to filter

2 results

Visibility

Public (2)

Category

Compute (1)

Operating systems (1)

Google Enterprise APIs (1)

Storage (1)

Security Command Center Services(1)



VM Manager (OS Config API)

Google Enterprise API

VM Manager is a suite of tools that can be used to manage operating systems for large virtual machine (VM) fleets running Windows and Linux on Compute Engine.



Backup and DR Service API

Google

Google Cloud Backup and DR is a managed backup and disaster recovery (DR) service for centralized, application-consistent data protection. Protect workloads running in Google Cloud and on-premises by backing them up to Google Cloud. Perform automated recoveries of protected workloads to alternate locations, enabling proactive DR. Supports Google Cloud VMs (Compute Engine and VMware Engine), on-premises...

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← Product details



VM Manager (OS Config API)

[Google Enterprise API](#)

OS management tools for patching, inventory, and configuration.

ENABLE

TRY THIS API [↗](#)

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RELATED PRODUCTS

Overview

VM Manager is a suite of tools that can be used to manage operating systems for large virtual machine (VM) fleets running Windows and Linux on Compute Engine.

[Learn more](#) [↗](#)

Additional details

Type: [SaaS & APIs](#)
Last product update: 30/04/2022

Activate Windows
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API API/Service details – APIs and s x API API/Service details – APIs and s x +

console.cloud.google.com/apis/api/osconfig.googleapis.com/metrics?project=nagesha-gcp-project-1

Google Cloud Nagesha-GCP-Project 1 Search (/) for resources, docs, products and more Search 14 ? N

API APIs and services Enabled APIs and services Library Credentials OAuth consent screen Page usage agreements

API/Service details DISABLE API

To use this API, you may need credentials. CREATE CREDENTIALS

OS Config API

OS management tools that can be used for patch management, patch compliance, and configuration management on VM instances.

By Google Enterprise API

Service name	Type	Status	Documentation	Explore
osconfig.googleapis.com	Public API	Enabled	LEARN MORE	TRY IN API EXPLORER

METRICS QUOTAS AND SYSTEM LIMITS CREDENTIALS COST

Select graphs4 Graphs

1 hour 6 hours 12 hours 1 day 2 days 4 days 7 days 14 days 30 days

Filters: Versionsv1, v1alpha and v1beta CredentialsApp Engine default servic... Methods76 options selected

Activate WindowsGo to Settings to activate Windows.

Windows taskbar with icons for Start, Task View, File Explorer, Chrome, Word, and others. System tray shows time 08:53 and date 12-10-2024.

API API/Service details – APIs and s... API API/Service details – APIs and s... +


← → ↺ 🌐 console.cloud.google.com/apis/api/deploymentmanager.googleapis.com/metrics?project=nagesha-gcp-project-1&cloudshell=true ☆ N ⋮

Google Cloud Nagesha-GCP-Project 1 Compute Engine API (for VM management) X Search ✦ 📦 📄 15 ? ⋮ N

API APIs and services API/Service details DISABLE API Activate Cloud Shell (G then S)

Enabled APIs and services Library Credentials OAuth consent screen Page usage agreements

To use this API, you may need credentials. CREATE CREDENTIALS



Cloud Deployment Manager V2 API

The Google Cloud Deployment Manager v2 API provides services for configuring, deploying, and viewing Google Cloud services and APIs via templates which specify deployments of Cloud resources.

By Google Enterprise API ?

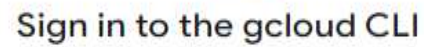
CLOUD SHELL Terminal (nagesha-gcp-project-1) X + Open editor 📄 ⚙️ 📺 📄 ⋮ _ ↕ 🗑️ X

Welcome to Cloud Shell! Type "help" to get started.
Your Cloud Platform project in this session is set to **nagesha-gcp-project-1**.
Use "gcloud config set project [PROJECT_ID]" to change to a different project.
nagesha_ks@cloudshell:~ (nagesha-gcp-project-1) \$

Activate Windows
Go to Settings to activate Windows.

