



Hedvig UI Installer User Guide

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Introduction to the Hedvig UI Installer

Hedvig now has a user interface (UI)-based installation process.

- The Hedvig UI Installer is an enhancement to the previous command line-based installer.
- This tool improves the ease of use for installation of the Hedvig product.
- This user interface-based installer can be used to replace or augment command line-based installations.

Requirements for the Hedvig UI Installer

- The UI installer is bundled with the Hedvig product.
- It runs on the deployer node, which is a management VM available from Hedvig.
- It is deployed and available with version 4.1 and above, and since it runs only on the deployer node, it is bundled with the Hedvig release.

Architecture for the Hedvig UI Installer

- The UI Installer runs as a web service on the deployer node.
- It is self-contained and requires port 80 access to the deployer.
- It is installed as a part of the Hedvig packages, and upgrades are handled by the installation, itself.

Installing a Rack Unaware (Agnostic) Cluster

The following screens are displayed when a *Rack Unaware* cluster (also referred to as an *Agnostic* cluster) is installed. This is the simplest of setups, because it does not require any network topology to be defined for the storage nodes and proxies.

The replication factor is automatically set as 3 (default). Name resolution is supported via DNS or via `/etc/hosts`. In either case, the storage node name must be set to a fully qualified domain name (FQDN). Storage and proxy names do not have to adhere to any naming convention in this particular setup.

