

Acronis

Acronis Storage 2.2

Quick Start Guide

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CHAPTER 1

Introduction

To support the growing demand for both high performance and high data availability, modern data centers need a fast, flexible storage solution. Existing solutions, however, are often difficult to manage and maintain, or not flexible enough (e.g., local RAID arrays), or too expensive (e.g., storage area networks).

Acronis Storage is designed to solve these issues. It can run on commodity hardware, so no significant infrastructure investments are needed. It is also is easy to set up and grow on demand.

1.1 About Acronis Storage

Acronis Storage is a software-defined storage solution that allows you to quickly and easily transform low-cost commodity hardware and network equipment into protected enterprise-grade storage like storage area networks (SAN) or network-attached storage (NAS).

Acronis Storage is optimized for storing large amounts of data and provides data redundancy (replication and erasure coding), high availability, self-healing, and storage sharing.

In Acronis Storage, user data is stored on organized clusters of servers in the form of fixed-size chunks. These chunks are automatically replicated and distributed across available servers in the cluster to ensure high availability of user data.

Cluster storage space can be exported through access points like iSCSI, S3, or Acronis Backup Gateway.

1.2 Acronis Storage Deployment Overview

To deploy Acronis Storage for evaluation purposes, you will need to do the following:

1. Install management panel, the web-based user interface for managing Acronis Storage clusters, on one of the servers in your infrastructure.
2. Install Acronis Storage on every other server in your infrastructure.
3. Create a cluster in Acronis Storage.
4. If required, configure an Acronis Storage Gateway to store Acronis Backup Cloud data.

CHAPTER 2

Preparing for Installation

This chapter lists the system requirements for Acronis Storage 2 and recommendations on network setup.

2.1 Minimal Hardware Requirements

Acronis Storage works on top of commodity hardware, so you can create a cluster from regular servers, disk, and network cards. At least five physical servers are required to evaluate all Acronis Storage features.

The following table lists minimal hardware required for a single node in the cluster:

CPU	Dual-core
RAM	2GB
Disks	Three 100GB HDDs
Network	1 Gbps or faster network interface

Even though five physical servers are recommended for the minimal configuration, you can start evaluating Acronis Storage with just one server and add more nodes later. At the very least, an Acronis Storage can be run on a single server or virtual machine. However, such a configuration will have several limitations:

- No data redundancy and protection will be provided. Failure of any disk will result in data loss.
- No high availability. Just one server or virtual machine will be a single point of failure. If it fails or stops, the entire cluster will stop working.

2.2 Network Setup Recommendations

To make your first Acronis Storage experience easier:

- Do not use dynamic IP addresses or set up dynamic IP allocation via DHCP.
- Use the same network interface for both internal and external traffic. You will be able to configure secure networking later.

CHAPTER 3

Installing Acronis Storage

Acronis Storage is installed in a similar way on all required servers or virtual machines. One exception is the first server where you must also install the management panel (only one is allowed per cluster).

To install Acronis Storage, perform the following steps:

1. Install the management panel and storage components on the first server in your infrastructure.
2. In the the management panel, obtain a token needed for the installation of the storage component on other servers.
3. Install the storage component on all other servers.

3.1 Installing Management Panel

To start installing Acronis Storage, do the following:

1. Burn the distribution ISO image onto a DVD disc.
2. Boot the server from the DVD drive.
3. On the welcome screen, choose **Install Acronis Storage**. After the installation program loads, you will see the **Installation Summary** screen.
4. Open the **INSTALLATION DESTINATION** screen and select a device in the **Device Selection** section. Configure other options if required.
5. Open the **ACRONIS STORAGE** screen, in the **Component Installation** section, choose **Management Panel and Storage**.

Component Installation

- Management Panel.** The web user interface for adding and managing storage nodes.
- Storage.** Choose this option only if the Management Panel is already installed.
- Management Panel and Storage.** Both components at once.

Important: Only one management panel is required, so choose this option for the first node only!

Management network

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The Management Network is used by the management node to configure and manage storage nodes. It can also be used by storage administrators for accessing storage nodes directly via SSH. This network should be protected and inaccessible over WAN. It can be the same as the private Storage Network used for communication between storage nodes.

