Get started with Project Astra

Project Astra

NetApp
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Get started with the Project Astra beta program in a few steps.

[Number 1] Review Kubernetes cluster requirements

- Project Astra supports Kubernetes clusters that are managed by Google Kubernetes Engine (GKE).
- Clusters must be running a healthy state, with at least one online worker node, and in a Google Cloud region that supports Cloud Volumes Service.
- A cluster must be running Kubernetes version 1.17 or later.
- The image type for each worker node must be Ubuntu.

Learn more.

[Number 2] Set up Google Cloud

1. Set up a Google Cloud account and project.
2. Create a service account that has the required permissions:
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3. Create a service account key.
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Sign up to NetApp Cloud Central so you can access Project Astra and NetApp's other cloud services. Learn more.

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After you've been accepted into the Project Astra Beta program, you'll receive an invitation to join a Project Astra account. Accept this invitation to join the account and log in to the Project Astra interface. Learn more.

[Number 5] Add your first cluster

After you log in, click **Add a Kubernetes Cluster** to start managing your first cluster with Project Astra. Learn more.

Requirements

Get started by verifying support for your Kubernetes clusters, apps, and web browser.

Supported Kubernetes clusters

- The Project Astra beta program supports Kubernetes clusters that are managed by Google Kubernetes Engine (GKE).

  On-prem Kubernetes clusters and clusters running in other cloud providers are not supported at this time.

- Clusters must be running in a healthy state, in a Google Cloud region that supports Cloud Volumes Service for Google Cloud.
- A cluster must be running Kubernetes version 1.17 or later.
- The cluster must have at least one online worker node.
- The image type for each worker node must be Ubuntu.

Supported apps

Project Astra supports all applications running on your Kubernetes clusters.

NetApp has validated some apps to ensure the safety and consistency of the snapshots and backups.

Learn the difference between a Validated and a Standard app.

No matter which type of app that you use with Project Astra, you should always test the backup and restore workflow yourself to ensure that you can meet your disaster recovery requirements.

Supported web browsers

Project Astra supports recent versions of Firefox, Safari, and Chrome with a minimum resolution of 1280 x 720.

Set up Google Cloud

A few steps are required to prepare your Google Cloud project before you can manage Google Kubernetes Engine clusters with the Project Astra beta program.

Quick start

Get started quickly by following these steps or scroll down to the remaining sections for full details.

[Number 1] Set up a Google Cloud account and project

You need a Google Cloud account and a project.

[Number 2] Create a service account that has the required permissions

Create a Google Cloud service account that has the following permissions:

- Kubernetes Engine Admin
- NetApp Cloud Volumes Admin
- Storage Admin
- Service Usage Viewer
- Compute Network Viewer

[Number 3] Create a service account key

Create a key for the service account and save the key file in a secure location.

[Number 4] Enable APIs in your Google Cloud project

Enable the following Google Cloud APIs:

- Google Kubernetes Engine
- Cloud Storage
- Cloud Storage JSON API
- Service Usage
- Cloud Resource Manager API
- NetApp Cloud Volumes Service
- Service Networking API
- Service Management API

[Number 5] Enable private service access to Cloud Volumes Service for Google Cloud

Set up private service access for Cloud Volumes Service for Google Cloud.

The following image depicts the steps that you'll need to complete.

[A conceptual diagram that shows a Google Cloud project]

Create a service account that has the required permissions

Project Astra uses a Google Cloud service account to facilitate Kubernetes application data management on your behalf.

Steps

1. Go to Google Cloud and create a service account by using the console, gcloud command, or another preferred method.
2. Grant the service account the following roles:
    - **Kubernetes Engine Admin** - Used to list clusters and create admin access to manage apps.
    - **NetApp Cloud Volumes Admin** - Used to manage persistent storage for apps.
    - **Storage Admin** - Used to manage buckets and objects for backups of apps.
    - **Service Usage Viewer** - Used to check if the required Cloud Volumes Service for Google Cloud APIs are enabled.
    - **Compute Network Viewer** - Used to check if the Kubernetes VPC is allowed to reach Cloud Volumes Service for Google Cloud.

The following video shows how to create the service account from the Google Cloud console.

▶ https://docs.netapp.com/us-en/project-astra/get-started/media/video-create-gcp-service-account.mp4

(video)

Create a service account key

Instead of providing a user name and password to Project Astra, you'll provide a service account key when you add your first cluster. Project Astra uses the service account key to establish the identity of the service account that you just set up.

The service account key is plaintext stored in the JavaScript Object Notation (JSON) format. It contains information about the GCP resources that you have permission to access.

You can only view or download the JSON file when you create the key. However, you can create a new key at any time.

Steps

1. Go to Google Cloud and create a service account key by using the console, gcloud command, or another preferred method.
2. When prompted, save the service account key file in a secure location.