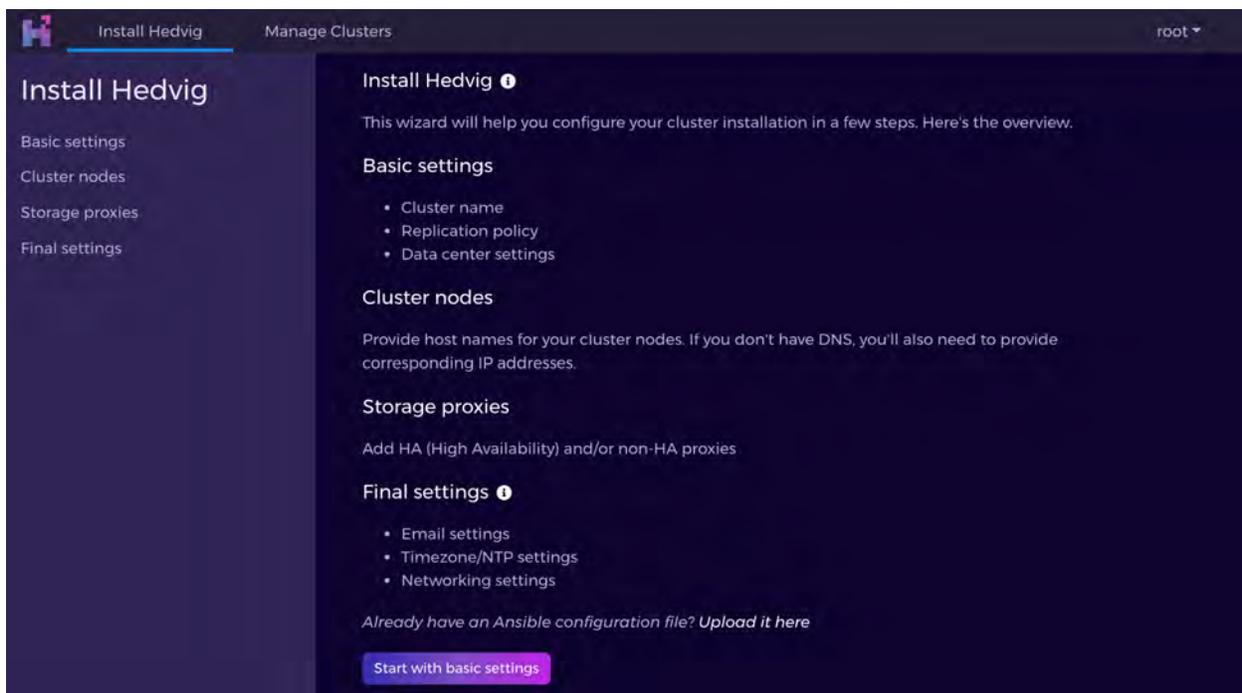


Figure 1: Installing a Rack Unaware Cluster - Screen 1

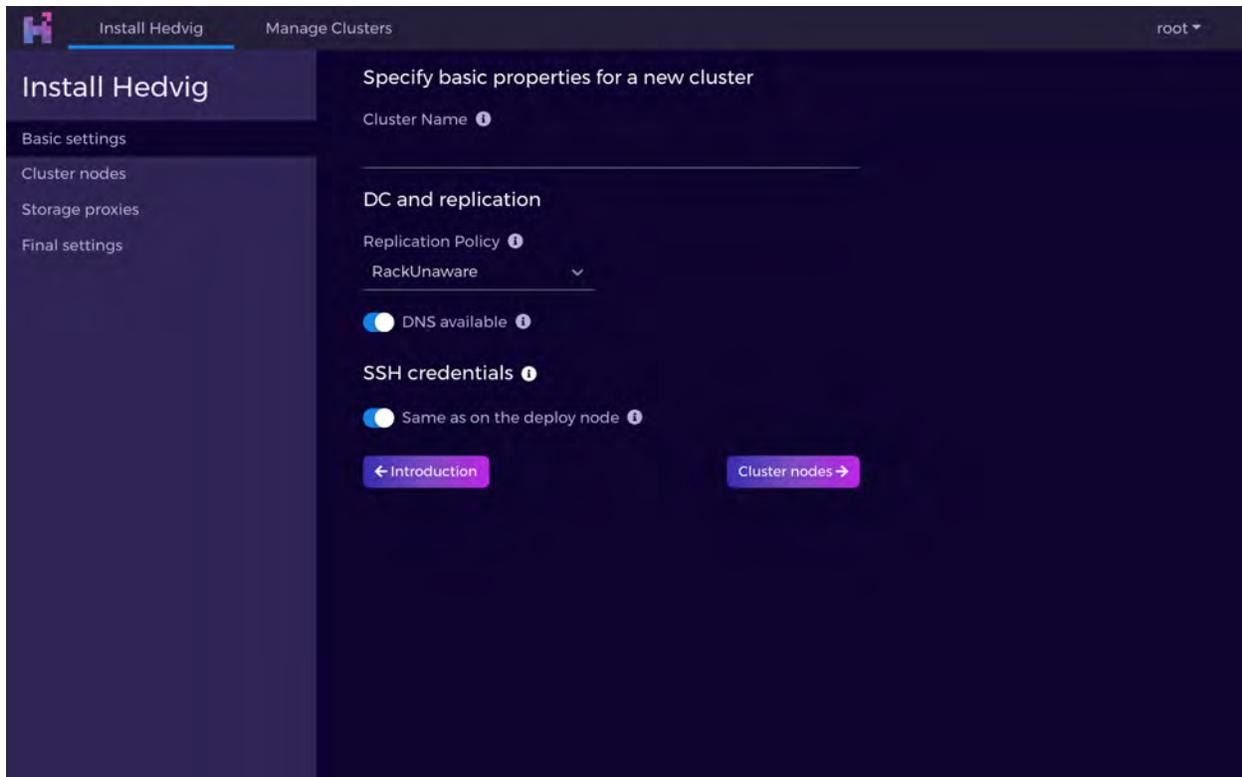


Figure 2: Installing a Rack Unaware Cluster - Screen 2

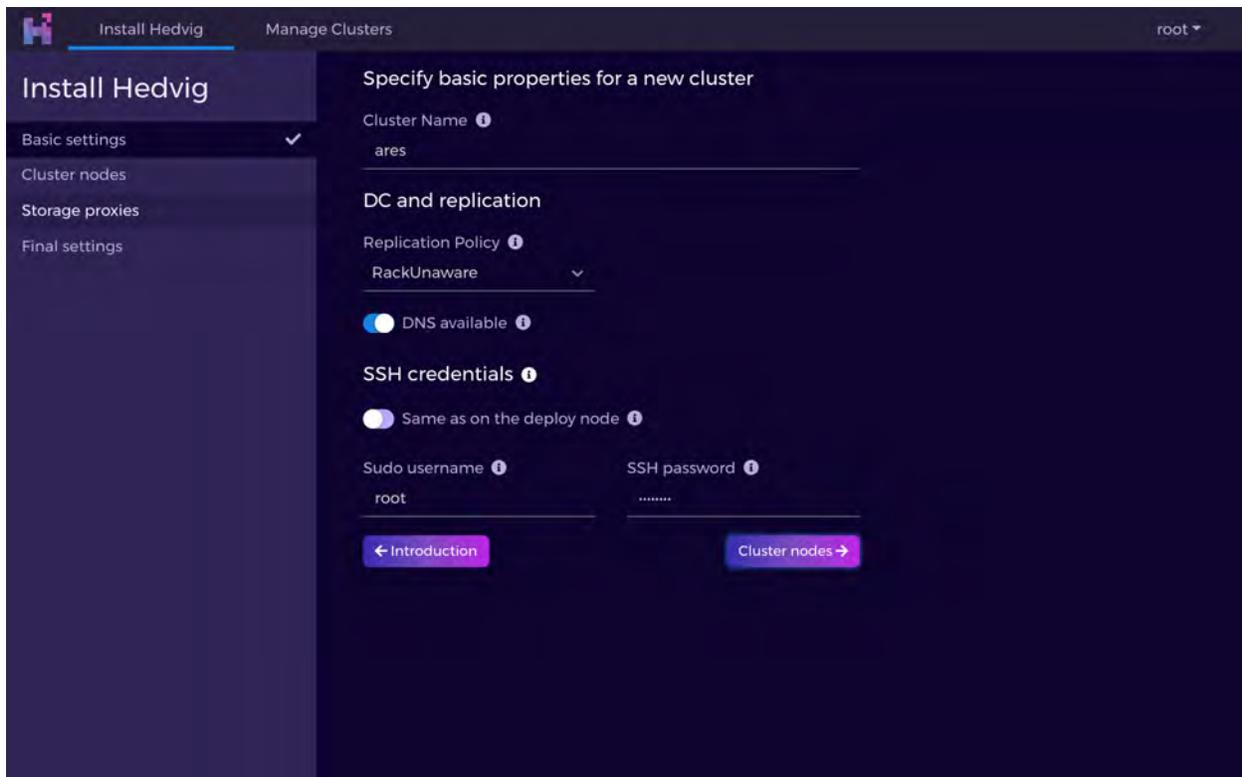


Figure 3: Installing a Rack Unaware Cluster - Screen 3

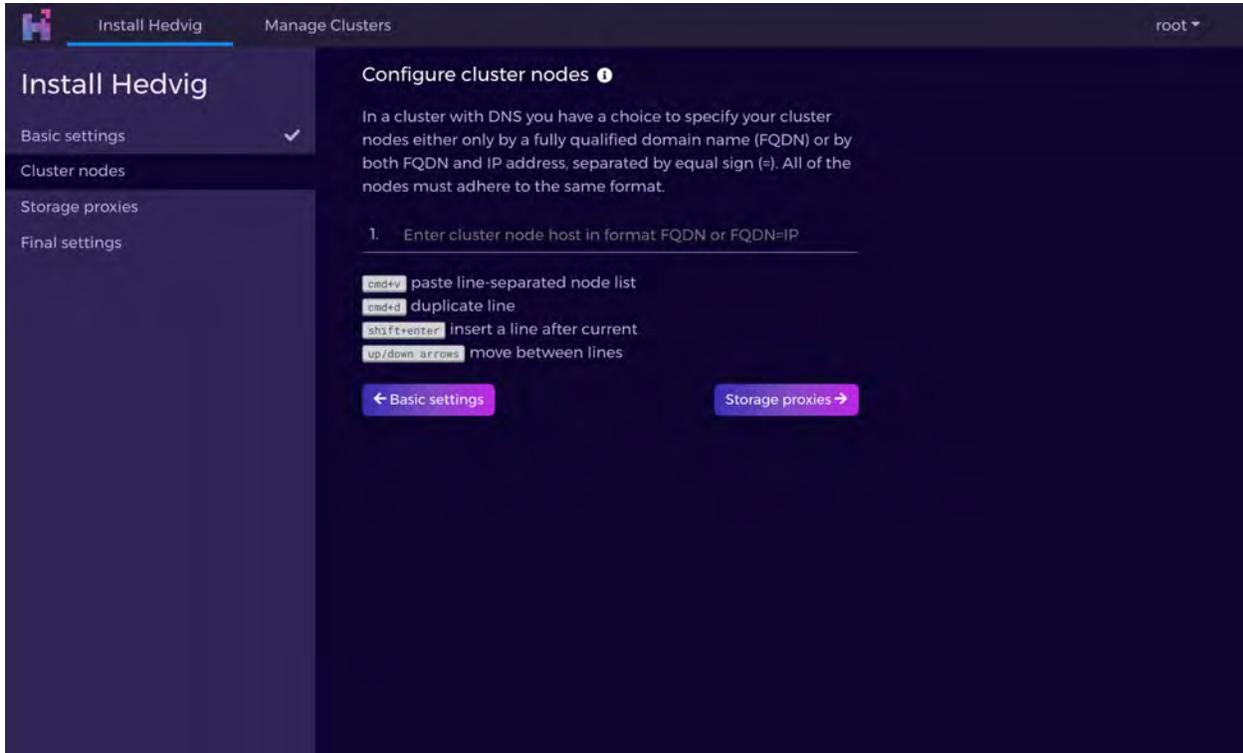


Figure 4: Installing a Rack Unaware Cluster - Screen 4

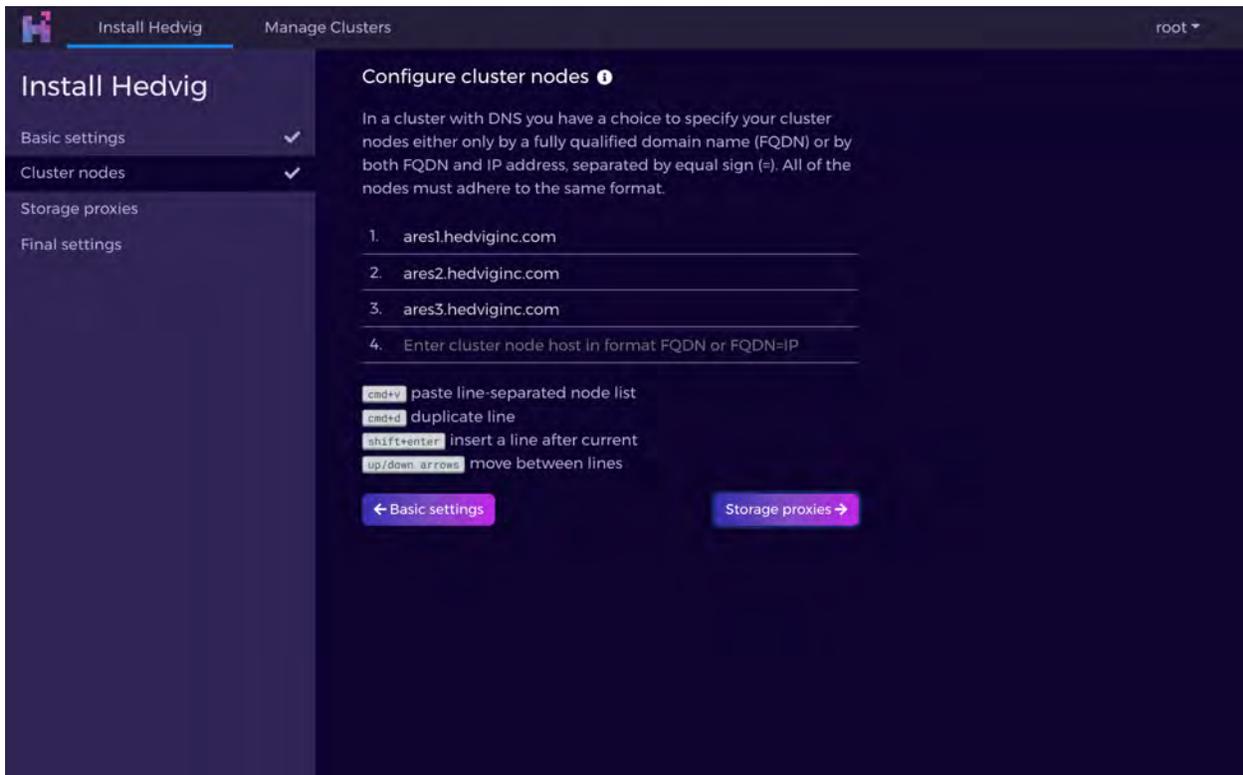


Figure 5: Installing a Rack Unaware Cluster - Screen 5

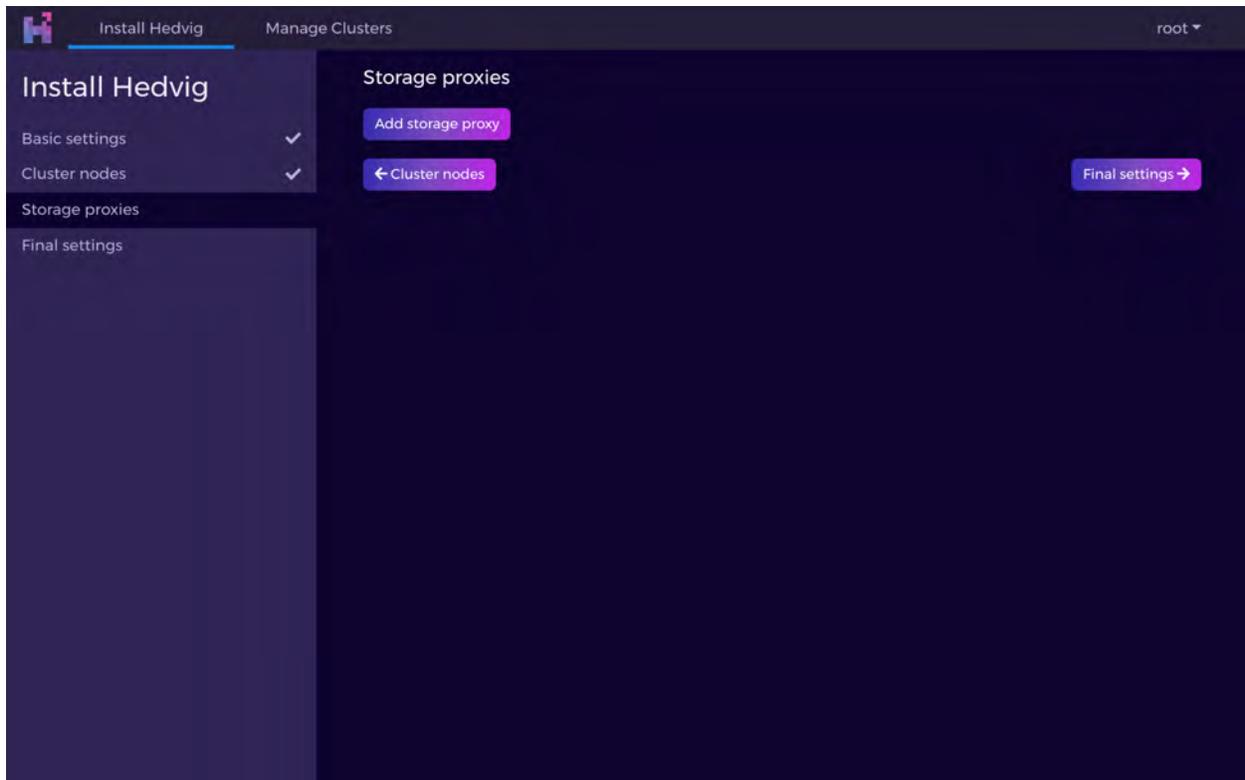


Figure 6: Installing a Rack Unaware Cluster - Screen 6

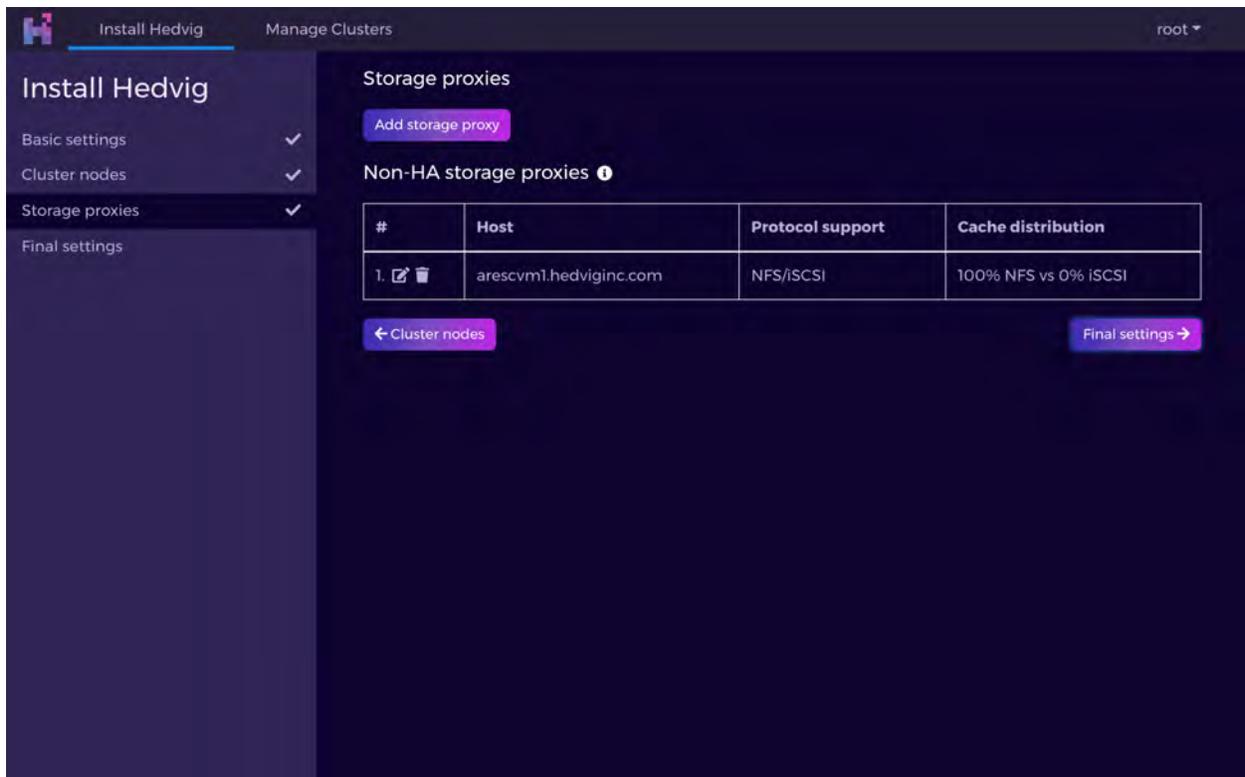


Figure 7: Installing a Rack Unaware Cluster - Screen 7

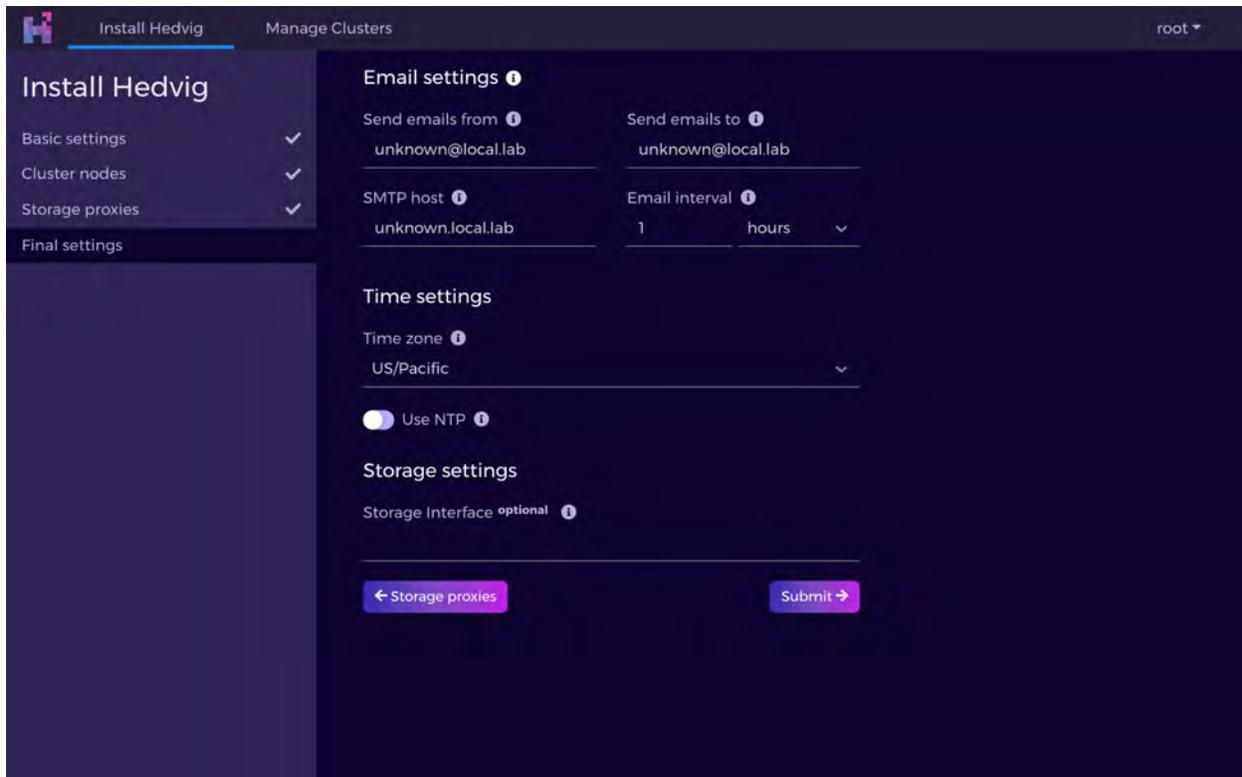


Figure 8: Installing a Rack Unaware Cluster - Screen 8

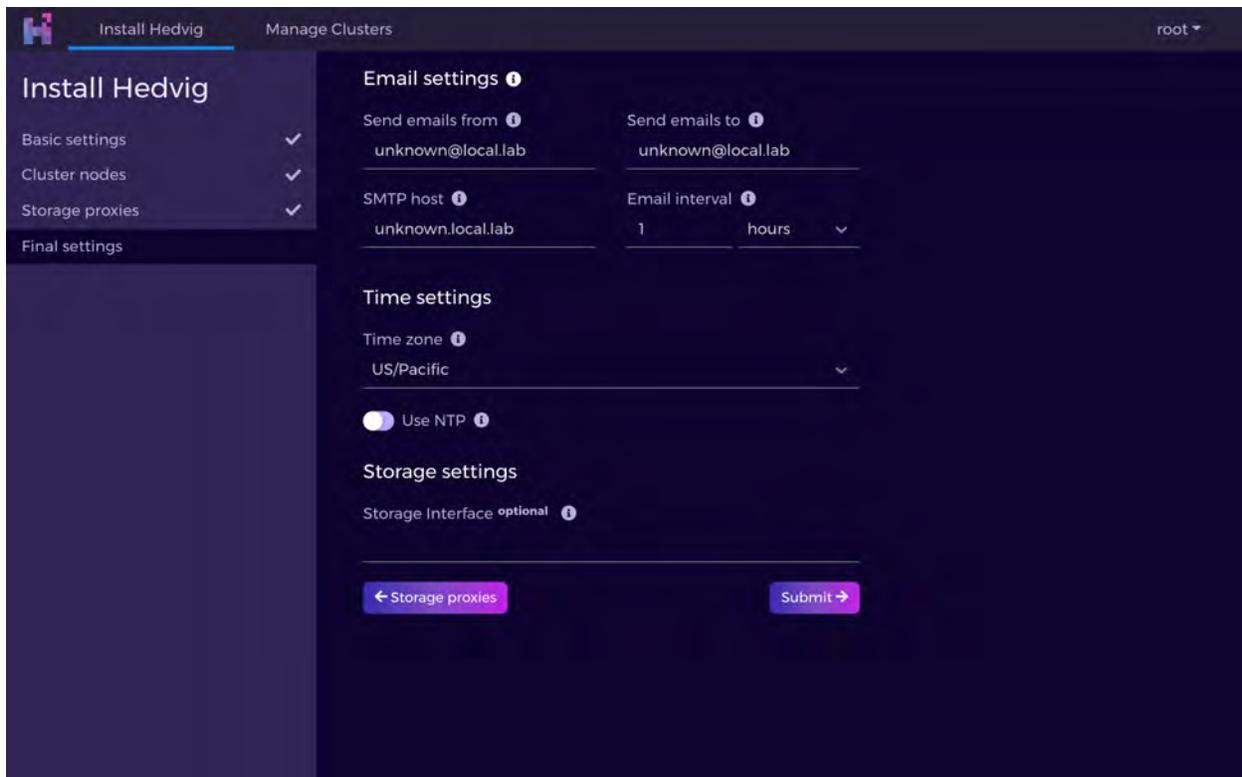


Figure 9: Installing a Rack Unaware Cluster - Screen 9

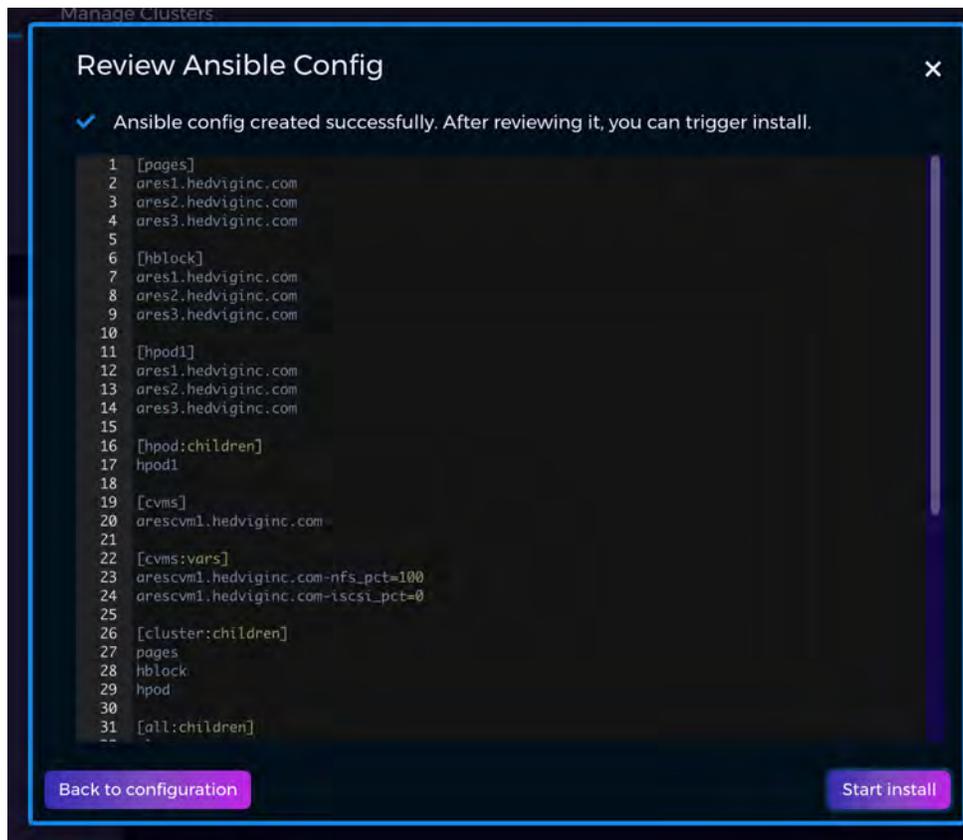


Figure 10: Installing a Rack Unaware Cluster - Screen 10

Installing a Data Center Aware Cluster

The following screens are displayed when a Data Center Aware topology is set up. In this case, the name of the data center (and rack, if available) is derived from the fully qualified domain name (FQDN) of the host.

The data center field referred to in the following screens is the index (starting at zero) of the data center field. For example, if the data center is called `sncl`, and the hostname is `host1.sncl.domain.com`, then the data center field will be 1. All storage nodes and proxy nodes must adhere to this naming convention. The replication factor is set as 3 (assuming three data centers).