Management Panel network

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The Management Control Panel Network is used by storage administrators to access the web control panel of Storage. In most cases, it can be the same as the Management Network. If, however, the Management Network is only accessible by storage nodes, choose another network for the control panel, one that can be accessed by storage administrators. For security reasons, the web control panel should not be accessible from public/WAN networks.

Create a password for the Management Panel

Confirm the password

6. Make sure that the appropriate network interface is selected in both **Management Panel network** and **Management network** drop-down lists.
7. Create a password for a superadmin account of the management panel, confirm it in the corresponding field, and memorize it.
8. Click **Done** and **Begin Installation**. While Acronis Storage is installing, create a password for the root account. Installation will not finish until the password is created.

Once the installation is complete, the node will reboot automatically.

3.2 Obtaining the Token

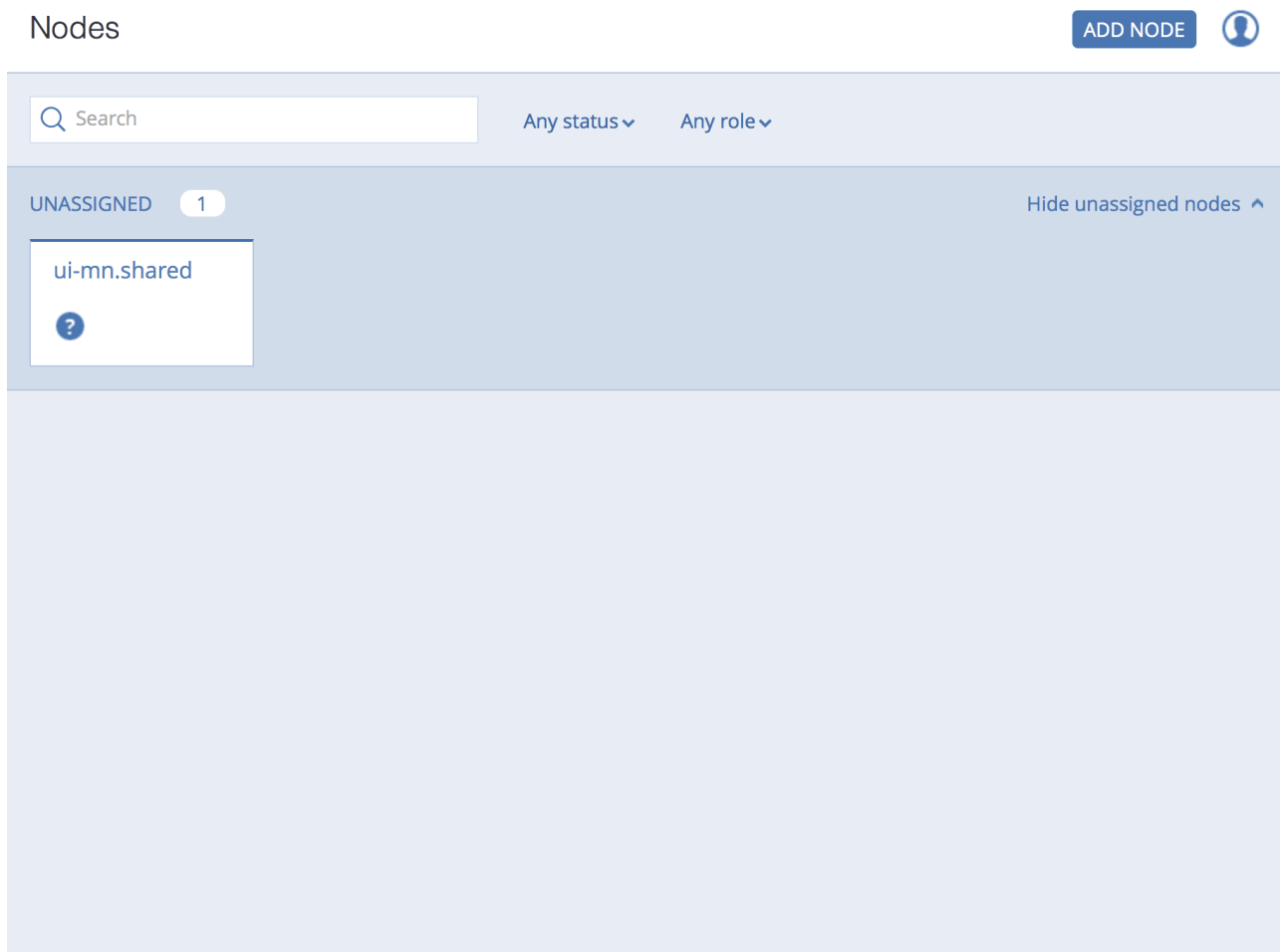
To add more nodes to the environment, you will need to install the storage component only. Such servers will run services related to data storage and will be added to the Acronis Storage infrastructure during installation.

