

MayaNAS on Google Cloud

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Service Account



Service Account with custom roles needed for HA configuration only.

Check the service account permissions that was used to deploy MayaNAS instances. MayaNAS requires a [service account](#) with sufficient permissions to manipulate disk attachments for proper sharing and fencing, and also storage read-write access to object storage. It also needs sufficient permission to float the virtual IP across multiple instances. If the default service account lacks these permission a separate service account is needed for proper HA configuration

From Google cloud shell or from computer where gcloud CLI is available create a new service account as follows

1. Find the project name associated with the deployment and set it to shell variable PROJECT

```
PROJECT=$(gcloud info --format='value(config.project)')
```

If the PROJECT appears different then switch to the project name used for MayaNAS deployment

```
gcloud config set project YOUR_PROJECT
```

2. Create the service account

```
SA="mayanas-service"
```

```
gcloud iam service-accounts create $SA --display-name "mayanas service account"
```

3. Find the email of the newly created service account and set it to shell variable SA_EMAIL

```
SA_EMAIL=$(gcloud iam service-accounts list --filter="displayName:mayanas service account" \
--format='value(email)')
```

-or-

Set the variable

```
SA_EMAIL= ${SA}@${PROJECT}.iam.gserviceaccount.com
```

4. Add relevant permissions to the newly created service account with the role scope limited to this project only. Your other instances in different projects will not be affected by these changes.

```
# permission to create/modify instances in your project
gcloud projects add-iam-policy-binding $PROJECT --member serviceAccount:$SA_EMAIL \
--role roles/compute.instanceAdmin
```

```
# permission to create/modify network settings in your project
gcloud projects add-iam-policy-binding $PROJECT --member serviceAccount:$SA_EMAIL \
--role roles/compute.networkAdmin
```

```
# permission to create/modify images & disks in your project
gcloud projects add-iam-policy-binding $PROJECT --member serviceAccount:$SA_EMAIL \
--role roles/compute.storageAdmin
```

Update MayaNAS instances with the newly created service account. Unfortunately the instances have to be stopped to attach service account in Google Cloud.

```
gcloud compute instances set-service-account YOUR_INSTANCE --zone us-west1-b \
--service-account=$SA_EMAIL
```



Unfortunately Google Cloud does not allow changing Service Account on a running instance. The instance has to be stopped and then edit settings to attach the newly created Service account for MayaNAS.

Cloud Storage Access Key

For MayaNAS to be configured with cloud object storage (S3) a valid Access Key and Secret is required. This can be generated from

Google Cloud Console Cloud Storage Settings INTEROPERABILITY tab CREATE A KEY

Keys are listed under **Access keys for your user account**

Cache Disk

MayaNAS requires one of the cache disk to be attached and configured before creating ZFS storage pool over high-latency S3 object storage. The cache disk can be configured as

Purpose	Size
ZIL Log device Recommended if object storage is used	1.5 times Instance RAM size
Bcache Cache device Only if Bcache is preferred instead of ZIL	Size of the expected workset
L2ARC Read Cache (optional)	Twice the instance RAM size

Backing Disk

MayaNAS supports creating ZFS storage pool on multiple S3 object storage directly. It is recommended to create the desired number of storage buckets before Getting Started wizard.

Any other disks needed has to be created and attached to the instance before starting the configuration.

```
gcloud compute instances attach-disk MAYANAS_INSTANCE --zone=${CLOUDSDK_COMPUTE_ZONE} --disk=DISK_NAME --device-name DISK_NAME
```



Make sure the device name is same as the disk name used for the disk if using the GCP Console. The Google Cloud Web close by default uses device name to be the disk name which is needed for MayaNAS.

Virtual IP address

To provide virtual IP address for HA operation assign suitable secondary address range to your network subnet

For example to assign virtual IP addresses in 10.9.0.0 network range to default network in the region us-west1

```
gcloud compute networks subnets update default \
  --region us-west1 --add-secondary-ranges range1=10.9.0.0/24
```

After this virtual IP address 10.9.0.100 can be used for MayaNAS HA configuration.

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Change default GUI password

Change the MayaNAS Administration GUI default password to something random by running

```
# /opt/mayastor/web/genrandpass.sh
```