The following video shows how to create the service account key from the Google Cloud console.

▶ https://docs.netapp.com/us-en/project-astra/get-started/media/video-create-gcp-service-account-

key.mp4 *(video)*

Enable APIs in your Google Cloud project

Your project needs permissions to access specific Google Cloud APIs. APIs are used to interact with Google Cloud resources, such as Google Kubernetes Engine (GKE) clusters and NetApp Cloud Volumes Service storage.

Step

1. Use the Google Cloud console or gcloud CLI to enable the following APIs:
    - Google Kubernetes Engine
    - Cloud Storage
    - Cloud Storage JSON API
    - Service Usage
    - Cloud Resource Manager API
    - NetApp Cloud Volumes Service
    - Service Networking API
    - Service Management API

      The last two APIs are required for Cloud Volumes Service for Google Cloud.

The following video shows how to enable the APIs from the Google Cloud console.

▶ https://docs.netapp.com/us-en/project-astra/get-started/media/video-enable-gcp-apis.mp4 *(video)*

Enable private service access to Cloud Volumes Service for Google Cloud

Project Astra uses Cloud Volumes Service for Google Cloud as the backend storage for your persistent volumes. Other than the APIs that you enabled in the previous step, the only other requirement is to enable private service access to Cloud Volumes Service.

Step

1. Set up private service access from your project to create a high-throughput and low-latency data-path connection, as described in the Cloud Volumes Service for Google Cloud documentation.

Sign up to Cloud Central

The Project Astra beta program is integrated within NetApp Cloud Central's authentication service. Sign up to Cloud Central so you can access Project Astra and NetApp's other cloud services.

Steps

1. Open your web browser and go to NetApp Cloud Central.
2. In the top right, click **Sign up**.
3. Fill out the form and click **Sign up**.

You'll need to provide the email address that you enter in this form to the person who adds you to Project Astra.

[A screenshot of the Cloud Central sign up page where you need to enter your email address, password, name, company, and your phone number, which is optional.]

4. Wait for an email from NetApp Cloud Central.
5. Click the link in the email to verify your email address.

Result

You now have an active Cloud Central user login.

Accept your Beta invitation

After you've been accepted into the Project Astra Beta program, you'll receive an invitation to join a Project Astra account. Accept this invitation to gain access to the Project Astra interface.

Steps

1. Open the email invitation to join a Project Astra account.

   [A screenshot of an email that invites you to join a Project Astra account. It includes a Join Now button that you can click to accept the invitation.]

2. Confirm that the email address in the invitation matches the email address that you used to sign up to Cloud Central.

   If they don't match, then contact the person who added you to the account and let them know the email address that's associated with your Cloud Central account.

3. Click **Join Now**.

   A prompt should load in your web browser.

   [A screenshot that shows the Accept Invitation dialog box that appears in a web browser after you click the Join Now button from the email invitation.]

4. Click **Accept Invitation**.

If you are the first person to join the Project Astra organization, you will be prompted to provide your address and serial number. **Be sure to use a valid physical address.** Please note the account name must be between 5 and 19 characters long. If you are being added to an existing account, you should now see the Project Astra interface.

[A screenshot that shoes the Project Astra Dashboard.]

Add your first cluster to Project Astra

After you log in to the Project Astra beta program, your first step is to add a Kubernetes cluster.

Steps

1. On the Dashboard, click **Add a Kubernetes Cluster**.

   Follow the prompts to add the cluster.

2. **Provider**: Provide the service account key file either by uploading the file or by pasting the contents from your clipboard.

   [screenshot compute select credentials]

   Project Astra uses the service account to discover the clusters running in Google Kubernetes Engine.

3. **Compute**: Select the cluster that you'd like to add and click **Configure storage**.

   Pay careful attention to the Eligible tab. If a warning appears, hover over the warning to determine if there's an issue with the cluster. For example, it might identify the cluster doesn't have a worker node.

4. **Storage**: Select the default storage class that you'd like to use with this cluster and click **Review information**.

   Each storage class utilizes Cloud Volumes Service for Google Cloud.

5. **Review & Approve**: Review the configuration details and click **Add compute**.

   [screenshot compute approve]

The following video shows how to add a cluster.

▶ https://docs.netapp.com/us-en/project-astra/get-started/media/video-manage-cluster.mp4 *(video)*

Result

Project Astra creates an object store for application backups, creates an admin account on the cluster,

and sets the default storage class that you specified. This process takes up to 5 minutes.

What's next?

Now that you've logged in and added your first cluster to the Project Astra beta program, you're ready to start using Project Astra's application data management features.

- Start managing apps
- Protect apps
- Clone apps
- Invite and manage users
- Manage cloud provider credentials
- Manage notifications