3.2. Obtaining the Token

For security reasons, you will need to provide a token that can only be obtained from the management panel you have installed on the first server. A single token can be used to install the storage component on multiple servers in parallel.

To obtain a token:

1. On any computer with access to the management panel network, open a web browser and visit the management node IP address on port 8888: `http://<management_node_IP_address>:8888`.
2. Log in to the management panel by specifying the `admin` username and the password for a superadmin account created during the installation of the management panel. You will see the **NODES** screen where the node will be shown in the **UNASSIGNED** list.



3. In the upper-right corner of the **NODES** screen, click **ADD NODE**.

Get started by adding nodes

- 1 Download ISO and start installation process.
- 2 Configure node network. The node should be able to operate with the Management Portal.
- 3 Select Acronis Storage installation in the configuration screen.
- 4 Use the following token in the installer to connect the node to the UI:

9cfb2862

Valid till July 24, 2016, 9:46 pm

[Generate new token](#)

The token can be used to install multiple nodes. When you generate new token, the previous one becomes invalid.

- 5 Complete the installation. After reboot the node will appear in unassigned nodes list.



4. On the **Add node** panel, obtain a token. You can generate a new one if needed. Generating a new token invalidates the previous one.
5. Save the token and proceed to installing the storage component on other servers.

3.3 Installing Storage

Having obtained the token, boot the next server from the same installation media and do the following on the **Acronis Storage** screen:

1. Choose **Storage**.

Component Installation

Management Panel. The web user interface for adding and managing storage nodes.

Storage. Choose this option only if the Management Panel is already installed.

Management Panel and Storage. Both components at once.

Management Node

Enter the IP address or hostname of the node with the Management Panel

Token

Enter a token for the new storage node.
To obtain a token, click "ADD NODE" on the "Nodes" screen in the Management Panel.

2. In the **Management node** field, specify the IP address of the node with the management panel.
3. In the **Token** field, specify the acquired token. A single token can be used to install storage component on multiple nodes in parallel.
4. Click **Done**.
5. Open the **INSTALLATION DESTINATION** screen, select a device in the **Device Selection** section, and click **Done**. Configure other options if required.
6. Click **Begin Installation**. While Acronis Storage is installing, create a password for the root account.

To add more nodes to the infrastructure, repeat these installation steps.

If you installed the storage component on the last server, log in to the management panel and make sure that all the storage nodes are present in the **UNASSIGNED** list on the **NODES** screen. Then proceed to creating your first cluster.

