

Setting Up a Virtual Machine in a Google Cloud Platform

Standard Operating Procedure (SOP)

14 January 2025

RECORD OF CHANGES

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| --- | --- | --- |
| Date | Description of Change(s) | Author |
| 01/14/2025 | Initial Draft | Jimmie Marshall |
|  | Final revision version |  |
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# 1.0 Introduction

This SOP provides clear, step-by-step instructions for setting up a virtual machine (VM) in the Google Cloud Platform (GCP) environment. It is intended for IT professionals tasked with provisioning compute resources in GCP.

# 2.0 Scope

This procedure applies to all personnel involved in provisioning virtual machines within the GCP infrastructure for development, testing, or production use.

# 3.0 Prerequisites

1. Access Permissions: Ensure you have the necessary permissions to create resources in GCP, including Compute Engine permissions.

2. Google Cloud Project: A GCP project must exist where the VM will be created.

3. Billing Enabled: Billing must be enabled for the GCP project.

4. GCP Console Access: Access to the Google Cloud Console via a web browser.

# 4.0 Procedure

## 4.1 Log in to Google Cloud Console

1. Open a web browser and navigate to [Google Cloud Console](https://console.cloud.google.com/).

2. Log in using your Google account credentials

## 4.2 Navigate to Compute Engine

1. In the left-hand navigation menu, click Compute Engine.

2. Select VM instances from the submenu

## 4.3 Enable Compute Engine API (if required)

1. If prompted, click Enable API to activate the Compute Engine service for the project.

2. Wait for the API to initialize.

## 4.4 Create a New Virtual Machine

1. Click the Create Instance button.

# 5.0 Configure Virtual Machine Instance Settings

1. Name the Instance:

• Enter a unique name for the VM (e.g., test-vm-instance).

2. Select a Region and Zone:

• Choose a region and zone that meets your latency and compliance requirements (e.g., us-central1-a).

3. Machine Configuration:

• Under Machine configuration, select:

• Machine family (e.g., General-purpose).

• Machine type (e.g., e2-medium for 2 vCPUs and 4GB RAM).

4. Boot Disk Configuration:

• Click Change under Boot disk and configure:

• Operating System (e.g., Ubuntu 20.04 LTS).

• Disk type (e.g., Standard persistent disk).

• Disk size (e.g., 10 GB).

• Click Select to confirm.

5. Networking Settings:

• Under Network interfaces, select an existing network or create a new one.

6. Firewall Rules:

• Check the boxes to allow HTTP and/or HTTPS traffic, if needed.

# 6.0 Review and Create the Instance

1. Verify the configuration details.

2. Click Create to provision the VM.

# 7.0 Verify Virtual Machine Creation

1. Once the VM is created, it will appear in the VM instances list.

2. Confirm the VM status is Running.

# 8.0 Access the Virtual Machine

1. To connect via SSH:

• Click SSH next to the instance name.

• A terminal window will open in your browser.

2. Test connectivity and functionality.

# 9.0 Post-Setup Action

1. Assign Static IP (if needed):

• Reserve a static IP address and associate it with the VM to maintain consistent connectivity.

2. Install Required Software:

• Use the SSH terminal to install additional software or configurations as needed for your use case.

3. Set Up Monitoring and Alerts:

• Use Google Cloud Monitoring to set up resource usage alerts and logs.

# 10.0 Troubleshooting

1. Issue: VM does not start.

• Resolution: Check quotas, permissions, and region availability.

2. Issue: Cannot SSH into the VM.

• Resolution: Verify firewall rules allow SSH traffic and that the SSH key is correctly configured.

# 11.0 Roles and Responsibilities

• IT Administrators: Follow this SOP to provision VMs.

• Cloud Engineers: Validate configurations and ensure compliance with organizational policies.

# References

• [Azure Virtual Machines Documentation](https://learn.microsoft.com/en-us/azure/virtual-machines/)

• [Azure Networking Best Practices](https://learn.microsoft.com/en-us/azure/architecture/best-practices/network-security/)