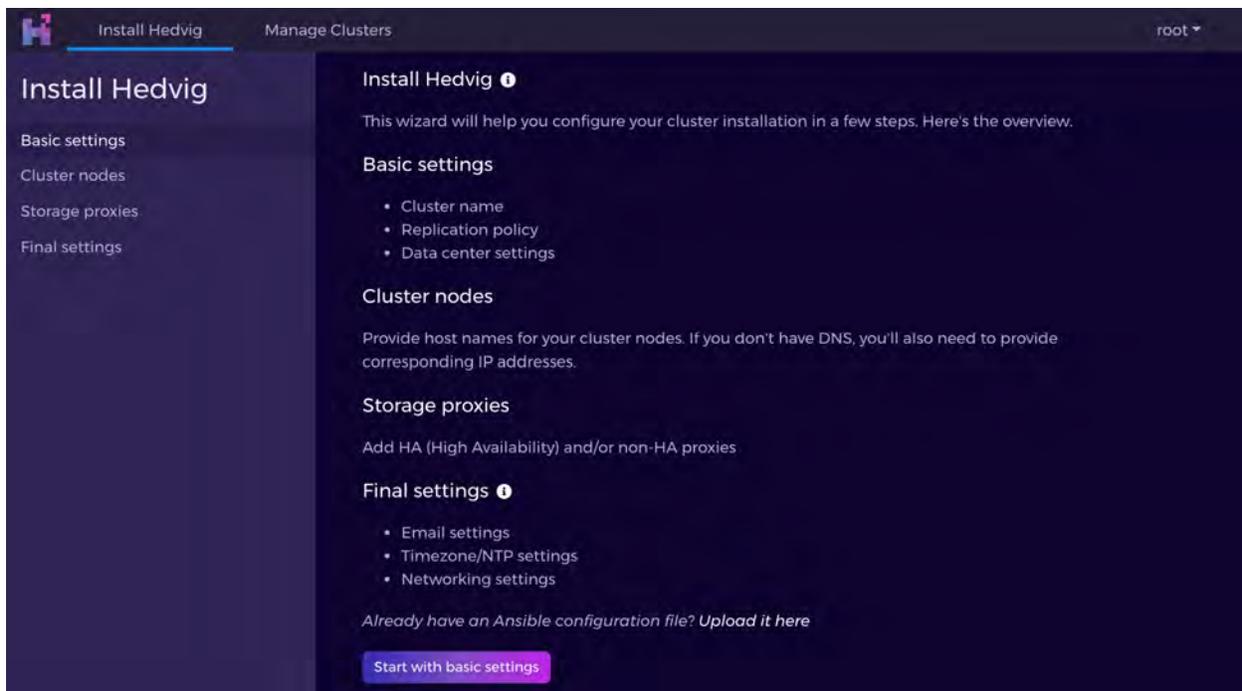


Figure 11: Installing a Data Center Aware Cluster - Screen 1

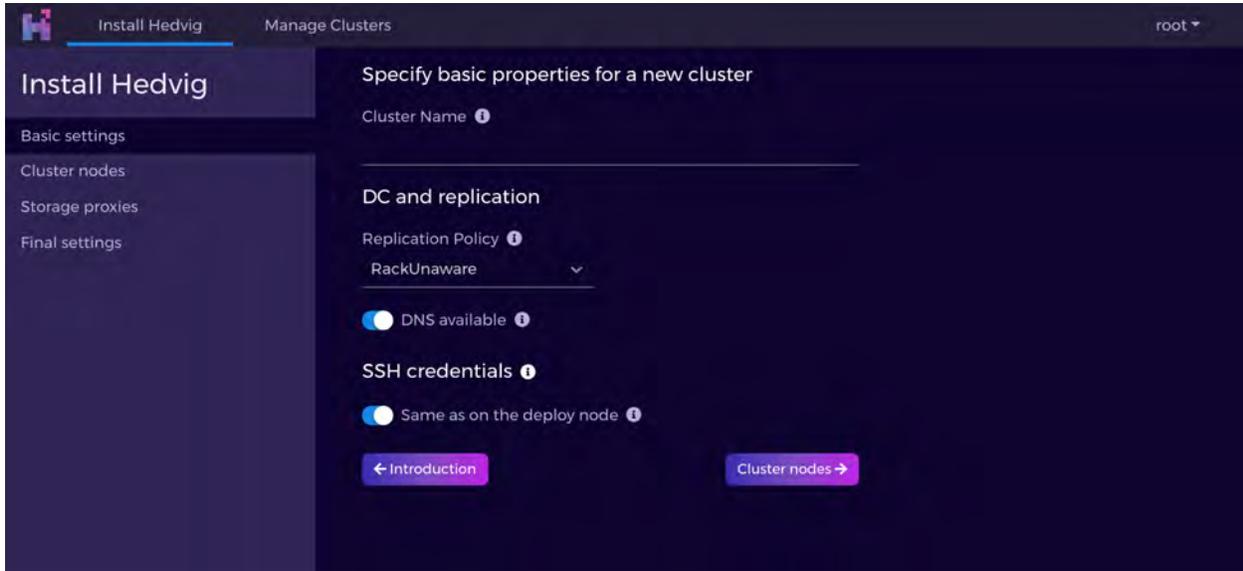


Figure 12: Installing a Data Center Aware Cluster - Screen 2

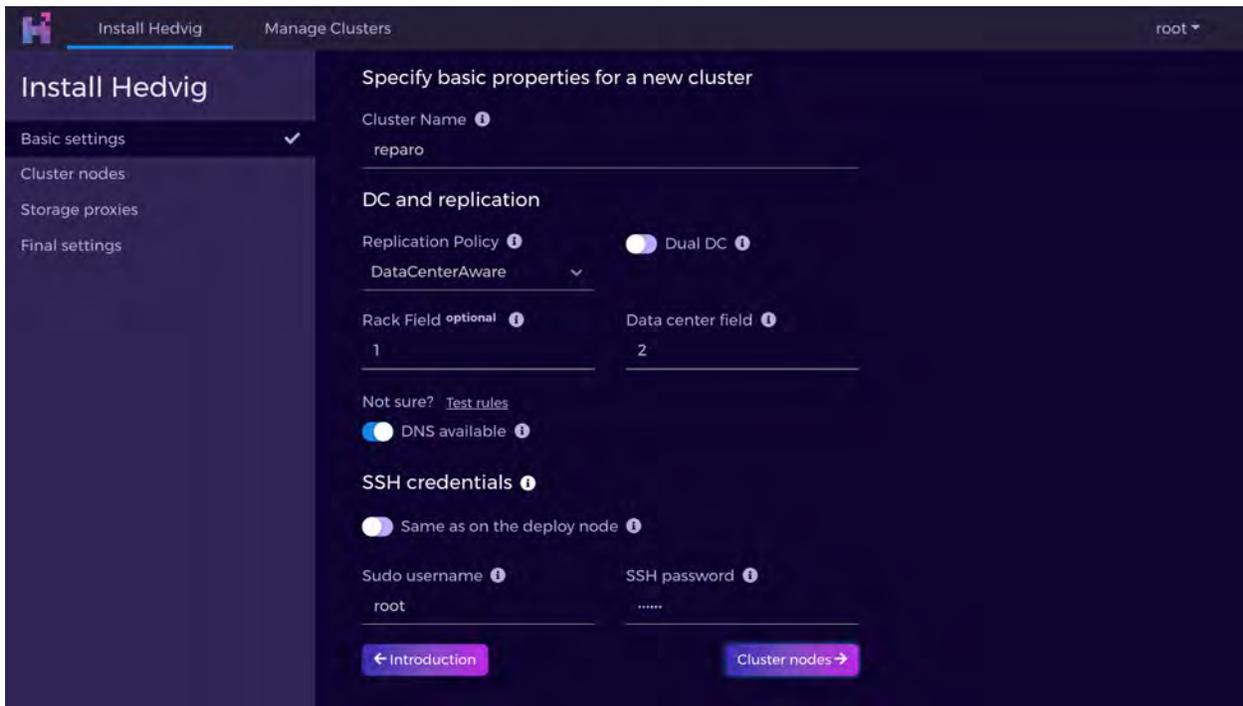


Figure 13: Installing a Data Center Aware Cluster - Screen 3

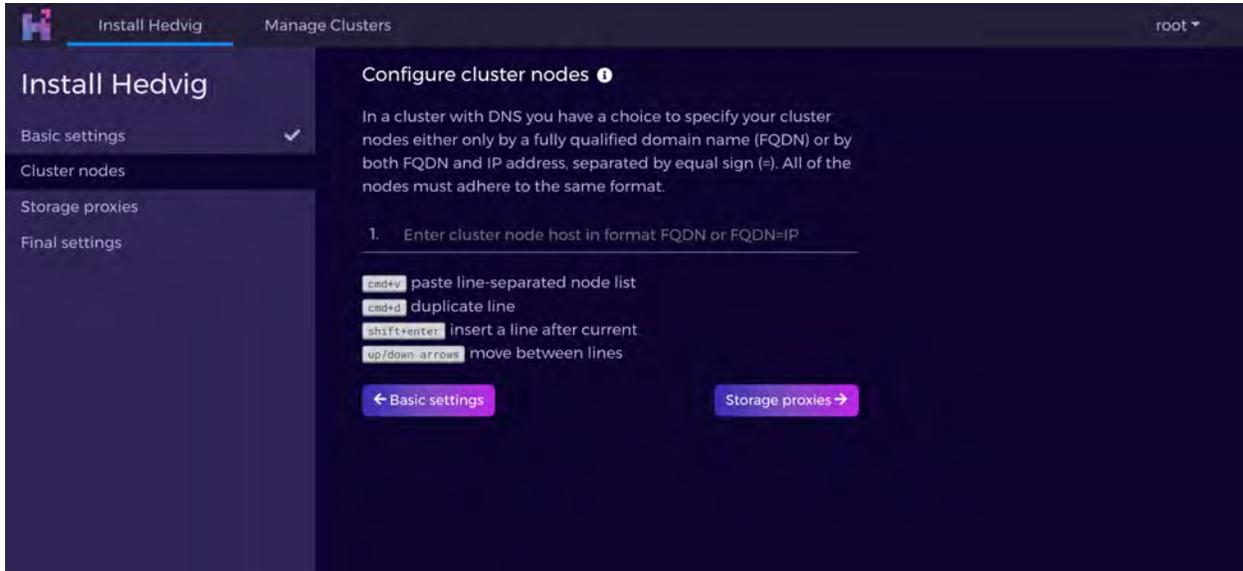


Figure 14: Installing a Data Center Aware Cluster - Screen 4

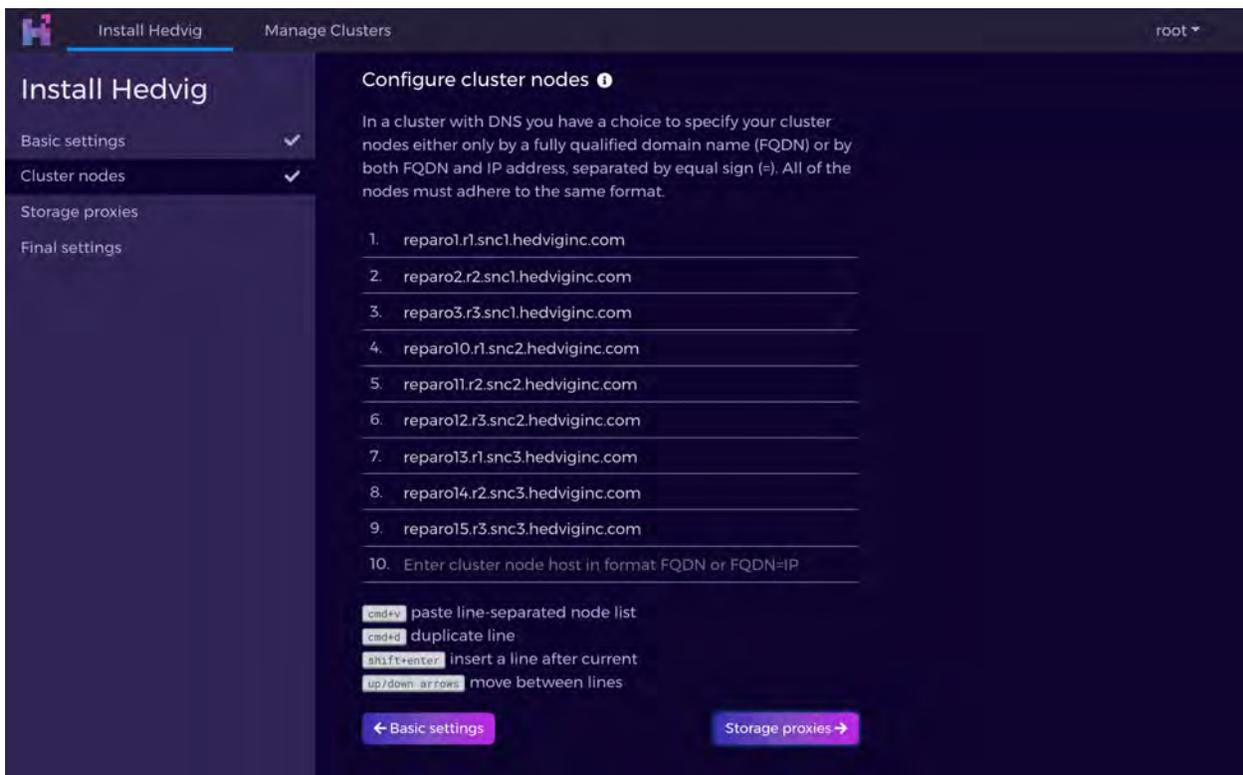


Figure 15: Installing a Data Center Aware Cluster - Screen 5

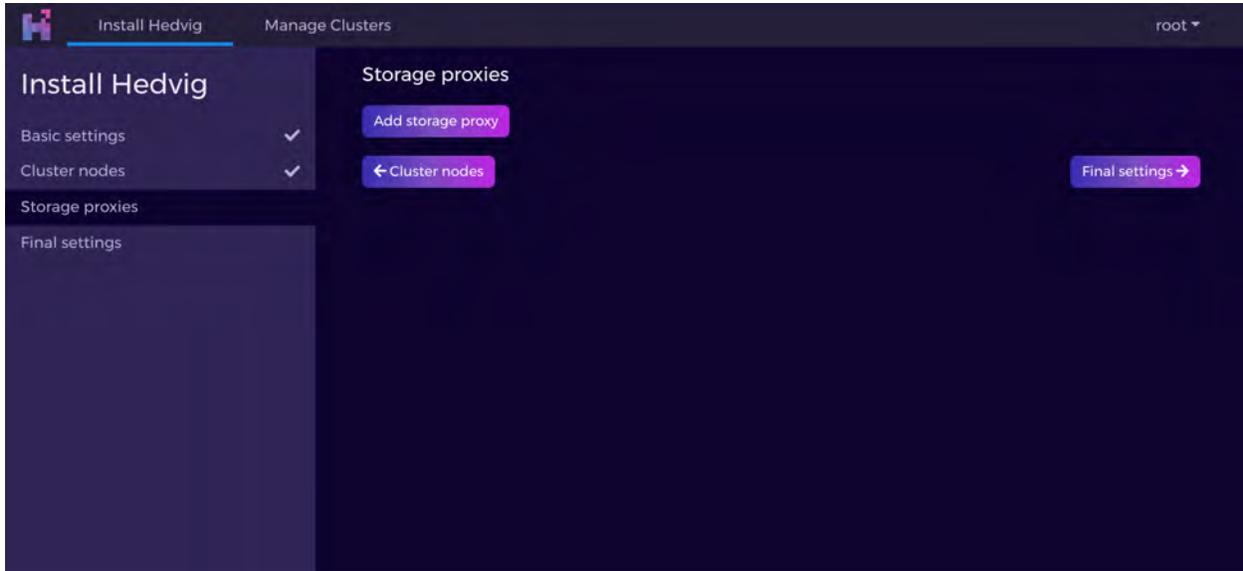


Figure 16: Installing a Data Center Aware Cluster - Screen 6

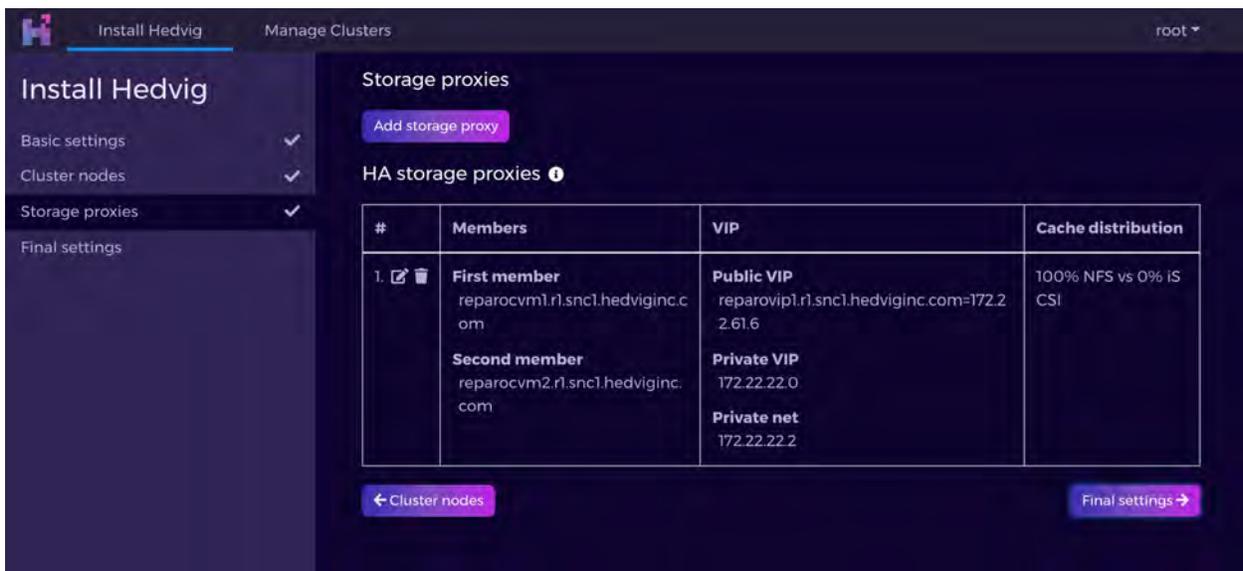


Figure 17: Installing a Data Center Aware Cluster - Screen 7

Install Hedvig Manage Clusters root

Install Hedvig

- Basic settings ✓
- Cluster nodes ✓
- Storage proxies ✓
- Final settings

Email settings

Send emails from

Send emails to

SMTP host

Email interval hours

Time settings

Time zone

Use NTP

Storage settings

Storage Interface optional

[← Storage proxies](#) [Submit →](#)

Figure 18: Installing a Data Center Aware Cluster - Screen 8

Install Hedvig Manage Clusters root

Install Hedvig

- Basic settings ✓
- Cluster nodes ✓
- Storage proxies ✓
- Final settings ✓

Email settings

Send emails from

Send emails to

SMTP host

Email interval hours

Time settings

Time zone

Use NTP

Storage settings

Storage Interface optional

[← Storage proxies](#) [Submit →](#)

Figure 19: Installing a Data Center Aware Cluster - Screen 9

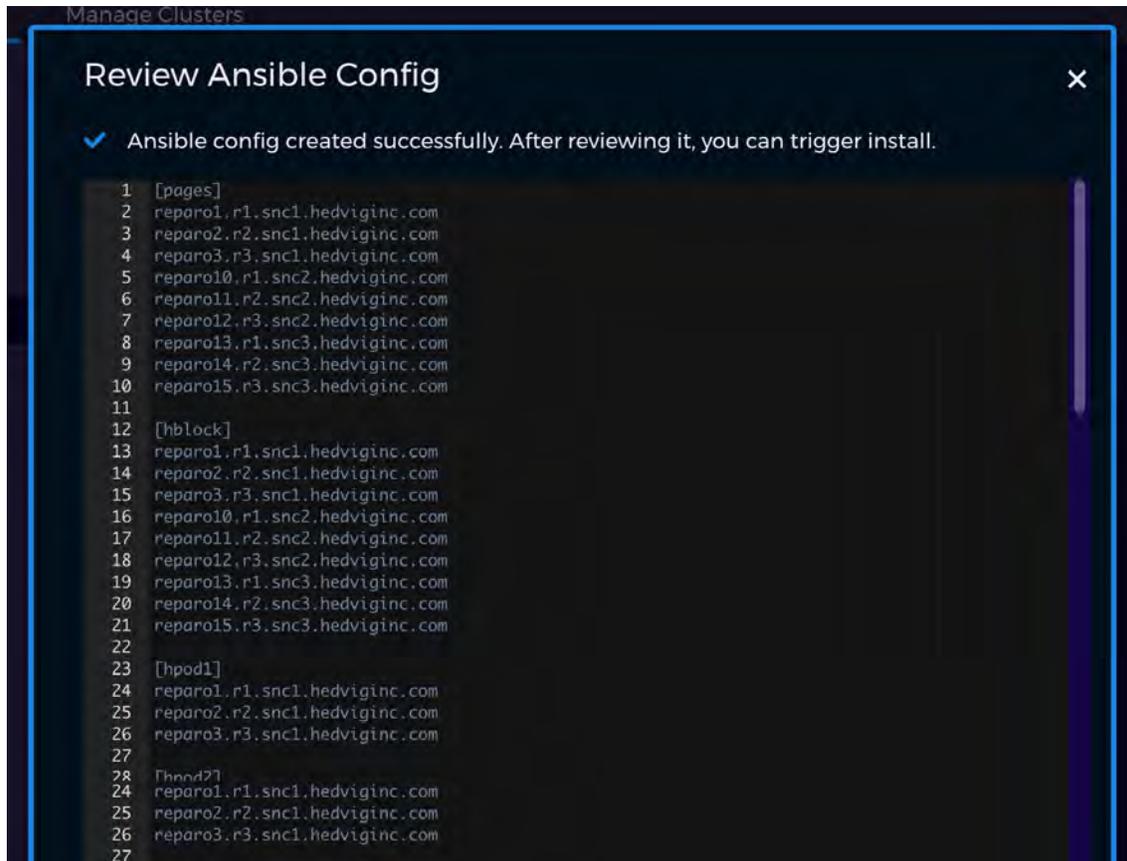


Figure 20: Installing a Data Center Aware Cluster - Screen 10

Installing a Dual Data Center Cluster

In the case of a *dual* data center, which is a special case of data center aware deployments, there are two differences from a single data center setup:

- The `dua1dc` toggle is set, which sets the replication factor as 2.
- A *witness* node, which is a node residing at a location other than the two data centers, is required.

The witness node is not a storage node and does not have to meet the requirements of a storage node. It is a VM made available as an OVA in the store.

The storage nodes, proxy nodes, and witness node must adhere to the naming convention as described in the data center deployment page (see [Installing a Data Center Aware Cluster](#)).