CHAPTER 4

Creating the Cluster

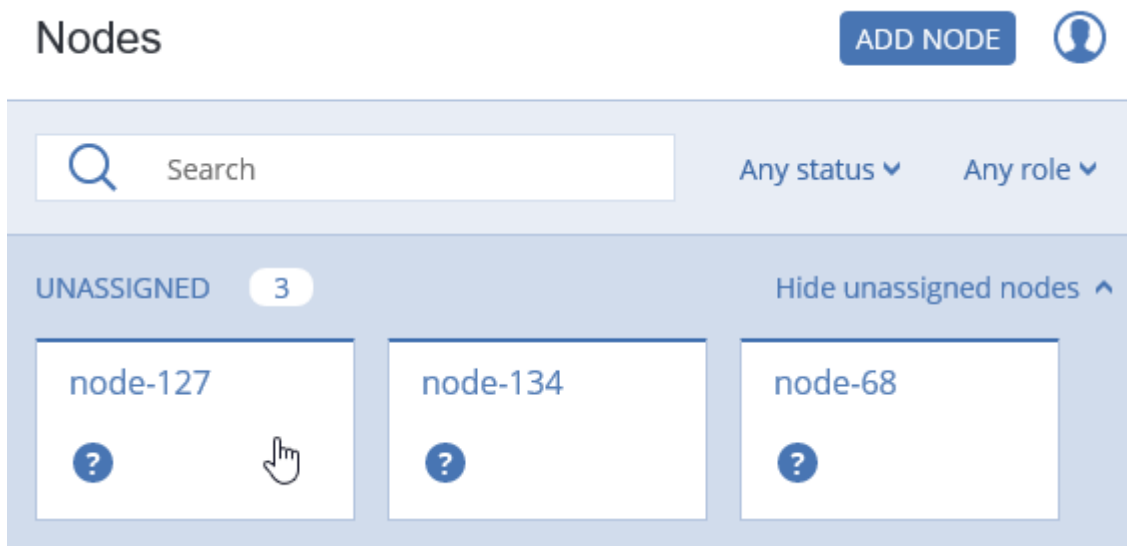
With the management panel ready and with all the nodes present in the **UNASSIGNED** list, you can create your first cluster.

To create an Acronis Storage cluster means to create a cluster on one (first) node, then populate it with more nodes.

4.1 Creating the Cluster on the First Node

To create a cluster, do the following:

1. In the management panel, open the **NODES** screen and click a node in the **UNASSIGNED** list.



2. On the node overview screen, click **Create cluster**.

4.1. Creating the Cluster on the First Node

3. In the **Cluster** field, type a name for the cluster. The name may only contain Latin letters (a-z, A-Z), numbers (0-9), underscores ("_") and dashes ("-").

× New cluster

Cluster

cluster1

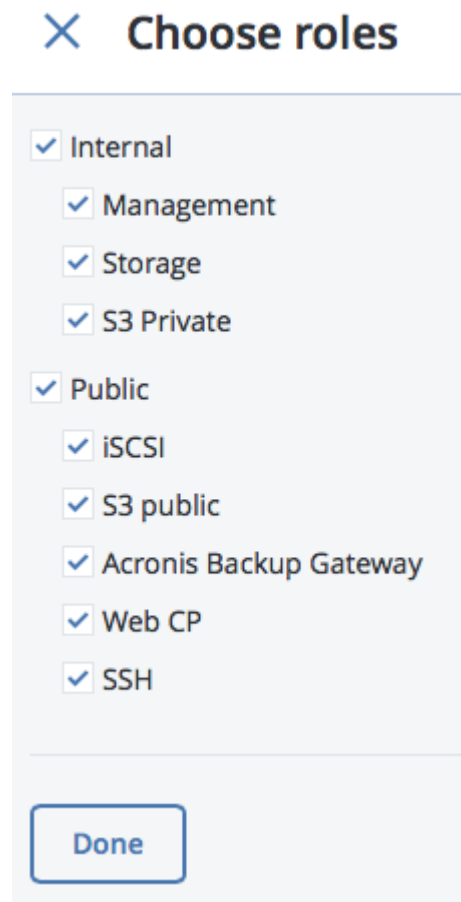
Storage interface

eth0 - 10.100.6.105

Encryption

New cluster Advanced configuration

4. Click the cogwheel icon next to the **Storage interface** drop-down list.
5. On the **Network Configuration** screen, select a network interface and click **Choose role**.



8. Select all roles by checking **Internal** and **Public** and click **Done**.
9. Click x and, back on the **New cluster** screen, click **New Cluster** to have Acronis Storage assign the roles to disks automatically.

You can monitor cluster creation progress in the **HEALTHY** list of the **NODES** screen. The creation might take some time depending on the number of disks to be configured. Once the automatic configuration is complete, the cluster is created.

