



Setup

NetApp Solutions

NetApp
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Setup Overview

Iguazio Installation

Iguazio can be installed on-premises or on a cloud provider. Provisioning can be done as a service and managed by Iguazio or by the customer. In both cases, Iguazio provides a deployment application (Provazio) to deploy and manage clusters.

For on-premises installation, please refer to [NVA-1121](#) for compute, network, and storage setup. On-premises deployment of Iguazio is provided by Iguazio without additional cost to the customer. See [this page](#) for DNS and SMTP server configurations. The Provazio installation page is shown as follows.

The screenshot shows the 'New System (dev)' installation wizard. At the top, there's a progress bar with four steps: 'Installation Scenario' (active), 'General', 'Clusters', and 'Cloud'. Below the progress bar, there are six radio button options for the installation scenario:

- ☐ Bare metal / virtual machines
Installs the system on bare-metal or virtual-machine instances, pre-provisioned with prerequ...
- ☒ AWS
Creates applicable compute/networking resources in AWS and installs the system on the in...
- ☐ Azure
Creates applicable compute/networking resources in Azure and installs the system on the i...
- ☐ AWS (pre-provisioned)
Installs the system on Amazon Web Services instances, manually provisioned beforehand
- ☐ Azure (pre-provisioned)
Installs the system on Microsoft Azure instances, manually provisioned beforehand
- ☐ Advanced
Show advanced options in the next steps

At the bottom right, there are 'BACK' and 'NEXT' buttons.

[Next: Configuring Kubernetes Cluster](#)

Configuring Kubernetes Cluster


This section is divided into two parts for cloud and on-premises deployment respectively.

Cloud Deployment Kubernetes Configuration

Through NetApp Cloud Manager, you can define the connection to the Iguazio Kubernetes cluster. Trident requires access to multiple resources in the cluster to make the volume available.


1. To enable access, obtain the Kubernetes config file from one the Iguazio nodes. The file is located under `/home/Iguazio/.kube/config`. Download this file to your desktop.


2. Go to Discover Cluster to configure.


 Kubernetes Clusters


Discover Cluster


4 Kubernetes Clusters


 kubernet


 <https://3.20.111.39:6443>
Cluster Endpoint


 v1.15.5
Cluster Version


 19.07.1
Trident Version


 0
Working Environments

 kubernet

 <https://172.31.14.31:6443>
Cluster Endpoint

 v1.15.5
Cluster Version

 19.07.1
Trident Version

 1
Working Environments

3. Upload the Kubernetes config file. See the following image.

Upload Kubernetes Configuration File

Upload the Kubernetes configuration file (kubeconfig) so Cloud Manager can install Trident on the Kubernetes cluster.

Connecting Cloud Volumes ONTAP with a Kubernetes cluster enables users to request and manage persistent volumes using native Kubernetes interfaces and constructs. Users can take advantage of ONTAP's advanced data management features without having to know anything about it. Storage provisioning is enabled by using NetApp Trident.

Learn more about [Trident for Kubernetes](#).

Upload File

4. Deploy Trident and associate a volume with the cluster. See the following image on defining and assigning a Persistent Volume to the Iguazio cluster. This process creates a Persistent Volume (PV) in Iguazio's Kubernetes cluster. Before you can use it, you must define a Persistent Volume Claim (PVC).

Persistent Volumes for Kubernetes

Connected with Kubernetes Cluster

Cloud Volumes ONTAP is connected to 1 Kubernetes cluster. [View Cluster](#) ⓘ

You can connect another Kubernetes cluster to this Cloud Volumes ONTAP system. If the Kubernetes cluster is in a different network than Cloud Volumes ONTAP, specify a custom export policy to provide access to clients.

Kubernetes Cluster

Select Kubernetes Cluster

kubernetes

Custom Export Policy *(Optional)*

 ⓘ

Custom Export Policy

172.31.0.0/16

☒ Set as default storage class

☒ NFS ☐ iSCSI

Connect

Cancel

On-Premises Deployment Kubernetes Configuration

For on-premises installation of NetApp Trident, see [TR-4798](#) for details. After configuring your Kubernetes cluster and installing NetApp Trident, you can connect Trident to the Iguazio cluster to enable NetApp data management capabilities, such as taking Snapshot copies of your data and model.

[Next: Define Persistent Volume Claim](#)

Define Persistent Volume Claim

1. Save the following YAML to a file to create a PVC of type Basic.

```
kind: PersistentVolumeClaim
apiVersion: v1
metadata:
  name: basic
spec:
  accessModes:
    - ReadWriteOnce
  resources:
    requests:
      storage: 100Gi
  storageClassName: netapp-file
```

2. Apply the YAML file to your Iguazio Kubernetes cluster.

```
Kubectl -n default-tenant apply -f <your yaml file>
```

Attach NetApp Volume to the Jupyter Notebook

Iguazio offers several managed services to provide data scientists with a full end-to-end stack for development and deployment of AI/ML applications. You can read more about these components at the [Iguazio Overview of Application Services and Tools](#).

One of the managed services is Jupyter Notebook. Each developer gets its own deployment of a notebook container with the resources they need for development. To give them access to the NetApp Cloud Volume, you can assign the volume to their container and resource allocation, running user, and environment variable settings for Persistent Volume Claims is presented in the following image.

For an on-premises configuration, you can refer to [TR-4798](#) on the Trident setup to enable NetApp ONTAP data management capabilities, such as taking Snapshot copies of your data or model for versioning control. Add the following line in your Trident back- end config file to make Snapshot directories visible:

```
{
  ...
  "defaults": {
    "snapshotDir": "true"
  }
}
```

You must create a Trident back- end config file in JSON format, and then run the following [Trident command](#) to reference it:

```
tridentctl create backend -f <backend-file>
```

The screenshot shows the configuration interface for a Jupyter Notebook. At the top, there is a toggle switch labeled 'Enabled' which is checked. Below it is an 'Inactivity window' slider with markers at 5m, 10m, 1h, 2h, and 4h; the 10m mark is selected. Under the 'Resources' section, there are input fields for 'Request' and 'Limit' for both 'Memory' (in GB) and 'CPU' (in millicpu). The 'Running User' field is set to 'admin'. A link to 'Kubernetes documentation' is provided for more information on resource parameters.

The screenshot shows the configuration interface for a Jupyter Notebook, specifically the 'Environment Variables' and 'Persistent Volume Claims (PVCs)' sections. Under 'Environment Variables', there is a button to 'Create a new environment variable'. Under 'Persistent Volume Claims (PVCs)', there is a table with two columns: 'Name' and 'Mount Path'. The 'Name' field is set to 'basic' and the 'Mount Path' is set to '/netapp'. There is also a button to 'Add PVC'.

Next: [Deploying the Application](#)

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