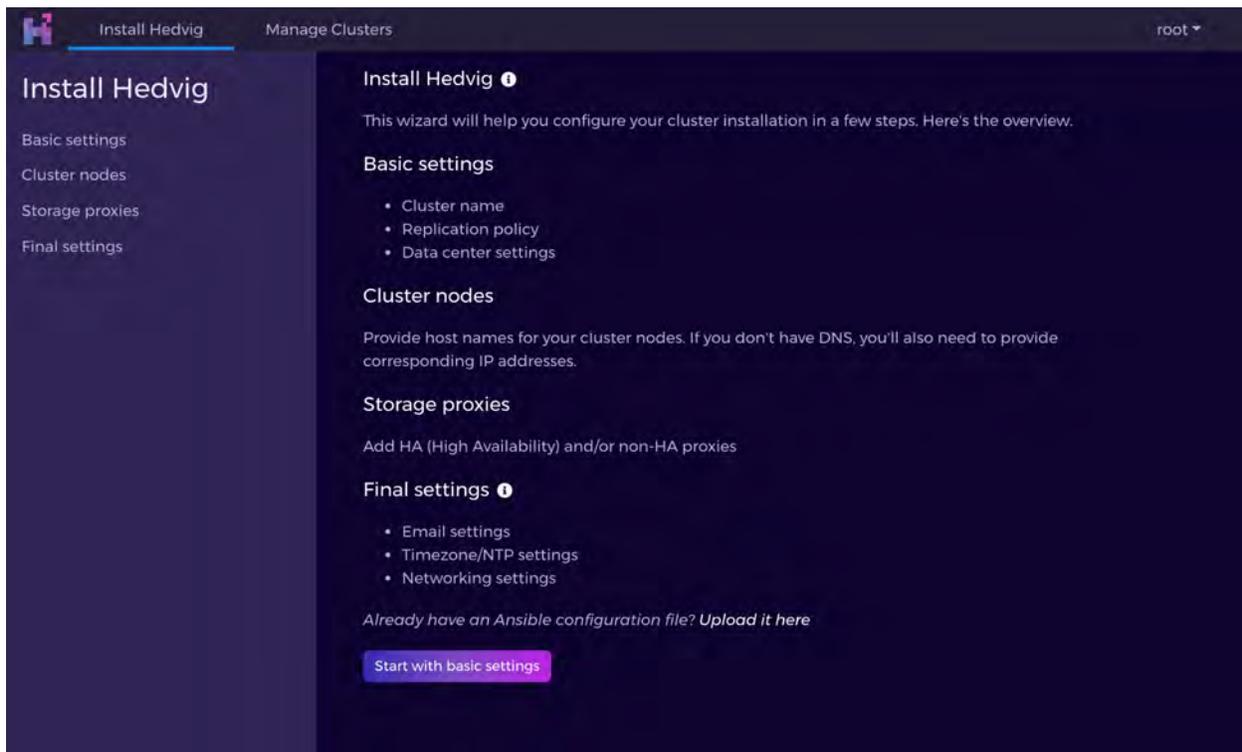


Figure 21: Installing a Dual Data Center Cluster - Screen 1

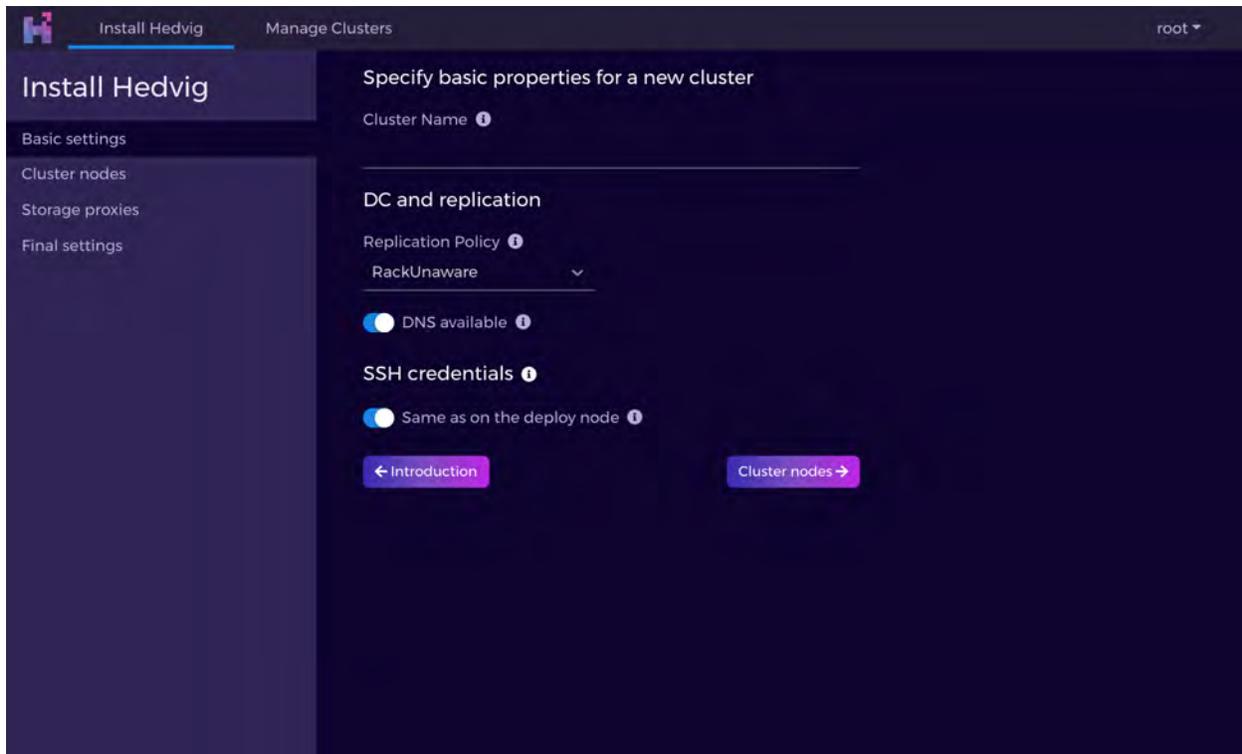


Figure 22: Installing a Dual Data Center Cluster - Screen 2

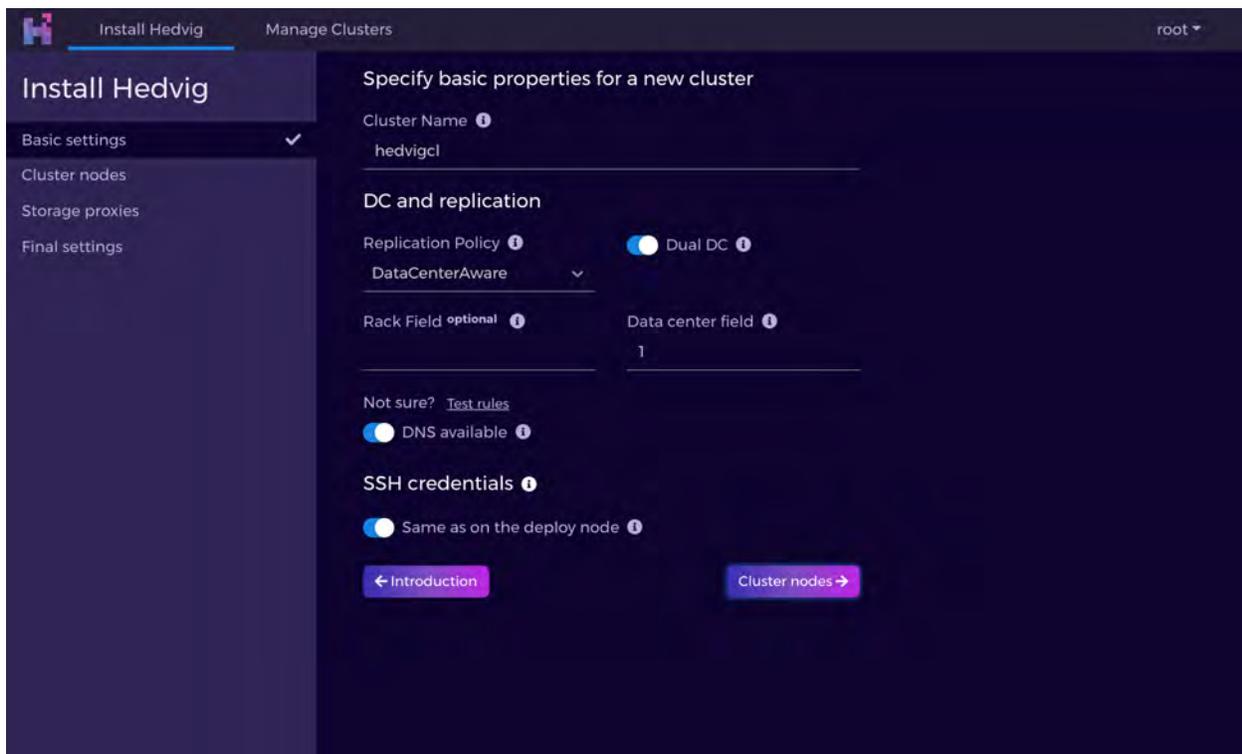


Figure 23: Installing a Dual Data Center Cluster - Screen 3

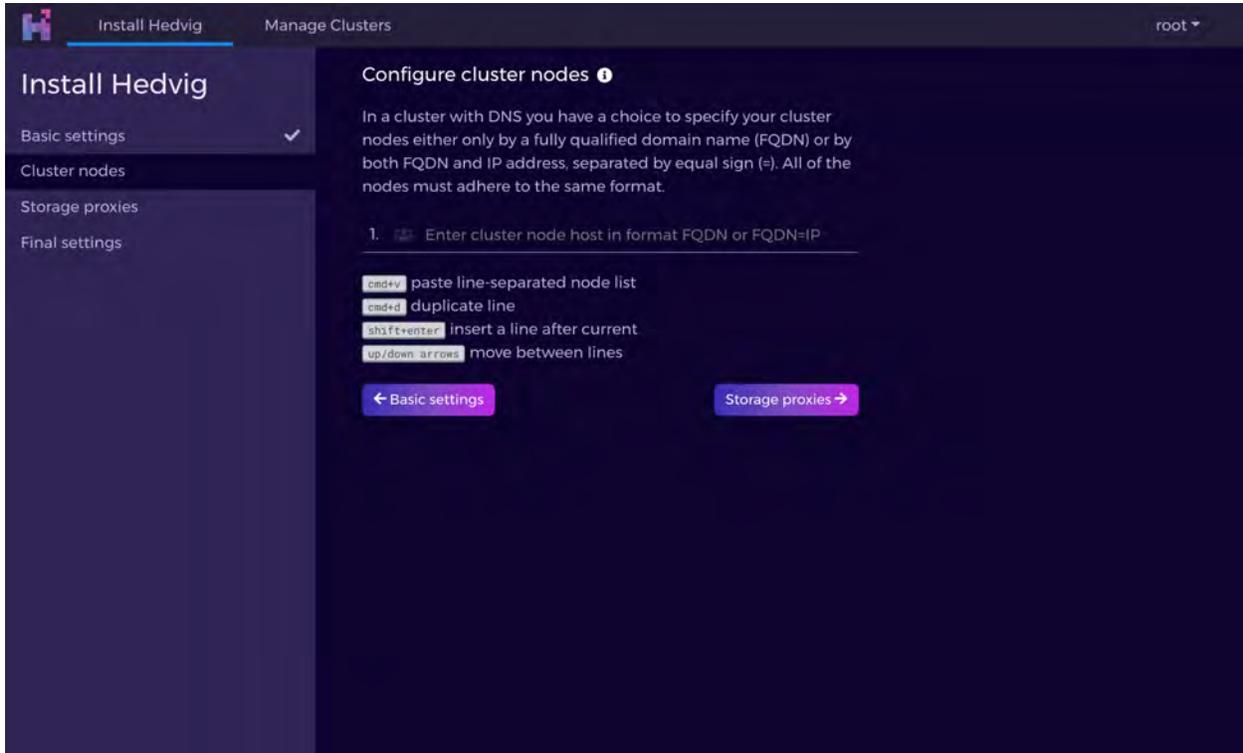


Figure 24: Installing a Dual Data Center Cluster - Screen 4

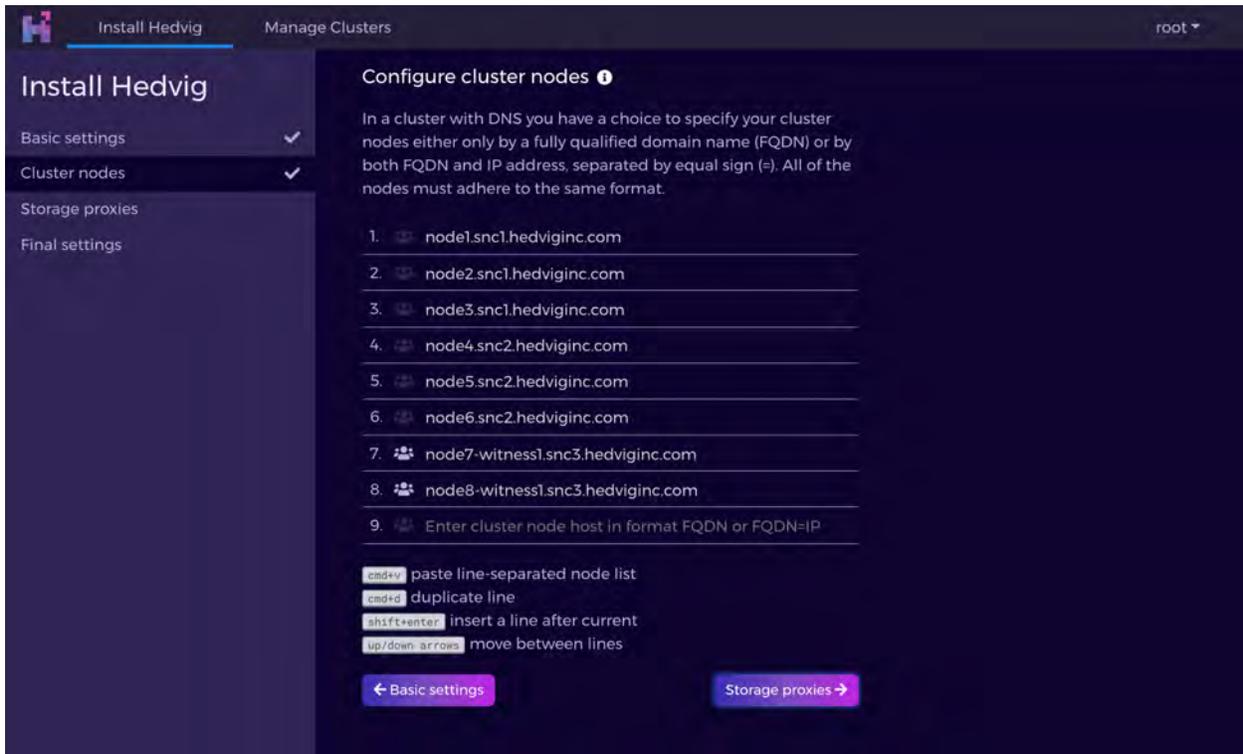


Figure 25: Installing a Dual Data Center Cluster - Screen 5

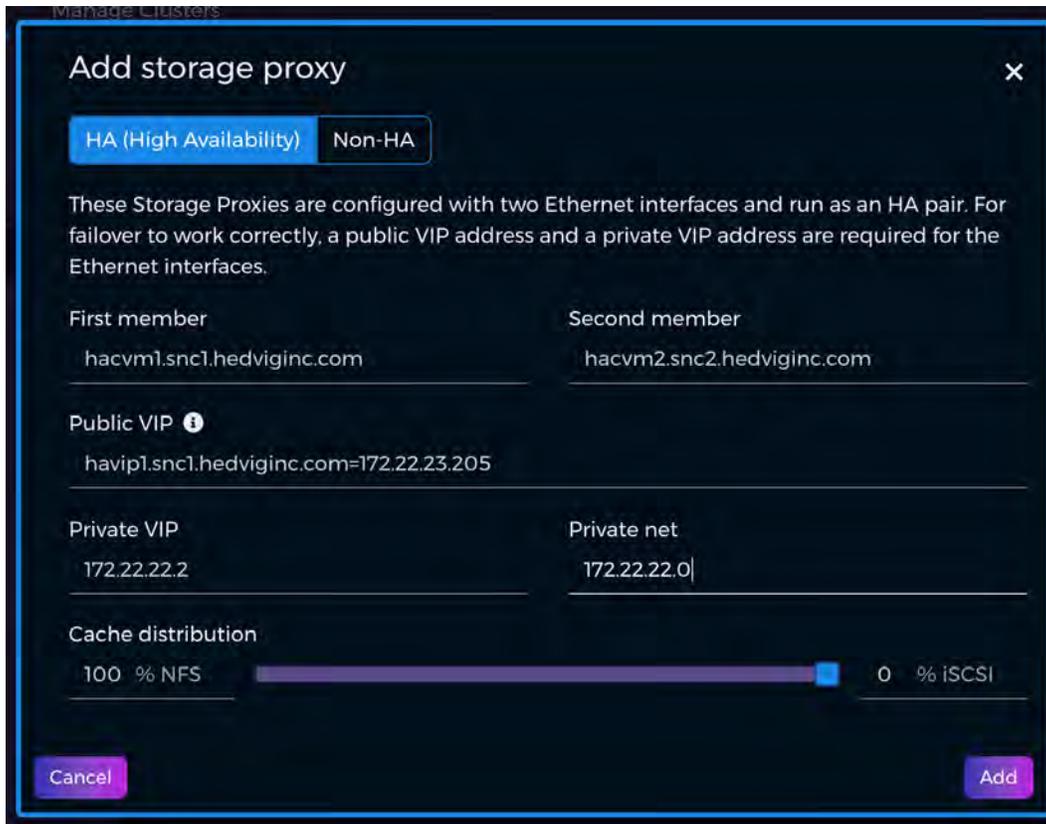


Figure 26: Installing a Dual Data Center Cluster - Screen 6

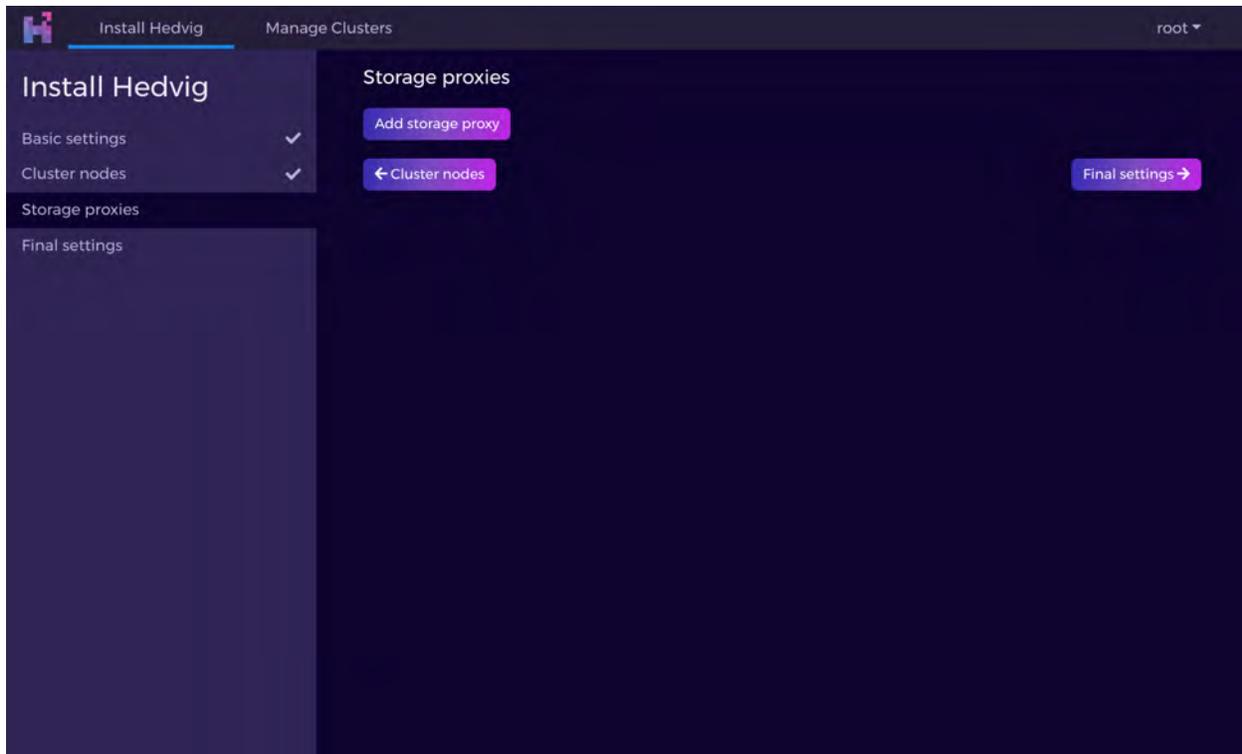


Figure 27: Installing a Dual Data Center Cluster - Screen 7

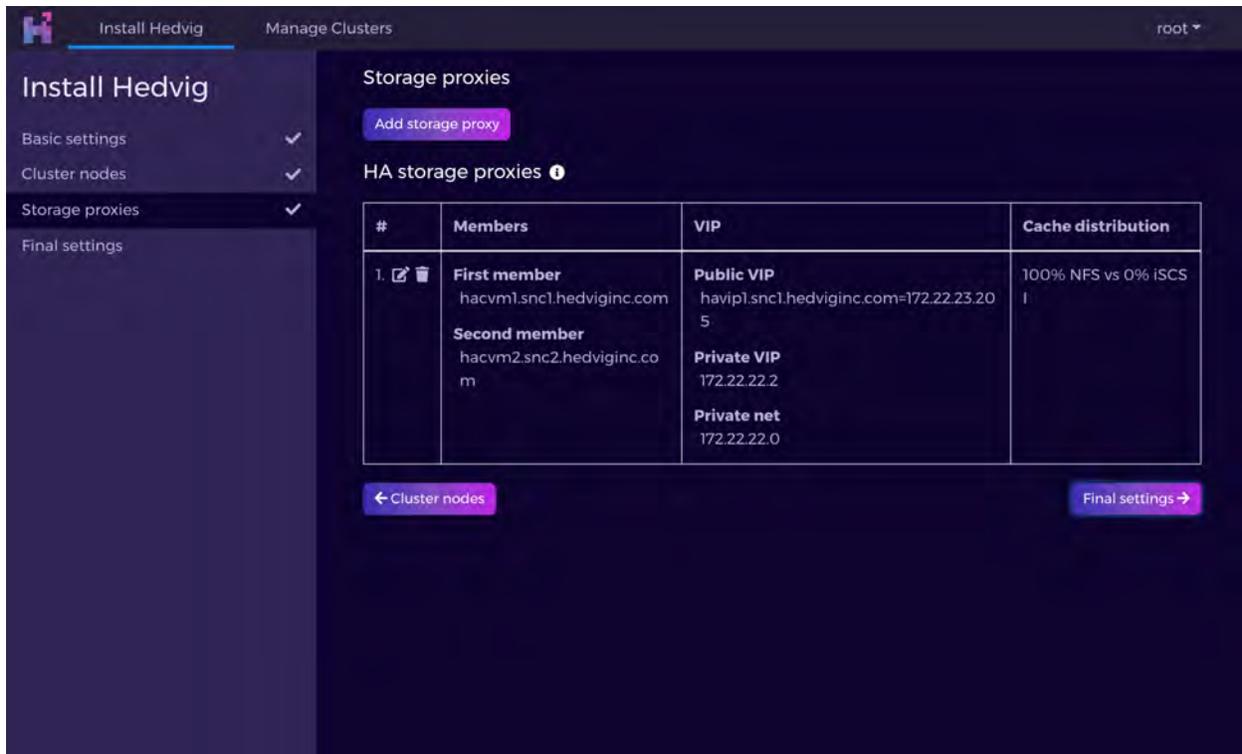


Figure 28: Installing a Dual Data Center Cluster - Screen 8

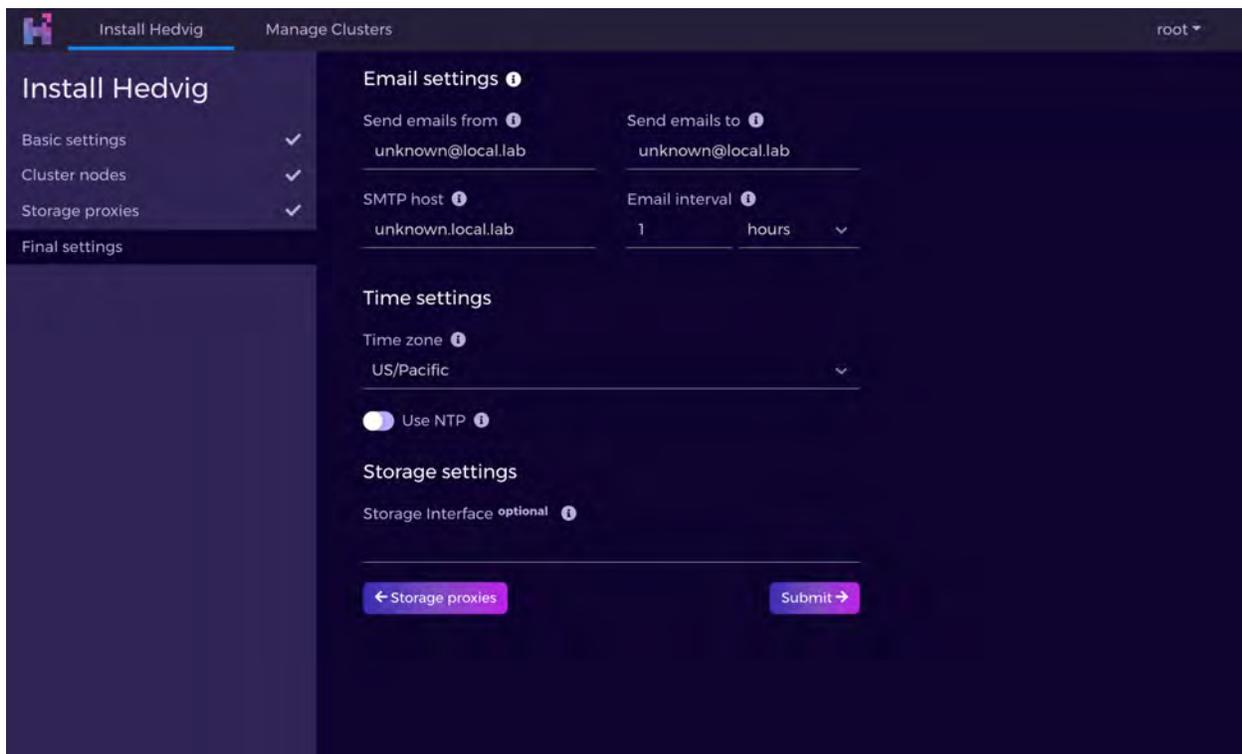


Figure 29: Installing a Dual Data Center Cluster - Screen 9

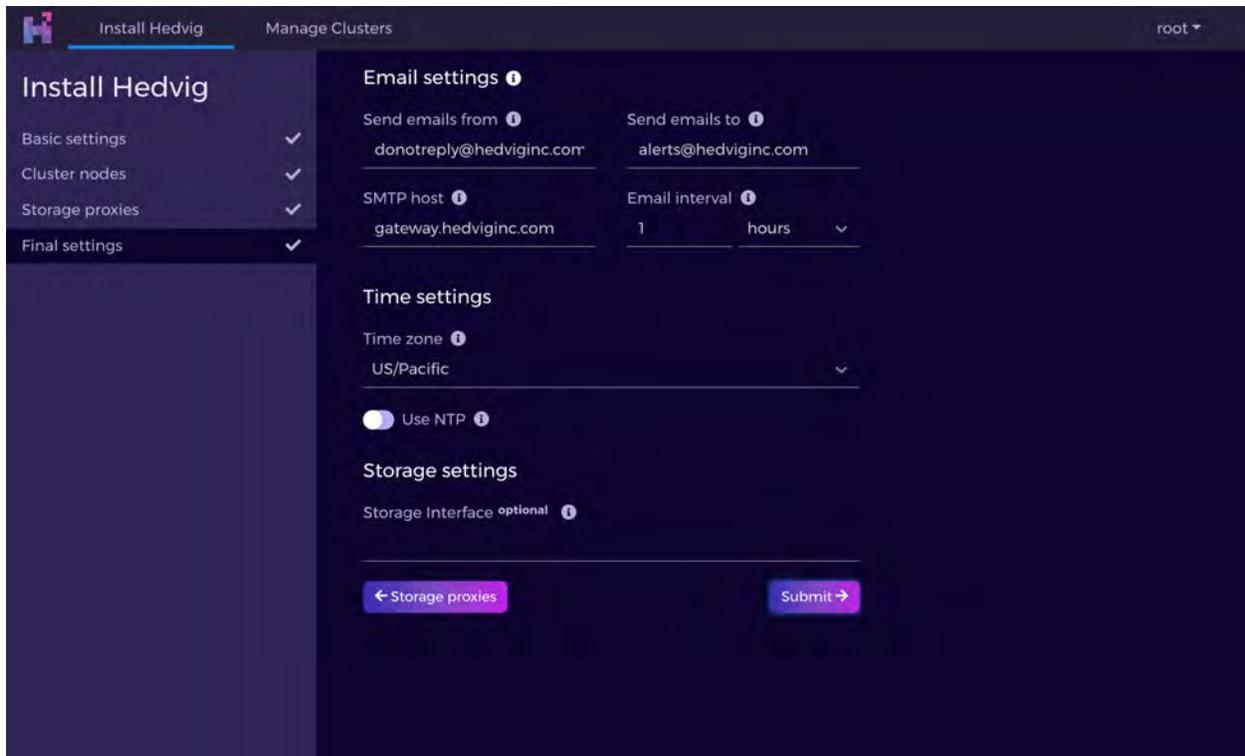


Figure 30: Installing a Dual Data Center Cluster - Screen 10

Installing an S3-Compatible Object Storage Cluster

The following screens are displayed for the setup of an S3-compatible object storage cluster. The settings are similar to the data center or rack unaware setups shown previously. The only difference is that a proxy is selected as an objectstore type during the setup.