Windows Taskbar: File Explorer, Edge, VS Code, Chrome, Word, PDF Reader, etc.

System Tray: 08:54, 12-10-2024, Network, Volume, Battery icons



```
gcloud auth login --no-launch-browser
```

4/0AVG7fiTiyAF_nAe_H3VRVTfK2EPVFJRmIQ5
20WUGJAzwIPTGbsJLgR2o0hch9ebSLADKbQ

You can close this tab when you're done.

API API/Service details - APIs and s... x gcloud CLI Remote Login x API API/Service details - APIs and s... x +

console.cloud.google.com/apis/api/deploymentmanager.googleapis.com/metrics?project=nagesha-gcp-project-1&cloudshell=true

Google Cloud Nagesha-GCP-Project 1 Compute Engine API (for VM management) Search

API APIs and services

Enabled APIs and services

Library

API/Service details

DISABLE API

To use this API, you may need credentials. CREATE CREDENTIALS

Cloud Deployment Manager V2 API

The Google Cloud Deployment Manager v2 API provides services for configuring,

CLOUD SHELL Terminal (nagesha-gcp-project-1) +

Open editor

```
info: Switch to mpm prefork for package libapache2-mod-php8.3
Module mpm_event disabled.
Enabling module mpm_prefork.
info: Executing deferred 'a2enmod php8.3' for package libapache2-mod-php8.3
Enabling module php8.3.
invoke-rc.d: could not determine current runlevel
invoke-rc.d: policy-rc.d denied execution of start.
Created symlink /etc/systemd/system/multi-user.target.wants/apache2.service -> /usr/lib/systemd/system/apache2.service.
Created symlink /etc/systemd/system/multi-user.target.wants/apache-htcacheclean.service -> /usr/lib/systemd/system/apache-htcacheclean.service.
Setting up libapache2-mod-php (2:8.3+93ubuntu2) ...
Processing triggers for man-db (2.12.0-4build2) ...
Processing triggers for libc-bin (2.39-0ubuntu8.3) ...
Processing triggers for libapache2-mod-php8.3 (8.3.6-0ubuntu0.24.04.2) ...
invoke-rc.d: could not determine current runlevel
invoke-rc.d: policy-rc.d denied execution of restart.
System has not been booted with systemd as init system (PID 1). Can't operate.
Failed to connect to bus: Host is down
-bash: /var/www/html/index.php: Permission denied
nagesha_ks@cloudshell:~/gcp-deployment (nagesha-gcp-project-1)$
nagesha_ks@cloudshell:~/gcp-deployment (nagesha-gcp-project-1)$ gcloud deployment-manager deployments create php-app-deployment --config=php-app-deployment.yaml
The fingerprint of the deployment is b'30A1bA5nUXBBYwa5JZ11tq==
Waiting for create [operation-1728703719857-6243f3324dc80-6241b8b0-f57aca22]...working.
```

Activate Windows

08:58 12-10-2024

API Service details - APIs and ... x gcloud CLI Remote Login x API Service details - APIs and ... x +

console.cloud.google.com/apis/api/deploymentmanager.googleapis.com/metrics?project=nagesha-gcp-project-1&cloudshell=true

Google Cloud Nagesha-GCP-Project 1 Compute Engine API (for VM management) Search 15