4.2 Adding Nodes to the Cluster

To add an unassigned node to the cluster, do the following:

1. On the **NODES** screen, click an unassigned node.

4.2. Adding Nodes to the Cluster

Nodes

ADD NODE

Search Any status Any role

UNASSIGNED 3 Hide unassigned nodes

node-127 node-134 node-68

HEALTHY 1

node-125

2. On the node overview screen, click **Join cluster**.

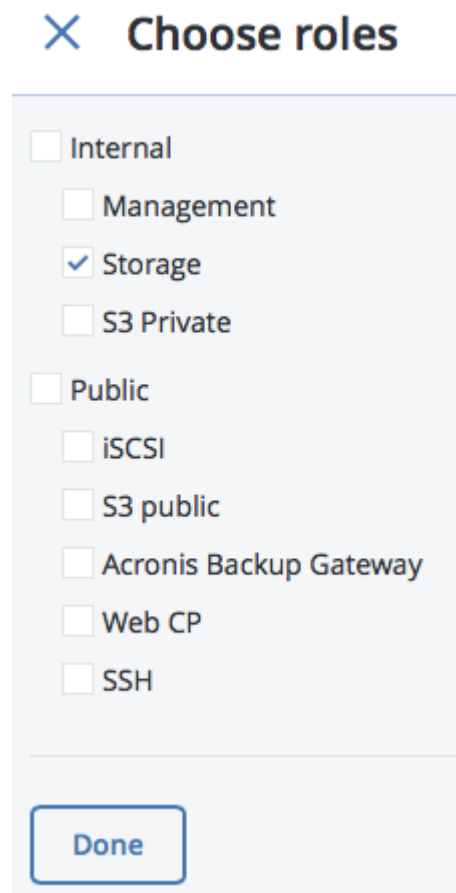
Join cluster

Storage interface

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Join cluster Advanced configuration

3. Click the cogwheel icon next to the **Storage interface** drop-down list.
4. On the **Network Configuration** screen, select a network interface and click **Choose role**.



× Choose roles

- Internal
 - Management
 - Storage
 - S3 Private
- Public
 - iSCSI
 - S3 public
 - Acronis Backup Gateway
 - Web CP
 - SSH

Done

5. On the **Choose roles** panel, check **Storage**, and click **Done**.
6. Click **x** and, back on the **Join cluster** screen, click **Join cluster** to have Acronis Storage assign the roles to disks automatically and add the node to the cluster.

To complete cluster deployment, add all the unassigned nodes to the cluster.

Once the cluster deployment is complete, you can proceed to configuring **Network Interface Roles** and **Exporting Acronis Storage Cluster Data** as described in Acronis Storage 2.0 installation and administrator's guides, respectively.

CHAPTER 5

Configuring the Cluster

This chapter describes how to perform some of the configuration tasks after creating the cluster.

5.1 Setting Up Acronis Backup Gateway

To store Acronis Backup Cloud data in Acronis Storage, configure Acronis Backup Gateway on one of the following back-ends:

- ABGW cluster on top of the Acronis Storage cluster or
- ABGW access point for an NFS share mounted on a node in parallel with the Acronis Storage cluster.

The following sections describe configuration steps for both.







The complete instructions on how to set up ABGW are provided in the *Acronis Storage Administrator's Guide*.

5.1.1 Configuring Acronis Backup Gateway Clusters

To set up an Acronis Backup Gateway cluster on top of an Acronis Storage cluster, do the following:

1. On the **SERVICES > Acronis Backup Nodes** screen, select nodes, click **Create Gateway** and **This Acronis Storage cluster**.
2. On the **Configure network** panel, configure network for each node:
 - 2.1. Click the cogwheel icon next to a network interface.

✕ Configure Network

 10.250.14.34 	
ABGW private	ABGW public
<input type="text" value="ens160 - 10.250.14.34"/> 	<input type="text" value="ens160 - 10.250.14.34"/>
 10.250.14.35 	
ABGW private	ABGW public
<input type="text" value="please select"/> 	
<input type="button" value="PROCEED"/>	

- 2.2. On the **Network Configuration** screen, select a network interface, click **Choose roles**, and check **ABGW private** and **ABGW public** roles.