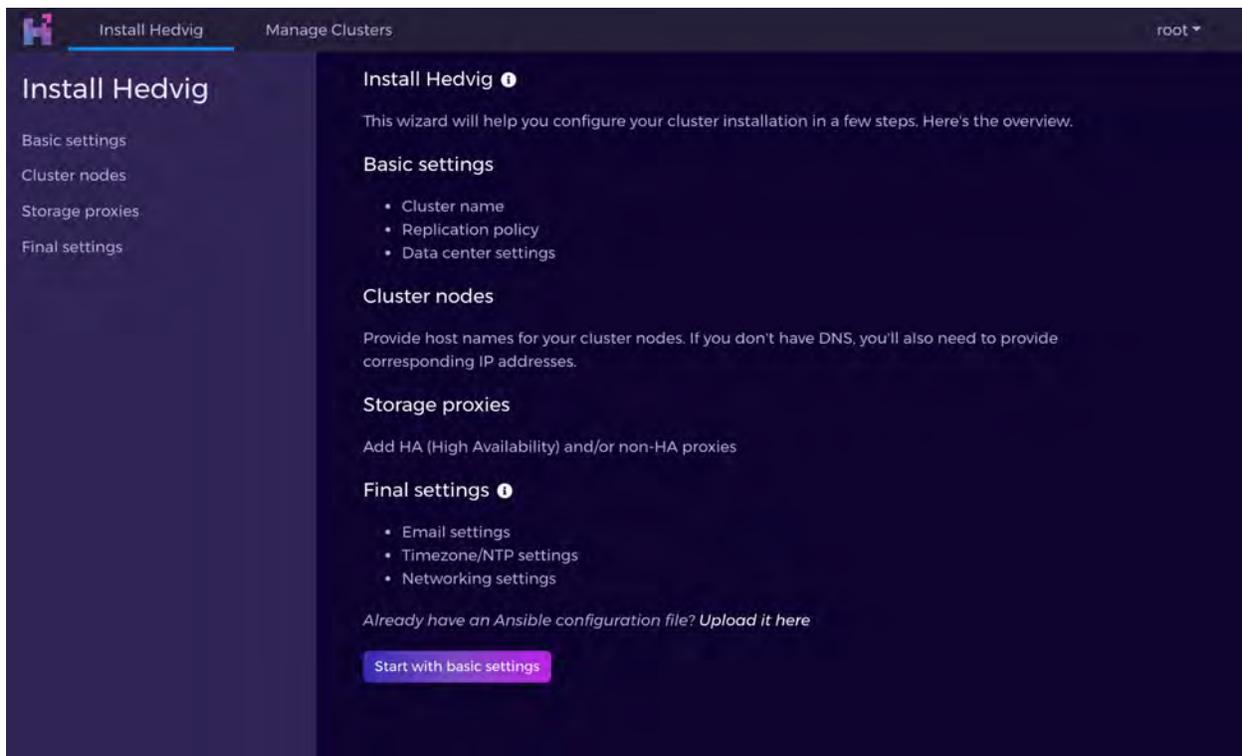


Figure 31: Installing an S3-Compatible Object Storage Cluster - Screen 1

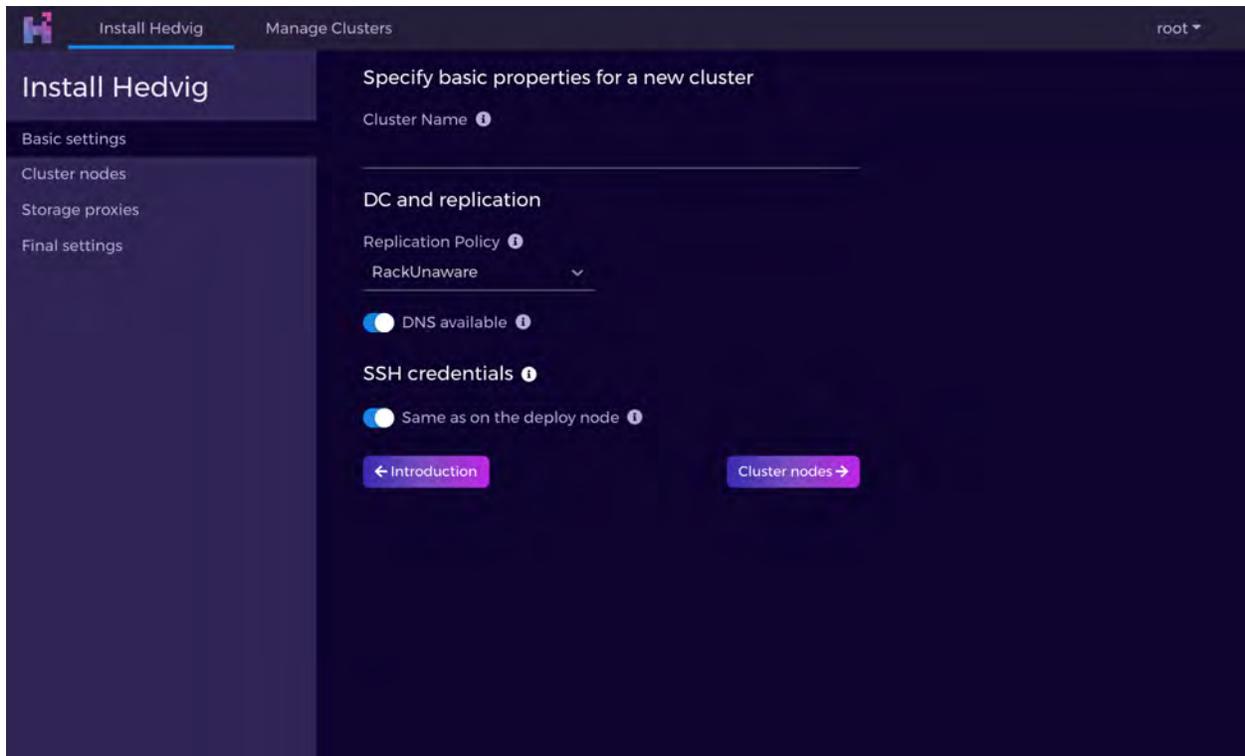


Figure 32: Installing an S3-Compatible Object Storage Cluster - Screen 2

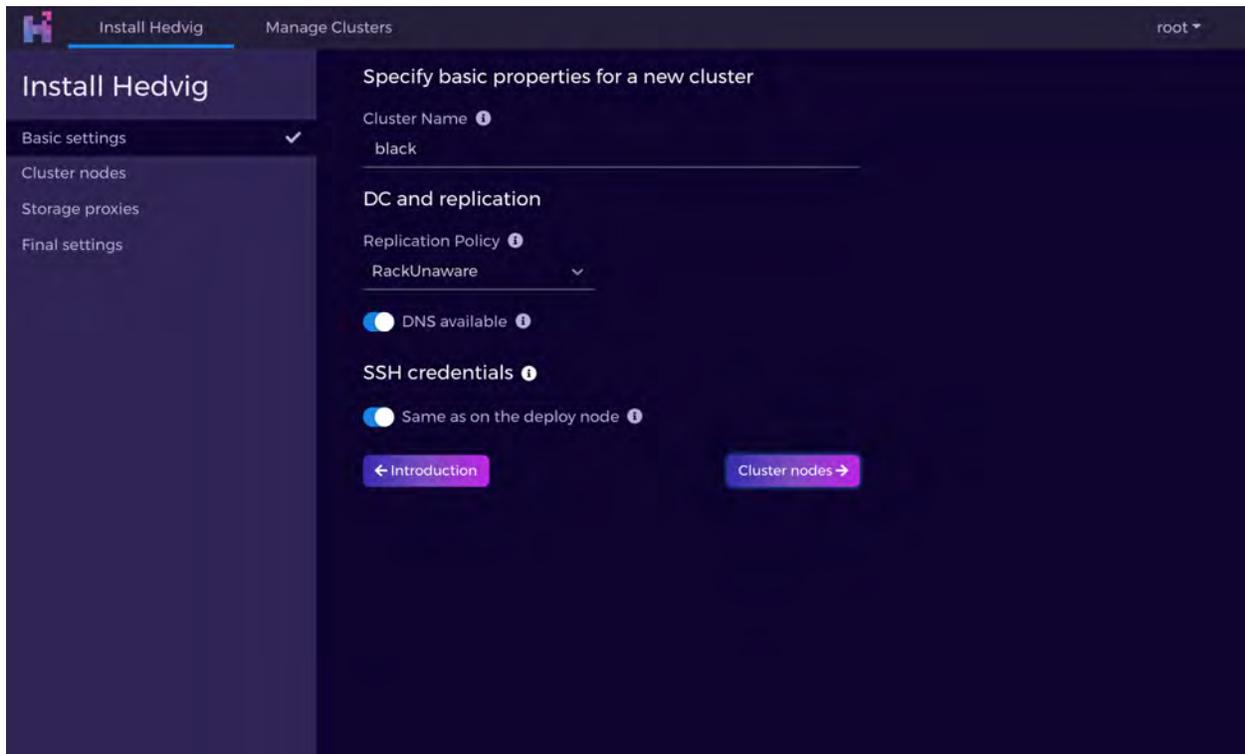


Figure 33: Installing an S3-Compatible Object Storage Cluster - Screen 3

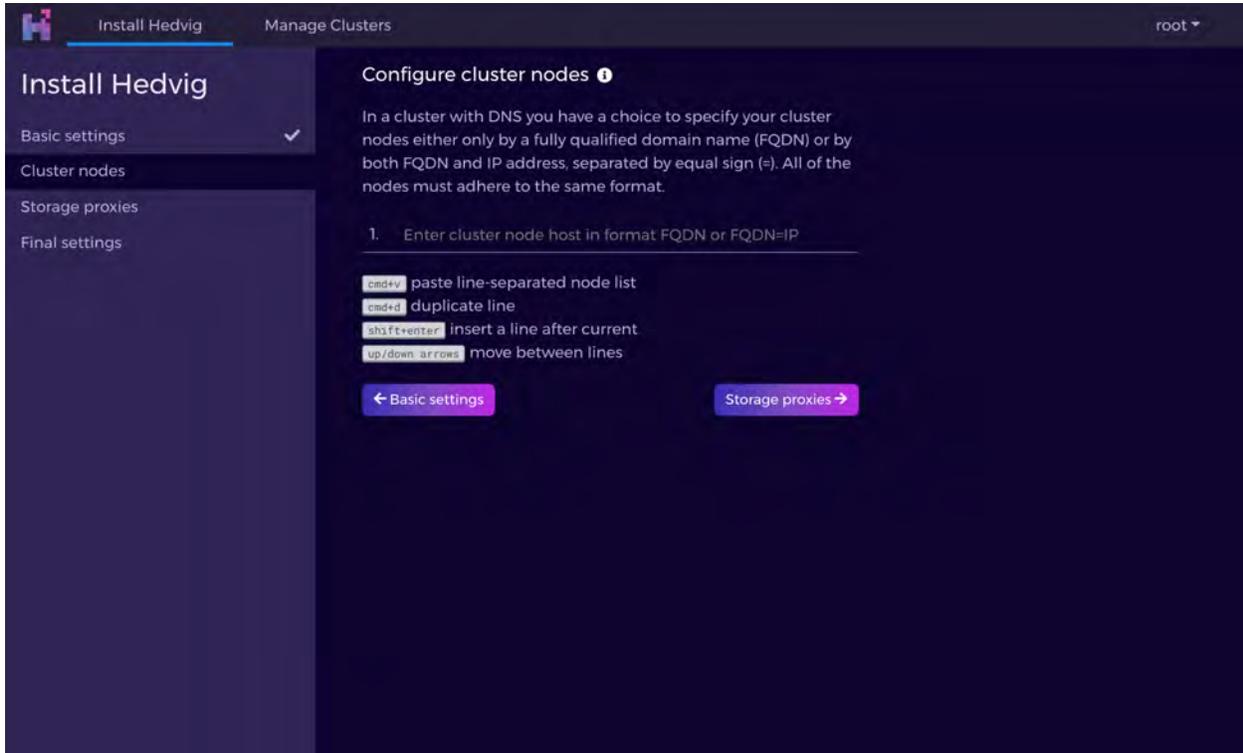


Figure 34: Installing an S3-Compatible Object Storage Cluster - Screen 4

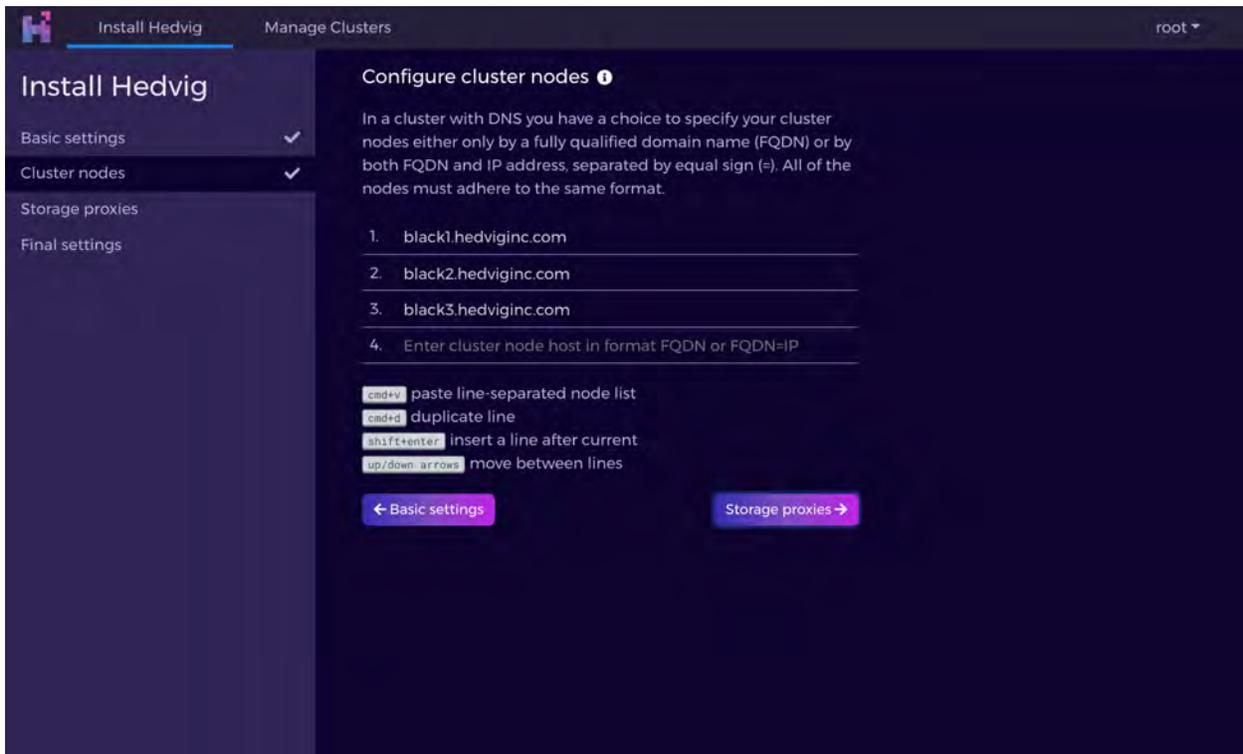


Figure 35: Installing an S3-Compatible Object Storage Cluster - Screen 5

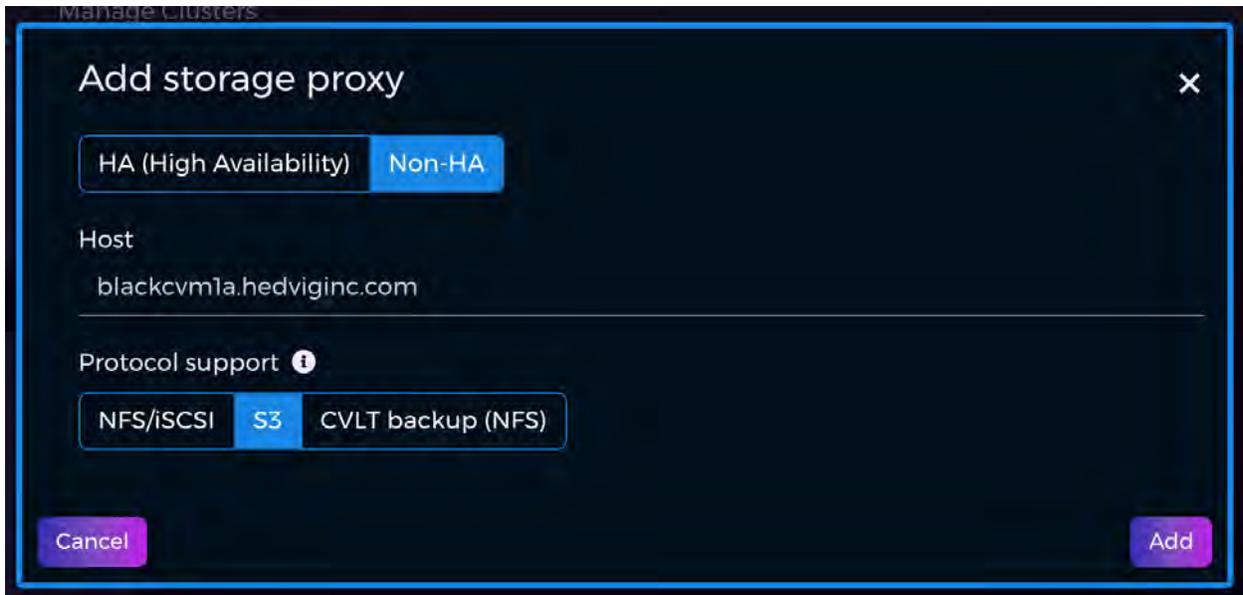


Figure 36: Installing an S3-Compatible Object Storage Cluster - Screen 6

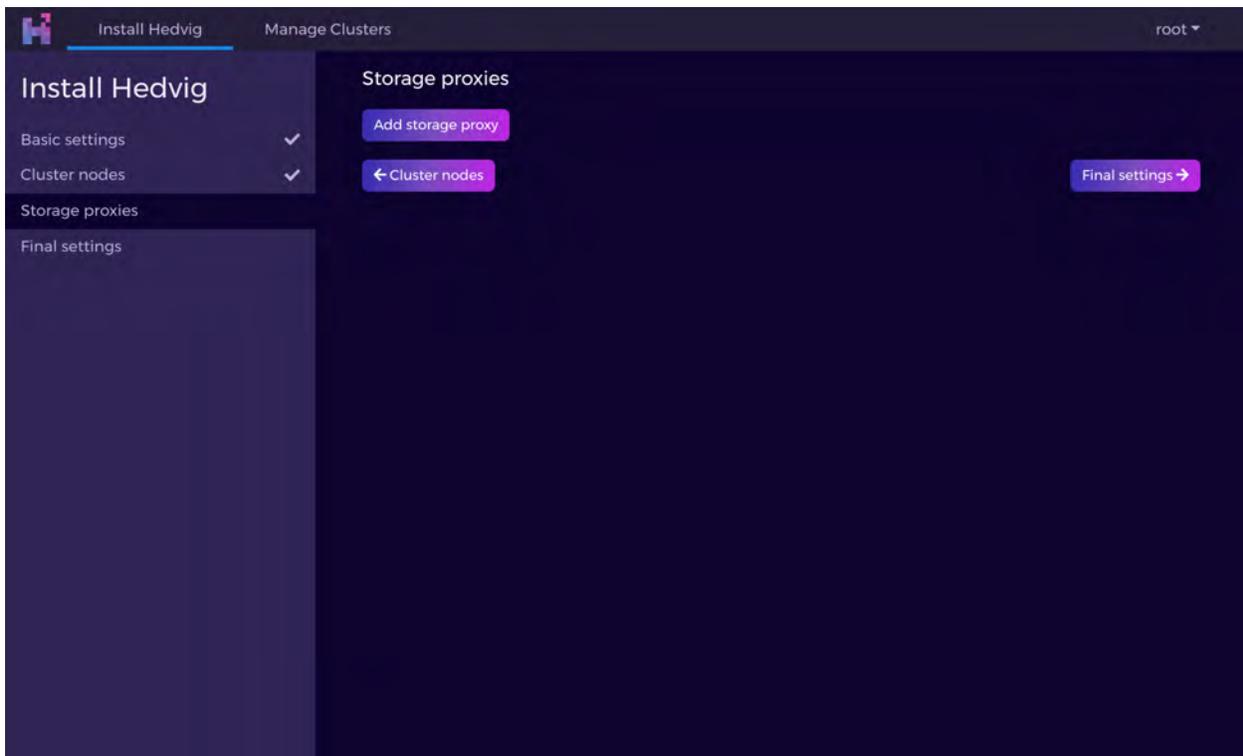


Figure 37: Installing an S3-Compatible Object Storage Cluster - Screen 7

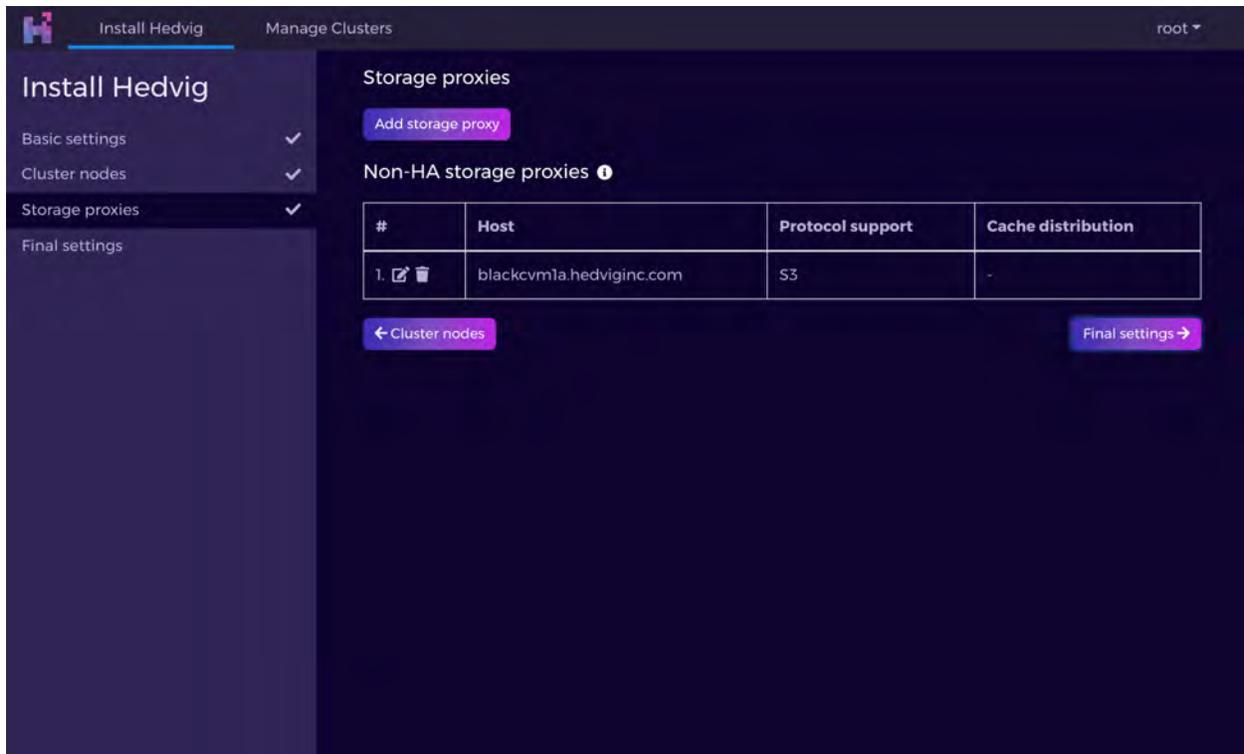


Figure 38: Installing an S3-Compatible Object Storage Cluster - Screen 8

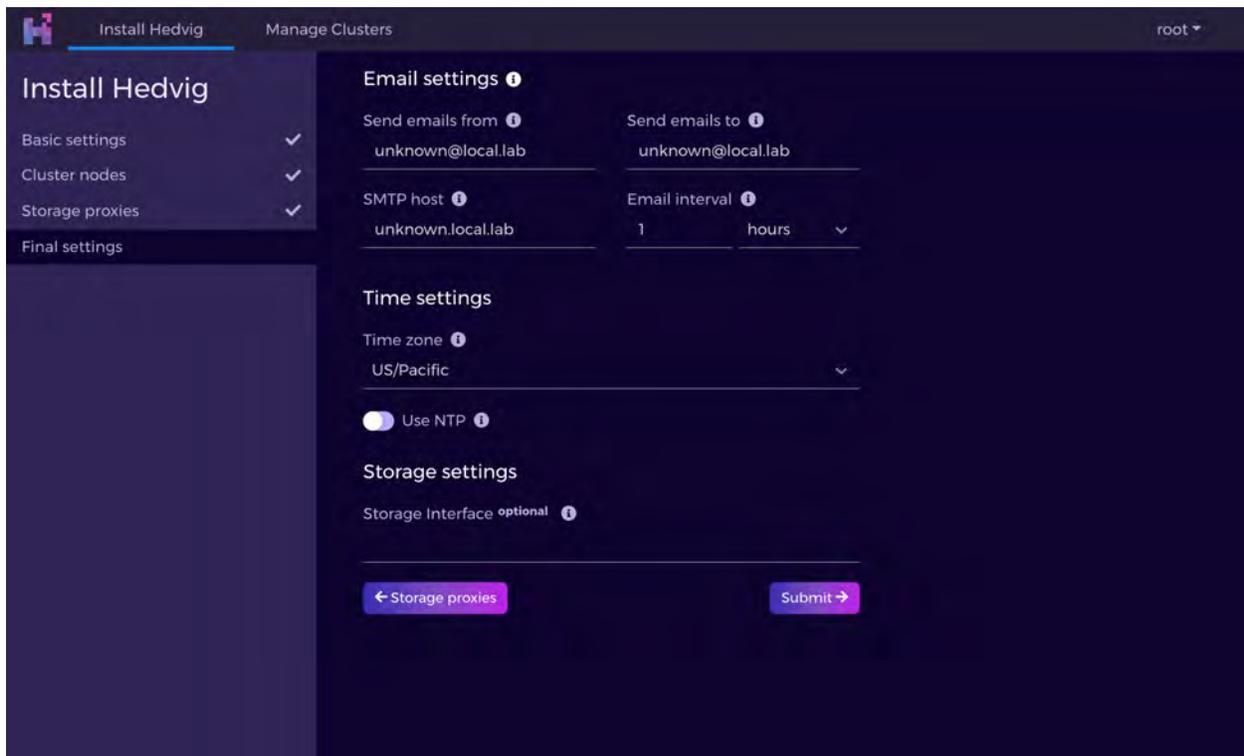