API APIs and services API/Service details DISABLE API

Enabled APIs and services Library

To use this API, you may need credentials. CREATE CREDENTIALS

Cloud Deployment Manager V2 API

The Google Cloud Deployment Manager v2 API provides services for configuring,

CLOUD SHELL Terminal (nagesha-gcp-project-1) +

Open editor

```
:\\"Invalid value for field 'resource.networkInterfaces[0]': '{ \\\"network\\\"\\n
: \\\"global/networks/default\\\", \\\"accessConfigs\\\": [{ \\\"type\\\"\\n
: \\\"ONE_TO_ONE_NAT\\\", \\\"name\\\"\\\"...'. Subnetwork should be specified\\n
\\ for custom subnetmode network\\\", \\\"statusMessage\\\": \\\"Bad Request\\\", \\\"requestPath\\\"\\n
: \\\"https://compute.googleapis.com/compute/v1/projects/nagesha-gcp-project-1/zones/us-central1-a/instances\\\"\\n
: \\\"httpMethod\\\": \\\"POST\\\"}\\\"\\n
- code: RESOURCE_ERROR
location: /deployments/php-app-deployment/resources/php-startup-script
message: \\\"{\\\"ResourceType\\\": \\\"compute.v1.instance\\\", \\\"ResourceErrorCode\\\": \\\"400\\\"\\n
, \\\"ResourceErrorMessage\\\": {\\\"code\\\": 400, \\\"errors\\\": [{\\\"domain\\\": \\\"global\\\", \\\"\\n
message\\\": \\\"Invalid value for field 'resource.networkInterfaces[0]': '{ \\\"network\\\"\\n
network\\\": \\\"global/networks/default\\\", \\\"accessConfigs\\\": [{ \\\"type\\\"\\n
\\\"type\\\": \\\"ONE_TO_ONE_NAT\\\", \\\"name\\\"\\\"...'. Subnetwork should be \\n
\\ specified for custom subnetmode network\\\", \\\"reason\\\": \\\"invalid\\\"}\\\", \\\"message\\\"\\n
: \\\"Invalid value for field 'resource.networkInterfaces[0]': '{ \\\"network\\\"\\n
: \\\"global/networks/default\\\", \\\"accessConfigs\\\": [{ \\\"type\\\"\\n
: \\\"ONE_TO_ONE_NAT\\\", \\\"name\\\"\\\"...'. Subnetwork should be specified\\n
\\ for custom subnetmode network\\\", \\\"statusMessage\\\": \\\"Bad Request\\\", \\\"requestPath\\\"\\n
: \\\"https://compute.googleapis.com/compute/v1/projects/nagesha-gcp-project-1/zones/us-central1-a/instances\\\"\\n
: \\\"httpMethod\\\": \\\"POST\\\"}\\\"\\\"\\n
nagesha_ks@cloudshell:~/gcp-deployment (nagesha-gcp-project-1) $
```

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08:58
12-10-2024

API API/Service details - APIs and s x VM instances - Compute Engin x gcloud CLI Remote Login x API API/Service details - APIs and s x +

console.cloud.google.com/apis/api/osconfig.googleapis.com/metrics?project=nagesha-gcp-project-1

Google Cloud Nagesha-GCP-Project 1 Search (/) for resources, docs, products and more Search 14 ? N

API APIs and services API/Service details DISABLE API

Enabled APIs and services

Library

Credentials

OAuth consent screen

Page usage agreements

To use this API, you may need credentials. CREATE CREDENTIALS

OS Config API

Service name osconfig.googleap

Disable OS Config API

If any resources were created by OS Config API, they may be deleted soon after OS Config API is disabled.
All code that uses this project's credentials to call OS Config API will fail.

CANCEL

METRICS QUOTAS AND SYSTEM LIMITS CREDENTIALS COST

Select graphs 4 Graphs

1 hour 6 hours 12 hours 1 day 2 days 4 days 7 days 14 days 30 days

Filters: Versions v1, v1alpha and v1beta Credentials App Engine default servic... Methods 76 options selected

09:11 12-10-2024

API/Service details - APIs and s x VM instances - Compute Engin x gcloud CLI Remote Login x API/Service details - APIs and s x +


console.cloud.google.com/apis/library/osconfig.googleapis.com?project=nagesha-gcp-project-1

Google Cloud Nagesha-GCP-Project 1

14

VERIFY ACCOUNT

Product details



VM Manager (OS Config API)

[Google Enterprise API](#)

OS management tools for patching, inventory, and configuration.

ENABLE

TRY THIS API

OVERVIEW

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Overview

VM Manager is a suite of tools that can be used to manage operating systems for large virtual machine (VM) fleets running Windows and Linux on Compute Engine.