Or to set your own password

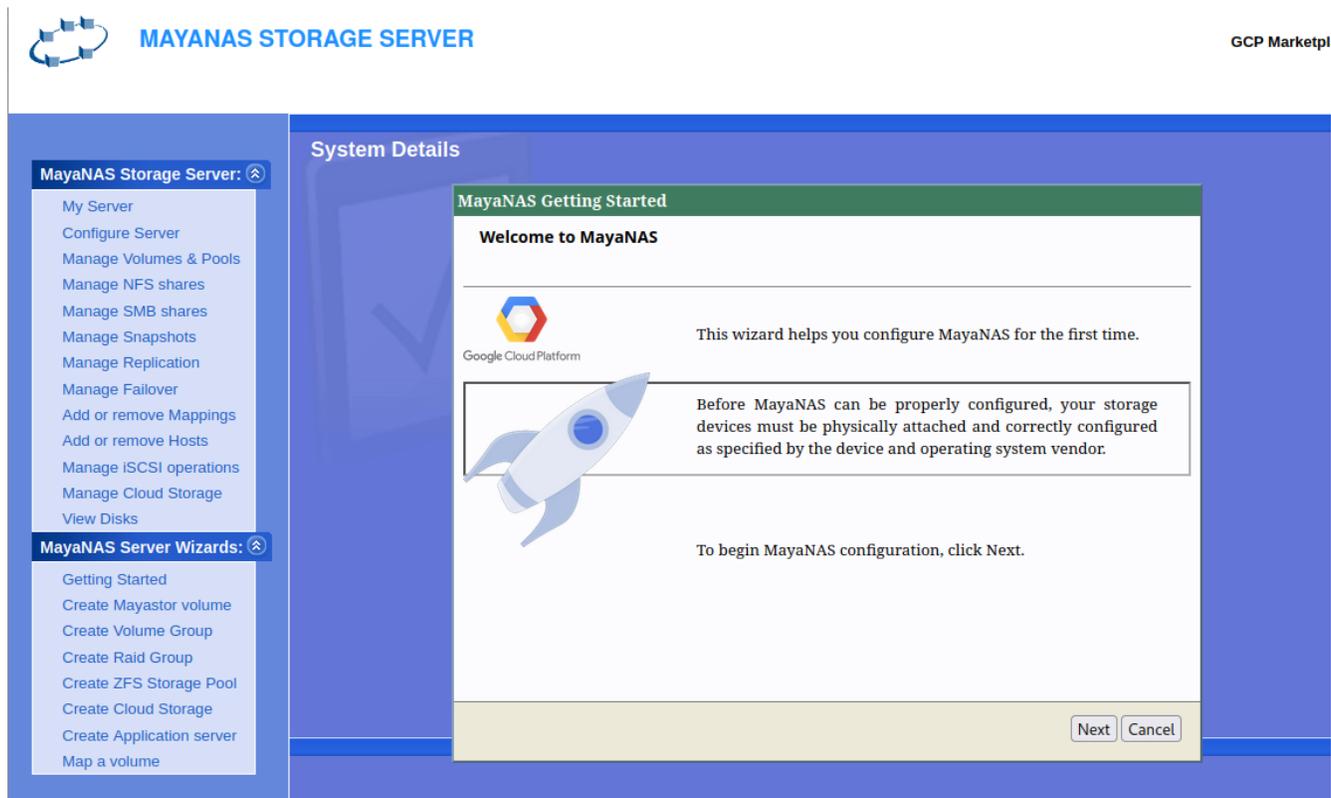
```
# /opt/mayastor/web/changepass.sh
Login name (default admin):
Login password:
Password again:
```

And then restart the web server for password changes to take effect

```
# /opt/mayastor/web/stop
# /opt/mayastor/web/start
```

Connect to MayaNAS Web Console

Now you can proceed with High-Availability setup using the **Getting Started** wizard from Administration Web console available on <http://<MayaNAS1-ip>:2020>



The screenshot shows the MayaNAS Storage Server web console interface. At the top left is the logo and text 'MAYANAS STORAGE SERVER'. At the top right is 'GCP Marketplace'. The main content area is titled 'System Details' and contains a 'MayaNAS Getting Started' wizard. The wizard has a green header and a white body. It says 'Welcome to MayaNAS' and features the Google Cloud Platform logo. Below the logo is a rocket icon and the text: 'This wizard helps you configure MayaNAS for the first time.' A larger text box contains: 'Before MayaNAS can be properly configured, your storage devices must be physically attached and correctly configured as specified by the device and operating system vendor.' At the bottom of the wizard, it says 'To begin MayaNAS configuration, click Next.' and has 'Next' and 'Cancel' buttons. On the left side of the console, there is a navigation menu with two sections: 'MayaNAS Storage Server' and 'MayaNAS Server Wizards'. The 'MayaNAS Storage Server' section includes: My Server, Configure Server, Manage Volumes & Pools, Manage NFS shares, Manage SMB shares, Manage Snapshots, Manage Replication, Manage Failover, Add or remove Mappings, Add or remove Hosts, Manage iSCSI operations, Manage Cloud Storage, and View Disks. The 'MayaNAS Server Wizards' section includes: Getting Started, Create Mayastor volume, Create Volume Group, Create Raid Group, Create ZFS Storage Pool, Create Cloud Storage, Create Application server, and Map a volume.



To avoid public network exposure of port 2020 it is recommended to use ssh tunneling with port forwarding as follows

```
gcloud compute ssh --zone YOUR_ZONE MayaNAS1" --project YOUR_PROJECT -L 2020:localhost:2020
Then access web console as http://localhost:2020
```

Proceed to [Configure MayaNAS](#)