Figure 39: Installing an S3-Compatible Object Storage Cluster - Screen 9

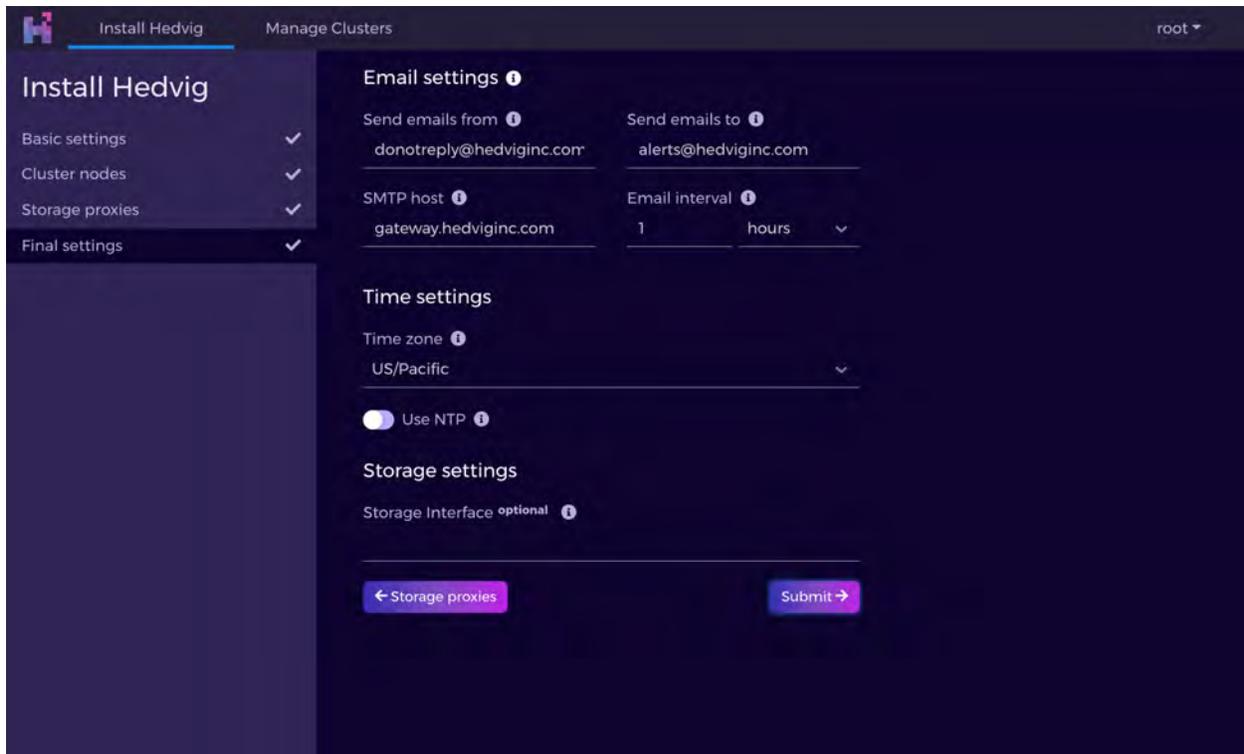


Figure 40: Installing an S3-Compatible Object Storage Cluster - Screen 10

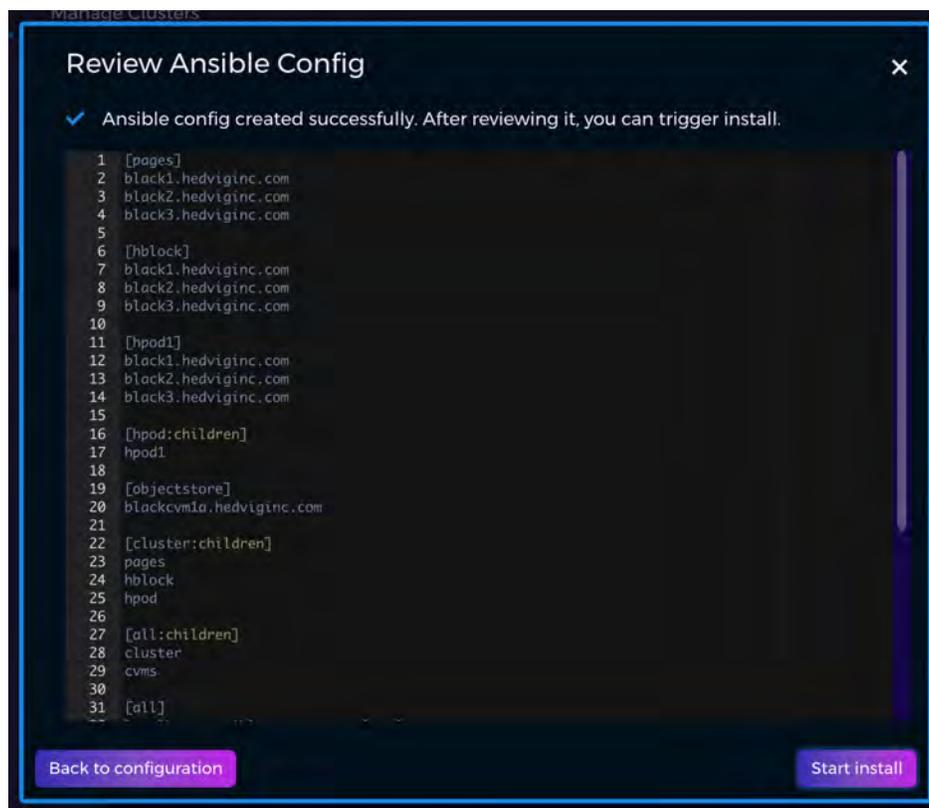


Figure 41: Installing an S3-Compatible Object Storage Cluster - Screen 11

Installing a Regex-based Storage Cluster

The following screens are displayed for the setup of a Regex-based Hedvig Storage Cluster.

A Regex-based setup is used for deployments that are DataCenterAware or RackAware, and the naming convention cannot adhere to the field-based naming conventions previously mentioned.

In some environments, a part of the hostname might contain the rack or data center information. In this case, a Regex can be supplied as input to define the part of the hostname that refers to the rack or data center. Some samples are provided in the Regex Builder screen in [Figure 47: Installing a Regex-based Storage Cluster - Screen 6](#).

