

# Install Data Stores

This section is the part of the OnApp installation procedure.

[Install Control Panel Server](#) > [Install Compute Resources](#)> **Install Data Stores** > [Install Backup Server](#) > [Configure Cloud](#)

Once the Control Panel server has been installed successfully, you can use one of the following processes to set up data stores:

- [Install LVM Data Store](#)
- [Install Integrated Storage Data Store](#)
- [Install SolidFire Data Store](#)

**See also:**

[Install Control Panel Server](#)

[Install Backup Server](#)

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## Install LVM Data Store



**PLEASE NOTE:**

- To configure an [Integrated Storage data store](#), please consult the Admin guide.
- This process assumes you have already configured a compute resource to see the ISCSI/ATAoE block device it is connecting to, and that the SAN disk will be shown when running a fdisk -l.
- All compute resources need access to the same data store. Ensure that you have the block device visible on all compute resources.
- VERY IMPORTANT: only perform this procedure once per data store!
- ALSO IMPORTANT: take care when choosing the disk/partition you wish to use for storing VM data!

1. Add the new data store to OnApp via the Control Panel user interface:

- a. Go to your Control Panel **Settings** menu.
- b. Click the **Data Stores** icon.
- c. Click the **Create Data Store** link at the bottom of the screen.
- d. Follow the steps in the creation wizard:

**Step 1 of 2**

- Enter a label and IP address for your data store.
- Select the data store type: **lvm**.
- Move the slider to the right to enable a data store. When disabled, OnApp will not allow new disks to be created automatically on that data store. This is useful to prevent an established data store from becoming too full. It also lets you prevent the automatic creation of root disks on 'special' data stores (high speed, etc).
- Click **Next**.

**Step 2**

- Set disk capacity in GB.
- If required, you can also bind the data store with a local compute resource. This is helpful if you wish that the data store and a compute resource were located on the same physical server thus decreasing the time needed for a compute resource-data store connection.
- If required, you can also assign the data store to a data store zone. The drop-down menu lists all data store zones set up in the cloud (to add or edit data store zones, see the section on Data store zones in the Settings section of this guide)

e. When you've finished configuring the store, click the **Create Data Store** button.

To use the data store, you have to assign it either to a compute resource or a compute zone.

2. Find the data store's unique identifier (this is needed to create your volume group in step# 4):  
(Read the IDENTIFIER from the data stores screen: [http://xxx.xxx.xxx.xxx/settings/data\\_stores](http://xxx.xxx.xxx.xxx/settings/data_stores))
3. SSH into a compute resource that is able to connect to this data store. Create the physical volume:

```
bash#> pvcreate --metadatasize 50M /dev/xxx
```

Replace xxx with the real device.

4. Create the volume group:

```
bash#> vgcreate onapp-IDENTIFIER /dev/xxx
```

Replace xxx with the real device and IDENTIFIER with the info from the datastore page in the UI.

5. Test compute resource/volume group visibility:

Now you have the new data store formatted you should be able to see the volume group from all compute resources. To test this, run *pvscan* and *vgscan* on all compute resources. Make sure you can see all identifiers on all compute resources.

## Install Integrated Storage Data Store

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Before creating an integrated storage data store:

1. Create one or more Xen or KVM compute resources with integrated storage enabled to group their drives together into a virtual data store.
2. Create a compute zone.
3. Add your compute resources to the compute zone.

After that, you can proceed to the integrated storage data store creation.

To create a new integrated storage data store:

1. Go to your Control Panel's **Integrated Storage > Data Stores** menu.
2. On the screen that appears, you'll see the list of all integrated storage data stores in the cloud.
3. To create a new data store, click the **Create New Integrated Storage Data Store** button, and complete the wizard that follows:

*Name* - give your data store a name

**Show advanced options** - select this check box to reveal the list of advanced settings:

- *Replicas* - specify the number of data copies to increase the resilience to individual drive failure. You can specify 1, 2 or 4 replicas.
- *Stripes* - specify the number of data splittings to increase the number of physical disks included to the virtual disk. You can specify 0, 2 or 4 stripes.
- *Overcommit* - specify the over-provisioning percentage. You can set the following overcommit values: none (0%), 20%, 50% or unlimited (100%).

In order for your hard drives (nodes) to be detected and active, multicast traffic should be enabled on your switch, for the Onapp Integrated Storage Network/VLAN.

### Storage Nodes

- *Filter by compute resource* - use this to filter the nodes (disks) available for inclusion in this data store, by specific compute resources.
- *Filter by performance* - use this to filter the nodes available for inclusion in this data store by performance.

4. Click the **Save** button to create the data store. The data store must be assigned to a compute zone and data store zone before you can provision storage to a VS.

## Install SolidFire Data Store

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You can create one SolidFire data store per cloud that will represent the space available at the SolidFire side.

To create a SolidFire data store:

1. Go to your Control Panel **Settings** menu.
2. Click the **Data Stores** icon.
3. Click the **Create Data Store** link at the bottom of the screen.
4. Follow the steps in the creation wizard:

### Step 1 of 3

- Enter a data store label.
- Specify an IP address to be used for managing the data store via CP (Inasmuch SolidFire data stores have two interfaces, you'll have to specify the IP address for the cluster admin later.)
- Select a **solidfire** data store type.
- Move the slider to the right to enable a data store. When disabled, OnApp will not allow new disks to be created automatically on that data store. This is useful to prevent an established data store from becoming too full. It also lets you prevent the automatic creation of root disks on 'special' data stores (high speed, etc).
- Click **Next**.

### Step 2 of 3

- Set disk capacity in GB.
- If required, you can also bind the data store with a local compute resource. This is helpful if you wish that the data store and a compute resource were located on the same physical server thus decreasing the time needed for a compute resource-data store connection.
- If required, you can also assign the data store to a data store zone. The drop-down menu lists all data store zones set up in the cloud (to add or edit data store zones, see the section on Data store zones in the Settings section of this guide).

### Step 3

- Specify the cluster Admin settings:

*iSCSI IP* - iSCSI IP address

*Username* - specify username for cluster authorization

*Password* - specify password for cluster authorization.

Specify the SolidFire Account settings:

*Username* - specify SolidFire account username

*Initiator secret* - specify iSCSI initiator secret (optional)

*Target secret* - specify iSCSI initiator secret (optional)

*Initiator secret* and *target secret* are optional parameters. They are created automatically for a newly created account. For the new account they will be taken from the SolidFire database.

If you specify target and initiator secrets for an existing user, they will be overwritten.

5. When you've finished configuring the store, click the **Create Data Store** button.

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