[Learn more](#)


Additional details

Type: [SaaS & APIs](#)

Last product update: 30/04/2022

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09:11
12-10-2024

API API/Service details - APIs and s... VM instances - Compute Engin... +

console.cloud.google.com/apis/api/deploymentmanager.googleapis.com/metrics?project=nagesha-gcp-project-1&cloudshell=true

Google Cloud Nagesha-GCP-Project 1 Compute Engine API (for VM management) Search 16 ? N

API APIs and services API/Service details DISABLE API

Enabled APIs and services

- Library
- Credentials
- OAuth consent screen
- Page usage agreements

To use this API, you may need credentials. CREATE CREDENTIALS

Service name deploymentmanager.googleapis.com

Disable Cloud Deployment Manager V2 API?

If any resources were created by Cloud Deployment Manager V2 API, they may be deleted soon after Cloud Deployment Manager V2 API is disabled. All code that uses this project's credentials to call Cloud Deployment Manager V2 API will fail.

CANCEL DISABLE

METRICS QUOTAS AND SYSTEM LIMITS CREDENTIALS

Select graphs 4 Graphs

1 hour 6 hours 12 hours 1 day 2 days 4 days 7 days 14 days 30 days

Cloud Shell Terminal (nagesha-gcp-project-1) Open editor

09:12 12-10-2024


Cloud Deployment Manager V2 x Welcome - Nagesha-GCP-Proje x

console.cloud.google.com/welcome/new?project=nagesha-gcp-project-1

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Pre-built solution templates ?

Deploy a three-tier web app

Create a dynamic web app with

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Commands

Set Up Cloud Deployment Manager by enabling APIs

Go to **GCP Console > APIs & Services > Library > Search for and enable the following APIs:**

Google Cloud Deployment Manager API.

Compute Engine API (for VM management).

Installed gcloud CLI and Authenticate by running

```
gcloud auth login
```

Deployment Using YAML Files

Created a New Directory for Deployment Manager Files

```
mkdir ~/gcp-deployment
```

```
cd ~/gcp-deployment
```

To deploy an Ubuntu VM and a PHP App, created a Deployment Configuration YAML File by referring

<https://cloud.google.com/appengine/docs/flexible/reference/app-yaml?tab=python>

```
resources:
```

```
#NAME?
```

```
type: compute.v1.instance
```

```
properties:
```

```
zone: us-central1-a
```

```
machineType: zones/us-central1-a/machineTypes/f1-micro
```

```
disks:
```

```
- deviceName: boot
```

```
type: PERSISTENT
```

```
boot: true
```

```
autoDelete: true
```

```
initializeParams:
```

```
sourceImage: projects/ubuntu-os-cloud/global/images/family/ubuntu-2004-lts
```

```
networkInterfaces:
```

```
- network: global/networks/default
```

accessConfigs:

- name: External NAT

type: ONE_TO_ONE_NAT

- name: php-startup-script

type: compute.v1.instance

properties:

zone: us-central1-a

machineType: zones/us-central1-a/machineTypes/f1-micro

disks:

- deviceName: boot

type: PERSISTENT

boot: true

autoDelete: true

initializeParams:

sourceImage: projects/ubuntu-os-cloud/global/images/family/ubuntu-2004-lts

networkInterfaces:

- network: global/networks/default

accessConfigs:

- name: External NAT

type: ONE_TO_ONE_NAT

metadata:

items:

- key: startup-script

value: |

#!/bin/bash

sudo apt update

sudo apt install apache2 php libapache2-mod-php -y

sudo systemctl restart apache2

echo "<?php phpinfo(); ?>" > /var/www/html/index.php

Deployed the YAML Configuration Using Cloud Deployment Manager

```
gcloud deployment-manager deployments create php-app-deployment --config=php-app-deployment.yaml
```

Cleaned Up Resources by deleting the deployment

```
gcloud deployment-manager deployments delete php-app-deployment
```