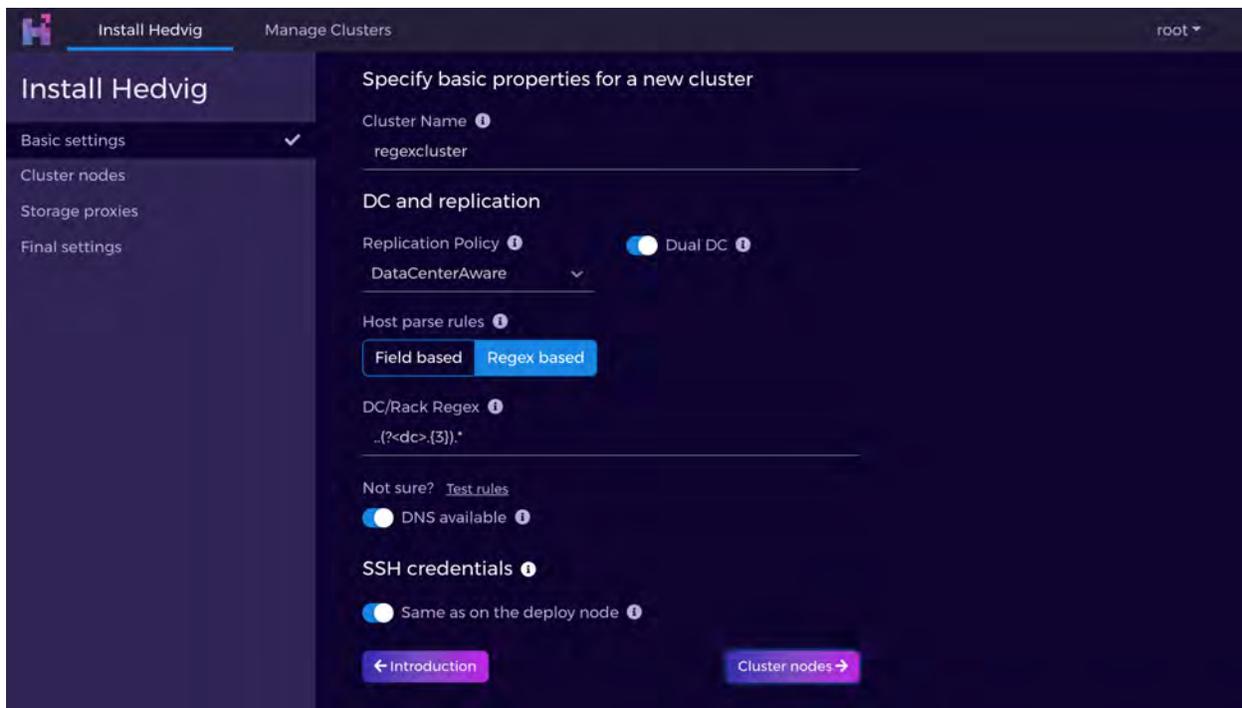


Figure 42: Installing a Regex-based Storage Cluster - Screen 1

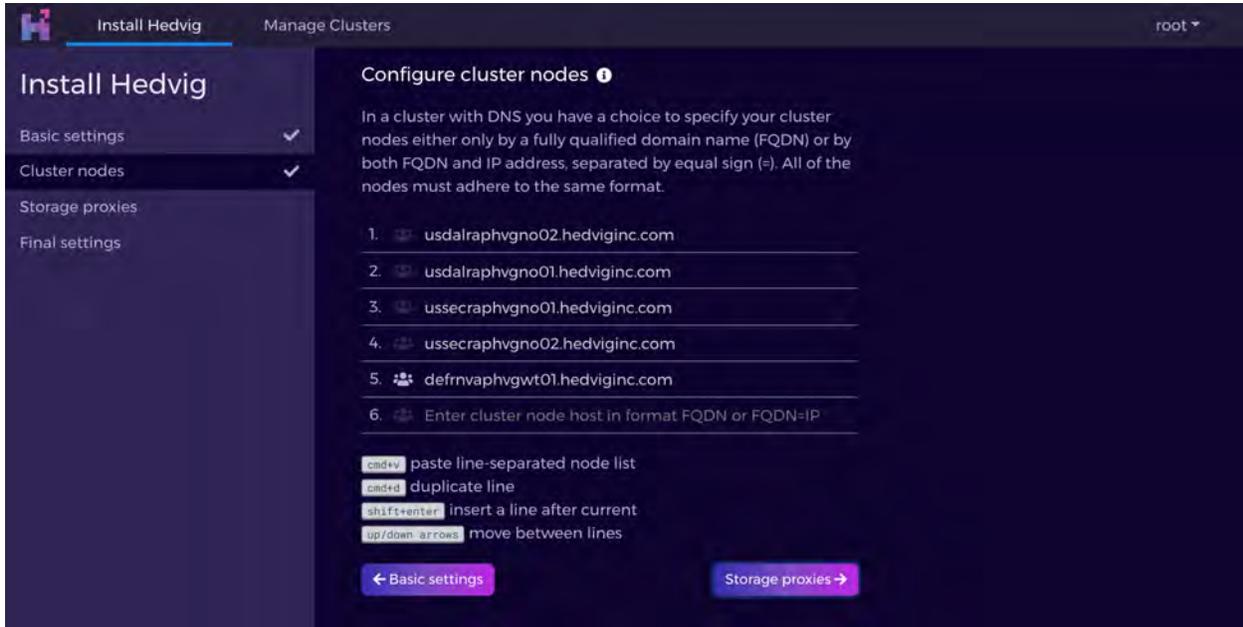


Figure 43: Installing a Regex-based Storage Cluster - Screen 2

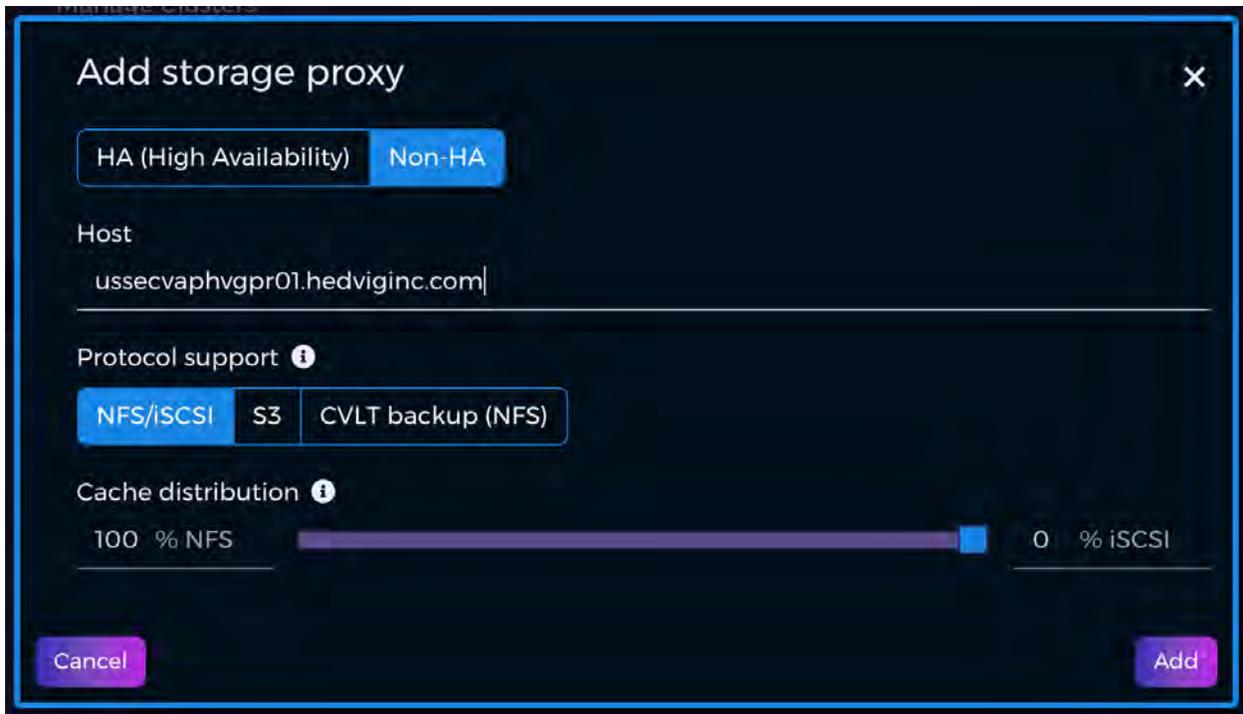


Figure 44: Installing a Regex-based Storage Cluster - Screen 3

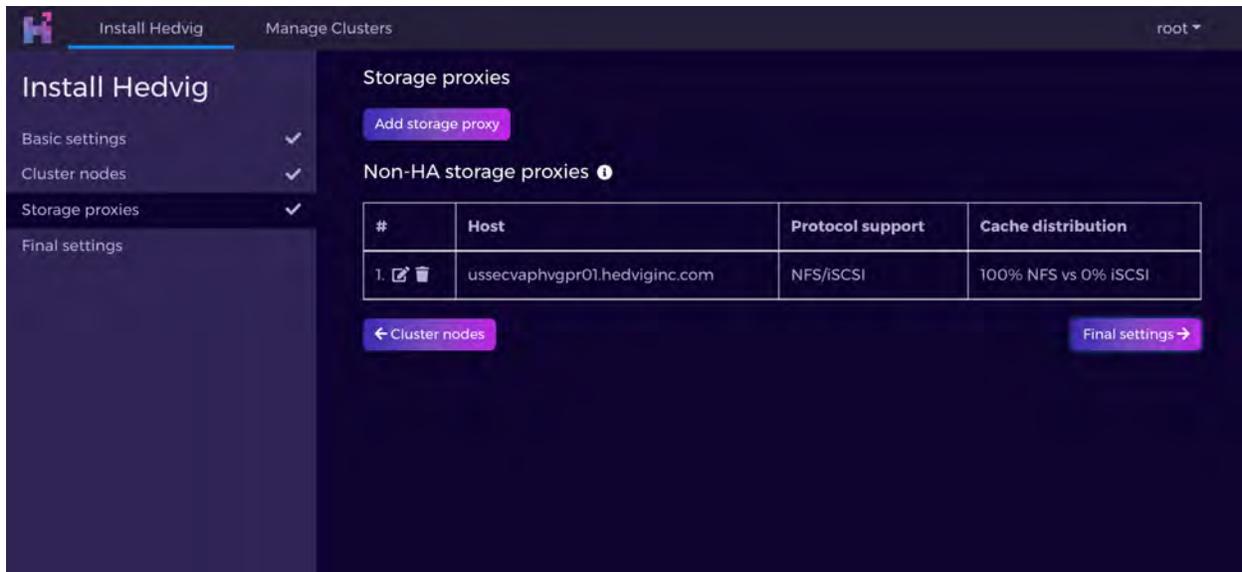


Figure 45: Installing a Regex-based Storage Cluster - Screen 4

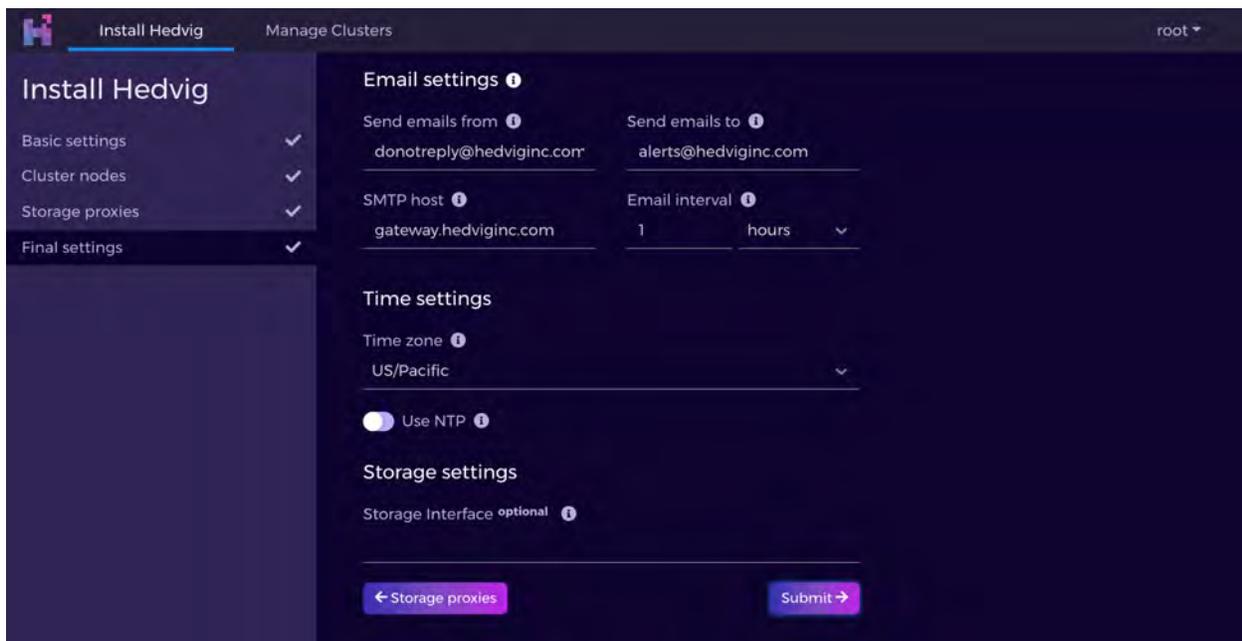


Figure 46: Installing a Regex-based Storage Cluster - Screen 5

Host rules builder ⓘ

The installer needs to know how to parse rack or / and data center information out of your domain names. For this, you need to set up either a field-based or a regex-based rule.

Field based **Regex based**

Regular expression (regex) based rule examples ⓘ

- node1-**rackABC**.example.com
- node1-**dcXYZ**-**rackABC**.example.com
- node-on-a-**specificDC**.example.com

Domain name

usdalraphvgn02.hedviginc.com

DC/Rack Regex ⓘ

..(?<dc>.{3}).*

us dal raphvgn02.hedviginc.com

[data center]

Your rule has parsed out data center **dal**.

Back

Figure 47: Installing a Regex-based Storage Cluster - Screen 6

Cluster Overview

The screenshot displays the 'reparo' cluster overview in the Hedvig UI. The interface is divided into a sidebar and a main content area.

Sidebar (reparo):

- Buttons: Add, Health, Logs, Upgrade
- Nodes:**
 - reparo1.r1.snc1.hedviginc.com
 - reparo10.r1.snc2.hedviginc.com
 - reparo11.r2.snc2.hedviginc.com
 - reparo12.r3.snc2.hedviginc.com
 - reparo13.r1.snc3.hedviginc.com
 - reparo14.r2.snc3.hedviginc.com
 - reparo15.r3.snc3.hedviginc.com
 - reparo2.r2.snc1.hedviginc.com
 - reparo3.r3.snc1.hedviginc.com
- HA Proxies:**
 - reparocvm1.r1.snc1.hedviginc.com /
 - reparocvm2.r1.snc1.hedviginc.com
- Non-HA Proxies:**
 - reparocvm1.r1.snc1.hedviginc.com
 - reparocvm2.r1.snc1.hedviginc.com

Main Content Area (Most recent task):

Install **completed**

```

111 RUNNING PLAY 53 [initialize ha cvms] *****
112 Pausing for 15 seconds
113 (ctrl-C then 'C' = continue early, ctrl-C then 'A' = abort)
114 Pausing for 20 seconds
115 (ctrl-C then 'C' = continue early, ctrl-C then 'A' = abort)
116
117 RUNNING PLAY 54 [update system services] *****
118
119 RUNNING PLAY 55 [enable hedvig services] *****
120
121 RUNNING PLAY 56 [transfer version information and finalize installation] ***
122
123 RUNNING PLAY 57 [save_state] *****
124
125 COMPLETED PLAY 57 *****
126
127 ACTION RECAP: *****
128 localhost : ok=21 changed=14 unreachable=0 failed=0
129 reparo1.r1.snc1.hedviginc.com: ok=129 changed=67 unreachable=0 failed=
130 reparo10.r1.snc2.hedviginc.com: ok=129 changed=67 unreachable=0 failed=
131 reparo11.r2.snc2.hedviginc.com: ok=129 changed=67 unreachable=0 failed=
132 reparo12.r3.snc2.hedviginc.com: ok=129 changed=67 unreachable=0 failed=
133 reparo13.r1.snc3.hedviginc.com: ok=129 changed=67 unreachable=0 failed=
134 reparo14.r2.snc3.hedviginc.com: ok=129 changed=67 unreachable=0 failed=
135 reparo15.r3.snc3.hedviginc.com: ok=129 changed=67 unreachable=0 failed=
136 reparo2.r2.snc1.hedviginc.com: ok=129 changed=67 unreachable=0 failed=
137 reparo3.r3.snc1.hedviginc.com: ok=157 changed=83 unreachable=0 failed=
138 reparocvm1.r1.snc1.hedviginc.com: ok=127 changed=67 unreachable=0 fail
139 reparocvm2.r1.snc1.hedviginc.com: ok=153 changed=83 unreachable=0 fail
140
141 err code: 0
142
143
144 {"ppid": "28031", "tag": "reparo", "done": 1, "file": "/var/tmp/ui/0377_ui_action.l
145
146
  
```

Figure 48: Cluster Overview

Adding an HA Storage Proxy

Add HA proxy ✕

These Storage Proxies are configured with two Ethernet interfaces and run as an HA pair. For failover to work correctly, a public VIP address and a private VIP address are required for the Ethernet interfaces.

First member Second member

Public VIP ⓘ

Private VIP Private net

Cache distribution

100 % NFS 0 % iSCSI

Cancel Run

Figure 49: Adding an HA Storage Proxy - unfilled screen

Add HA proxy ✕

These Storage Proxies are configured with two Ethernet interfaces and run as an HA pair. For failover to work correctly, a public VIP address and a private VIP address are required for the Ethernet interfaces.

First member Second member

reparocvm3.r2.snc1.hedviginc.com reparocvm4.r2.snc1.hedviginc.com

Public VIP ⓘ

reparovip1.r1.snc1.hedviginc.com=172.22.61.7

Private VIP Private net

172.22.22.3 172.22.22.0

Cache distribution

100 % NFS 0 % iSCSI

Cancel Run

Figure 50: Adding an HA Storage Proxy - filled screen

Adding a Cluster Node



The screenshot shows a dark-themed dialog box titled "Add cluster nodes" with a close button (X) in the top right corner. Below the title, there is a single instruction: "1. Enter cluster node host in format FQDN or FQDN=IP". A horizontal line indicates the input field. At the bottom left is a "Cancel" button, and at the bottom right is a "Run" button.

Figure 51: Adding a Cluster Node - unfilled screen



The screenshot shows the same "Add cluster nodes" dialog box, but now it is filled with data. The title and close button remain the same. The list of instructions is now: "1. reparo4.r4.snc1.hedviginc.com", "2. reparo16.r4.snc1.hedviginc.com", and "3. Enter cluster node host in format FQDN or FQDN=IP". Each instruction has a horizontal line below it representing the input field. The "Cancel" and "Run" buttons are still present at the bottom.

Figure 52: Adding a Cluster Node - filled screen

Fetching Cluster Logs

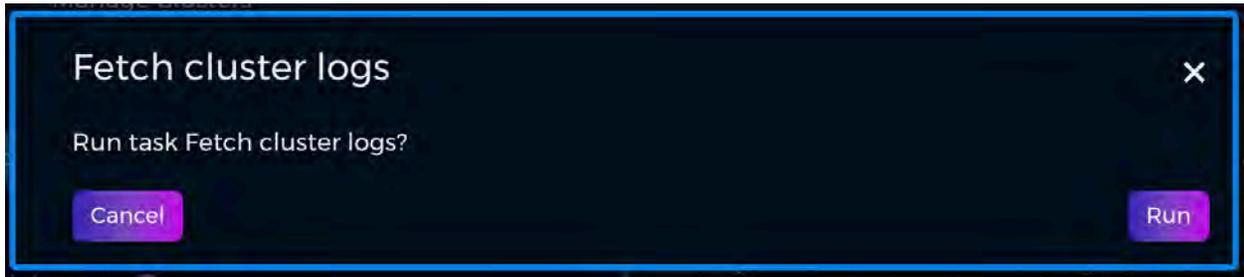
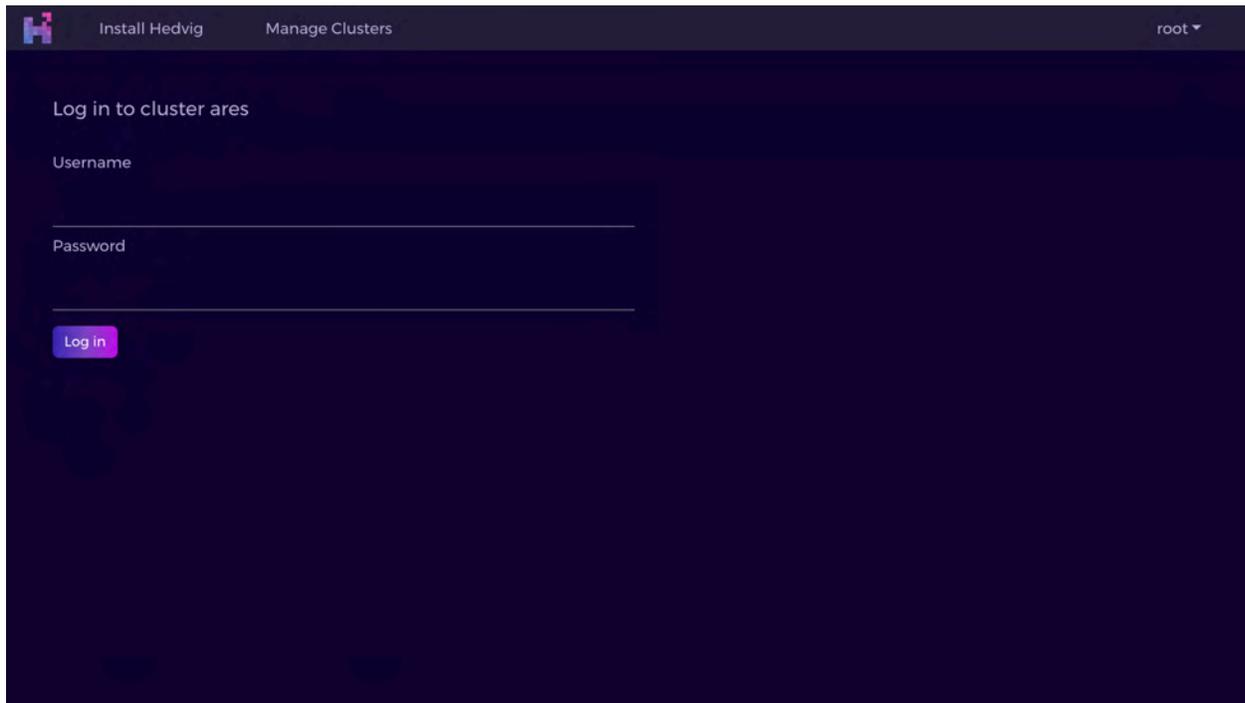


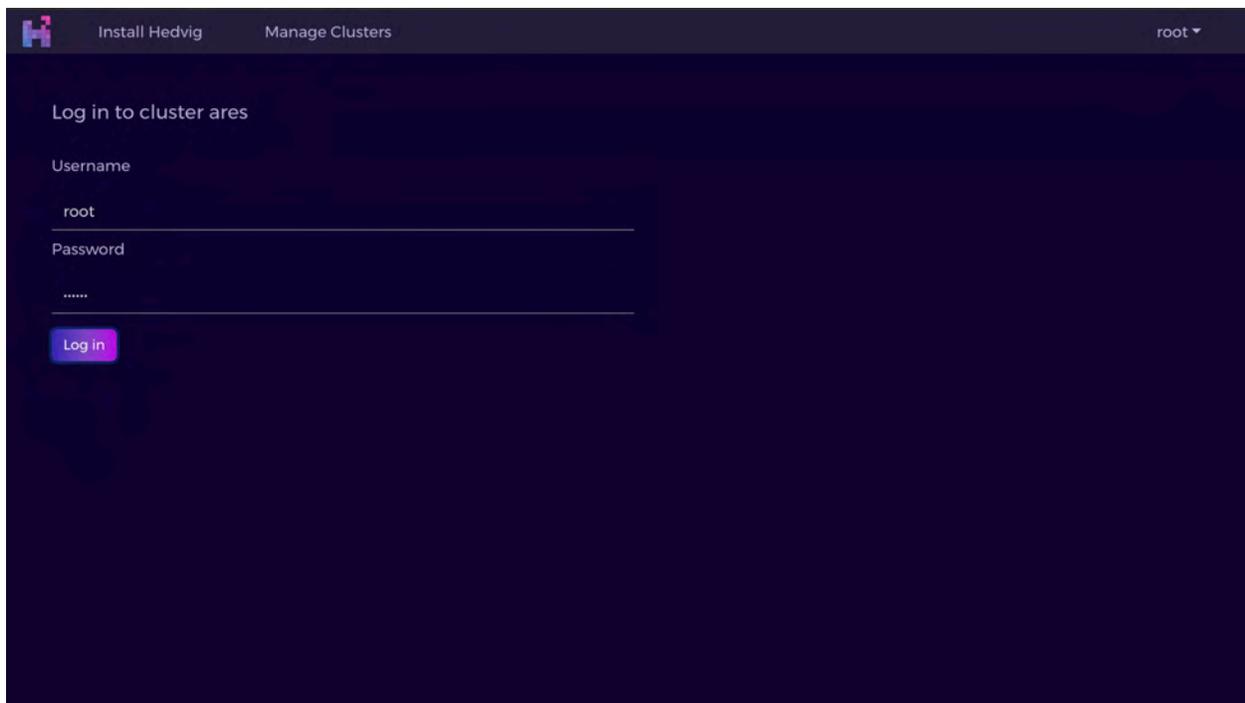
Figure 53: Fetching Cluster Logs

Logging in to a Cluster



The screenshot shows the 'Install Hedvig' window with the 'Manage Clusters' tab selected. The user is logged in as 'root'. The main content area is titled 'Log in to cluster ares' and contains two input fields: 'Username' and 'Password'. Both fields are currently empty. A purple 'Log in' button is positioned below the password field.