✕ Choose roles

- Internal
 - Management
 - Storage
 - S3 private
 - ABGW private
- Public
 - iSCSI
 - S3 public
 - ABGW public
 - Web CP
 - SSH
- Custom (configure)

DONE

2.3. Click **DONE** and **X** and repeat the above steps for each node.

3. Back on the **Configure Network** panel, make sure the network interfaces with assigned ABGW roles are selected for each node and click **Proceed**.
4. Select a **Tier**, a **Failure domain**, choose a **Data redundancy** mode, and click **Proceed**.

Note: Redundancy by replication is not supported for Acronis Backup Gateway.

5. Specify the external DNS name for this gateway, e.g, `backupgateway.example.com`. Make sure that the required port is open for outgoing Internet connections and incoming connections from Acronis Backup Cloud on each node running the gateway service.

Important: Configure your DNS server according to the example suggested in the management panel.

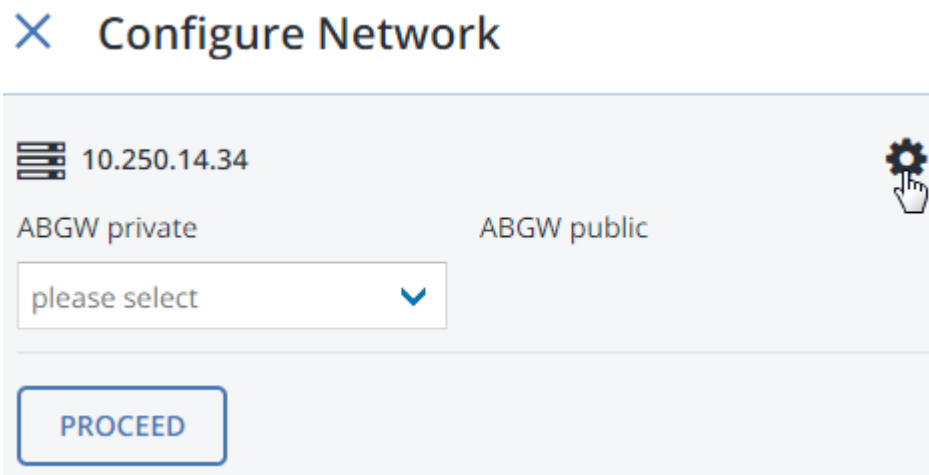
6. Click **Proceed**, specify Acronis Backup Cloud credentials, and click **Done**.

5.1.2 Connecting External NFS Shares through Acronis Backup Gateway

Note: In the current version of Acronis Storage, only one cluster node may store backups of an NFS volume.

To set up an external NFS share on a cluster node through Acronis Backup Gateway, do the following:

1. On the **SERVICES > Acronis Backup Nodes** screen, select a node, click **Create Gateway** and **Network File System**.
2. On the **Configure network** panel, configure a network interface:
 - 2.1. Click the cogwheel icon next to the network interface.



- 2.2. On the **Network Configuration** screen, select a network interface, click **Choose roles**, check **ABGW private** and **ABGW public** roles, and click **DONE** and **X**.

✕ Choose roles

- Internal
 - Management
 - Storage
 - S3 private
 - ABGW private
- Public
 - iSCSI
 - S3 public
 - ABGW public
 - Web CP
 - SSH
- Custom (configure)

DONE

3. Back on the **Configure Network** panel, make sure the network interface with the assigned ABGW roles is selected and click **Proceed**.
4. On the **Volume parameters** screen, specify the **NFS hostname or IP** of the NFS share as well as the name of its volume in the **Export name** field.

< Volume parameters

NFS hostname or IP

Export name

PROCEED

5. Specify the external DNS name for this gateway, e.g, `backupgateway.example.com`. Make sure that the required port is open for outgoing Internet connections and incoming connections from Acronis Backup Cloud on each node running the gateway service.

Important: Configure your DNS server according to the example suggested in the management panel.

6. Click **Proceed**, specify Acronis Backup Cloud credentials, and click **Done**.