Figure 54: Logging in to a Cluster - unfilled screen



The screenshot shows the same 'Install Hedvig' window. The 'Username' field is now filled with the text 'root'. The 'Password' field is filled with a series of dots, indicating that the password has been entered. The 'Log in' button remains visible below the password field.

Figure 55: Logging in to a Cluster - filled screen

Managing Clusters

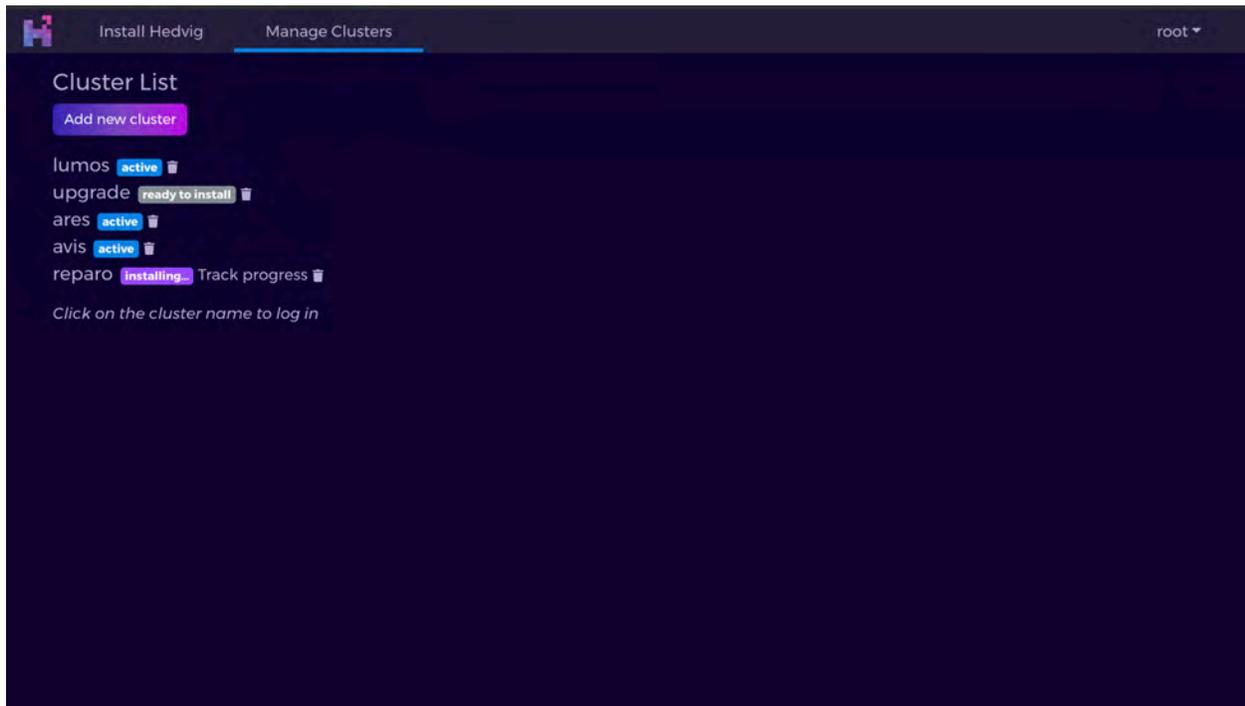


Figure 56: Managing Clusters

Log View

Install Hedvig Manage Clusters root ▾

Install in progress...
Cancel install

```

1 + env HV_USER=root /opt/hedvig/bin/hv_deploy --deploy_new_cluster /home/admin/reparo/config.ansi
2 Warning -- missing vars in inventory file: [ admin_ipaddr, host_type, storage_interface, custom_drive_map ]
3 Ensuring password-less SSH connections have been added for all cluster machines.
4
5 RUNNING: deploy_new_cluster *****
6
7 RUNNING PLAY 1 [collect deploy server facts] *****
8
9 RUNNING PLAY 2 [install preliminary dependencies] *****
10
11 RUNNING PLAY 3 [add ssh connections] *****
12
13 RUNNING PLAY 4 [validate preliminary dependencies] *****
14
15 RUNNING PLAY 5 [validate cluster configuration] *****
16
17 RUNNING PLAY 6 [verify name resolution for deploy server] *****
18
19 RUNNING PLAY 7 [transfer hosts file if necessary] *****
20
21 RUNNING PLAY 8 [verify name resolution for remote machines] *****
22
23 RUNNING PLAY 9 [create local cluster directory] *****
24
25 RUNNING PLAY 10 [install rpms] *****
26

```

Switch to progress view

Figure 57: Log View

Progress View

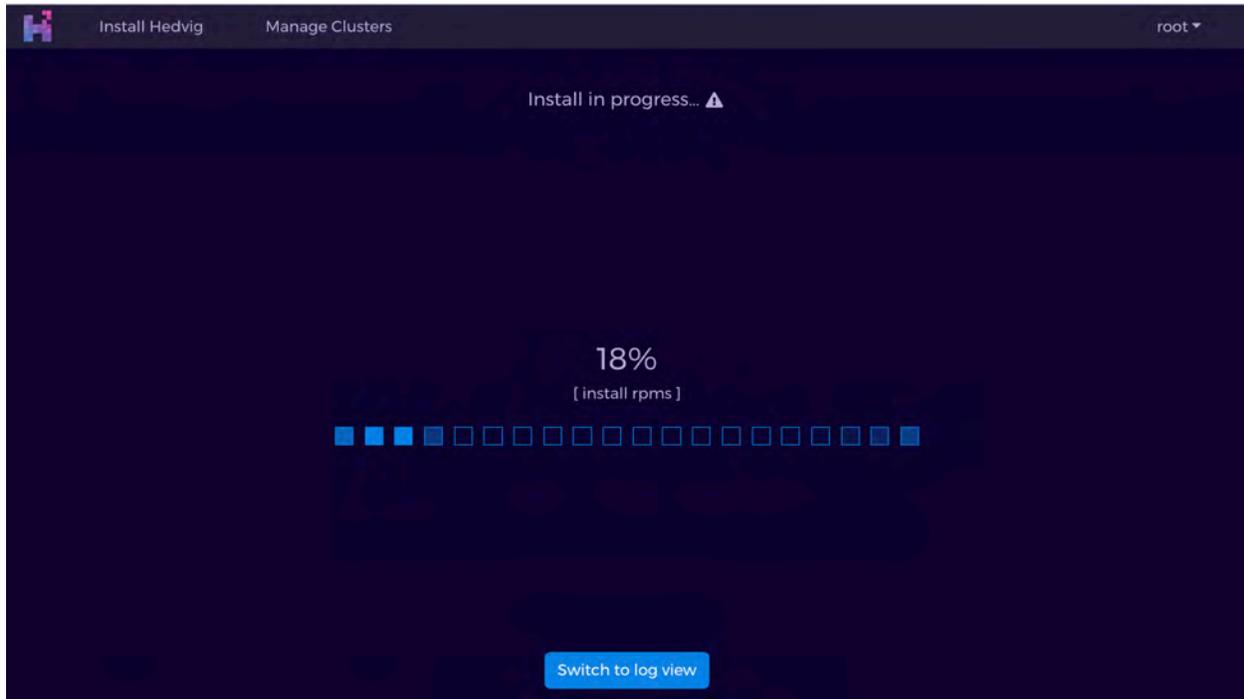


Figure 58: Progress View

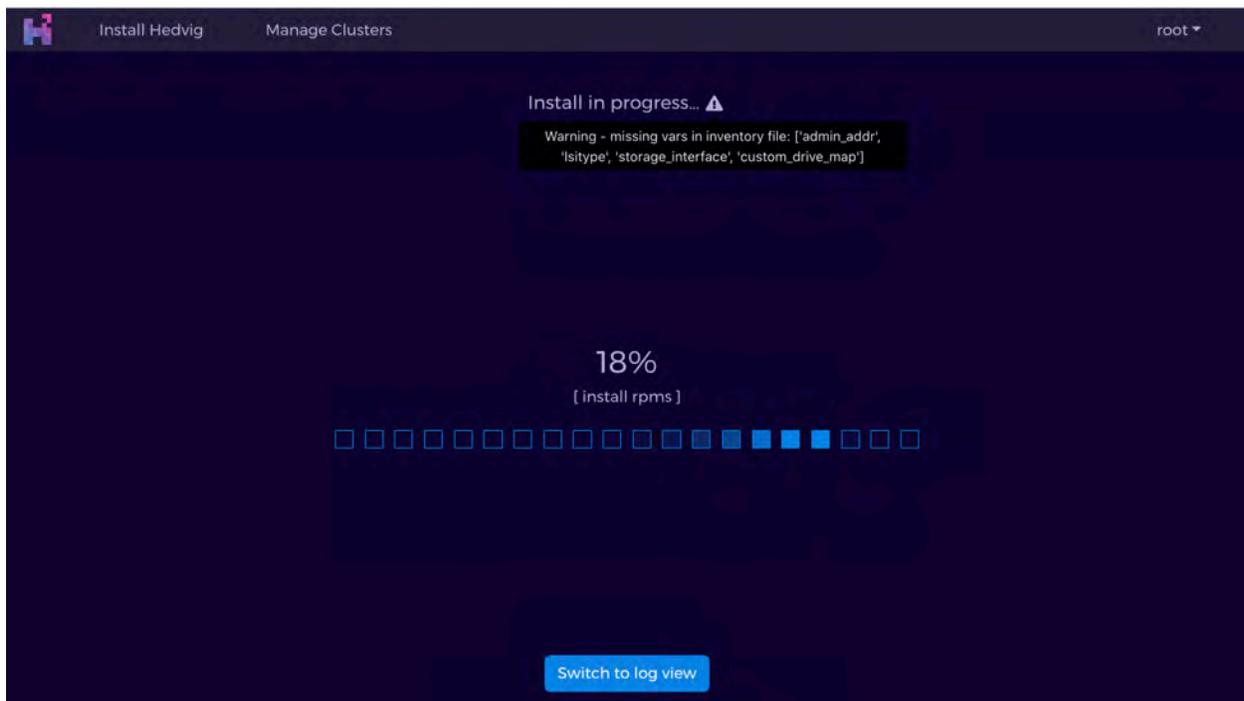


Figure 59: Progress View with warnings

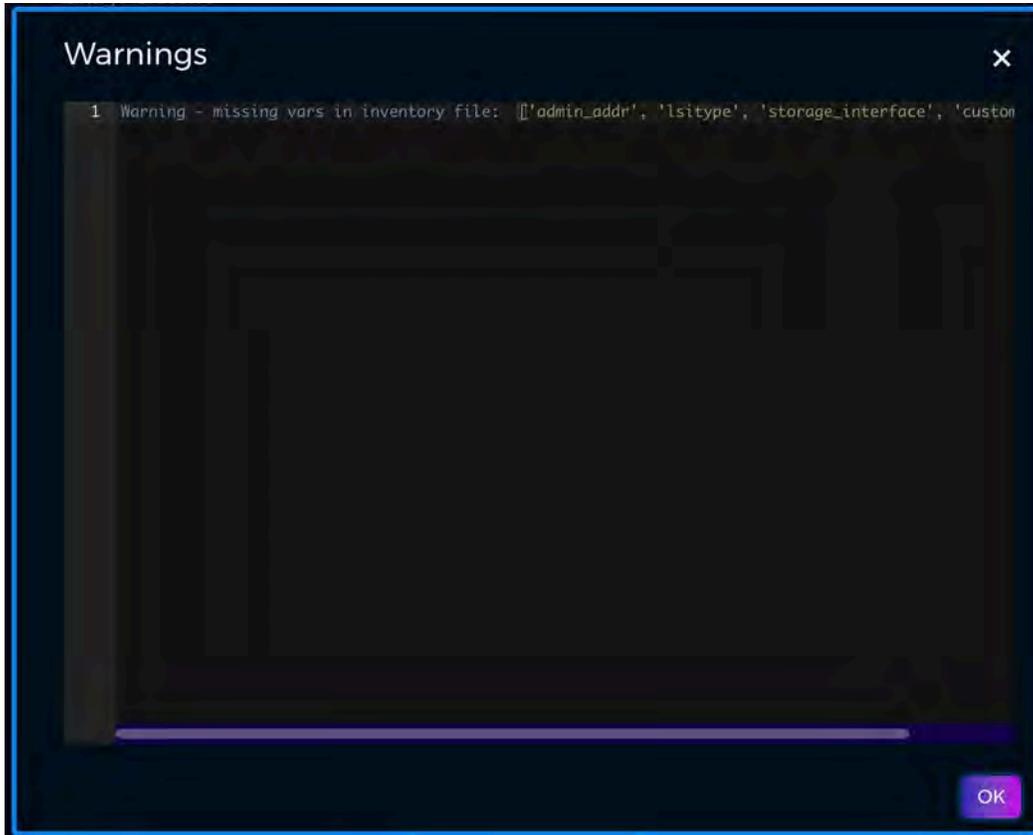


Figure 60: Progress View with warnings expanded

Successful Install

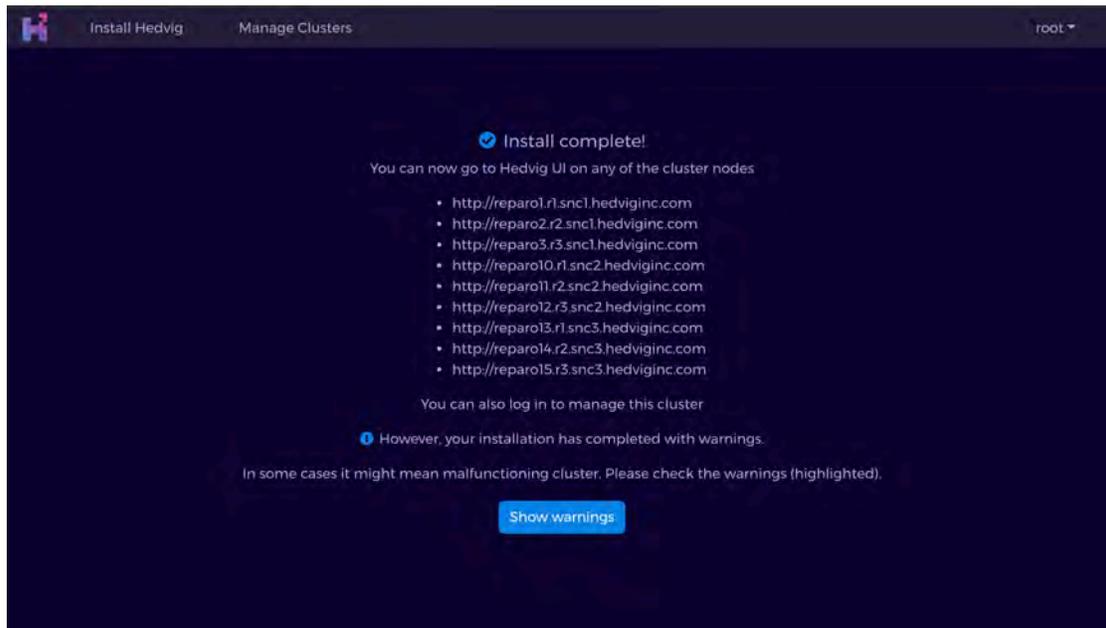


Figure 61: Successful install with warnings

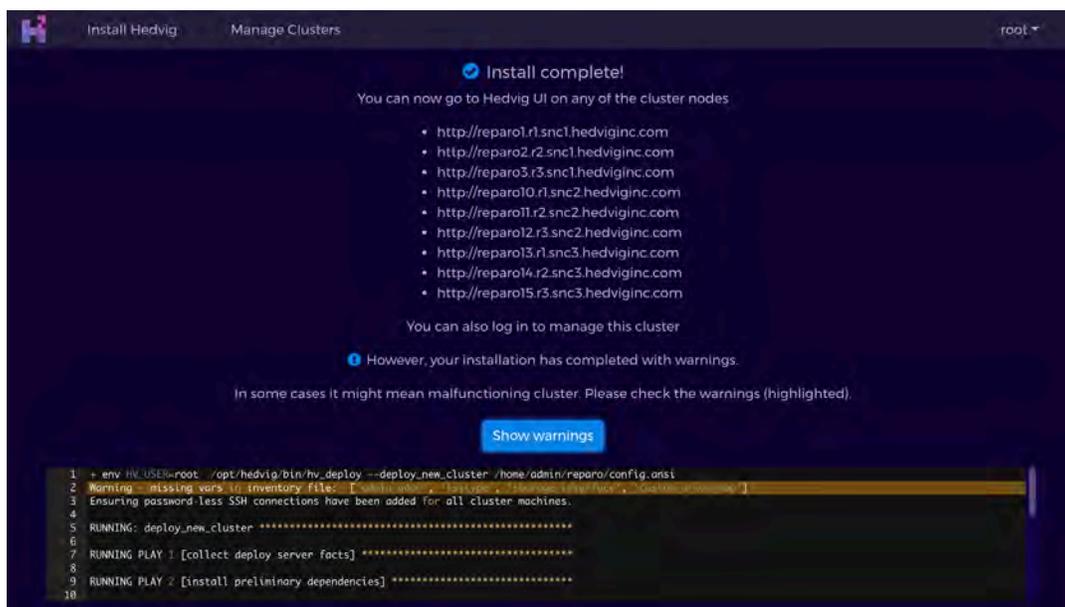


Figure 62: Successful install with warnings expanded

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Software-defined AES-256, FIPS compliant encryption of data in flight and at rest.