ThoughtSpot

ThoughtSpot Deployment Guide for Dell

Release 6.0

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Deploying on the Dell appliance

Summary: Follow these steps to deploy ThoughtSpot on your Dell appliance.

Follow the steps in this checklist to deploy ThoughtSpot on your Dell appliance.

- ❏ Step 1: Complete installation prerequisites [See page 3]
- ❏ Step 2: Review hardware requirements [See page 4]
- ❏ Step 3: Connect your appliance [See page 5]
- ❏ Step 4: Configure management settings [See page 8]
- ❏ Step 5: Configure nodes [See page 10]
- ❏ Step 6: Install cluster [See page 13]

Related information

Use these references to aid you in successful installation and administration of ThoughtSpot.

- the nodes.config file [See page 0]
- Parameters of the nodes.config file [See page 0]
- Using the cluster create command [See page 0]
- Parameters of the `cluster create` command [See page 0]
- Cable Reference [See page 0]
- ThoughtSpot Documentation [See page 0]
- Contact Support [See page 0]

Prerequisites

Summary: Complete these prerequisites to deploy ThoughtSpot on your Dell appliance.

Installation prerequisites

Ensure that you have the following items, information, and understanding of policies before you begin installing your Dell 6420 appliance.

- ❑ 10gbE switch with IPv6 broadcast and multicast enabled. You need one switch for each node.
- ❑ Data center with proper environment controls, such as cooling.
- ❑ AC power
- ❑ 10G connection: SFP+ for the switch side
- ❑ 10GbE network cables, either direct attach copper (DAC) or fiber. See Cable Reference [See page 0] for more information to decide between the two types.
- ❑ 10bps switch for connection to the iDRAC (Out of Band Management) port
- ❑ Cat5 network cables. You need one for each node.
- ❑ Rack space of 2U or 3.5 inches for each appliance, and a power strip
- ❑ Monitor and keyboard
- ❑ Networking information, for data, management IPs, DNS, timezone, and default gateway IP. Contact your network administrator for this information, and fill out the ThoughtSpot site survey so that you have a quick reference.

Review hardware requirements

Next, review hardware requirements. [See page 4]

Hardware Requirements

Summary: Learn about the Dell hardware before deploying ThoughtSpot.

About the Hardware

These pictures show the front and back view of the Dell C6420 appliance.

Dell front view

Dell back view

Connect appliance

Next, connect the appliance. [See page 5]

Connect the Appliance

Summary: Connect your Dell appliance before you can deploy ThoughtSpot.

After you rack and stack the appliance, it is time to configure it. Follow the steps in this checklist.

- ❏ Step 1: Connect switches to 10GbE ports [See page 0]
- ❏ Step 2: Connect iDRAC ports [See page 0]
- ❏ Step 3: Connect a keyboard and monitor [See page 0]
- ❏ Step 4: Turn on nodes [See page 0]

Step 1: Connect switches to 10GbE ports

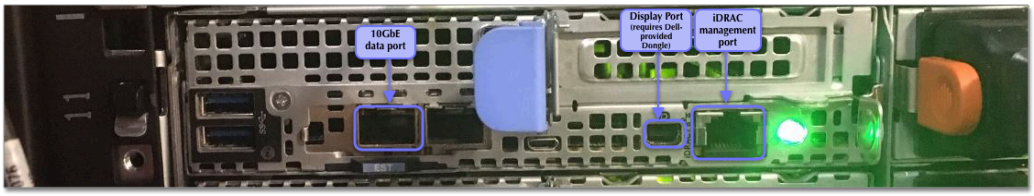
Connect the 10GbE port of each node, as illustrated in Dell Port Location [See page 5], to the 10GbE switches on your own rack, using either fiber or DAC cables.

Refer to the Cable reference [See page 0] for information on the cable types:

- Fiber Cables [See page 0]
- DAC Cables [See page 0]

> ℹ **Note:** Ask your hardware vendor for more details about what they supply and what you need to buy.

The ports are on the back of the Dell appliance.



Dell port location

- Connect to switches **only** the appliances (4 nodes each) that you plan to use in your cluster.
- You must power off, or disconnect from the switch, any other nodes or appliances.

  This prevents accidental configuration of incorrect nodes.
- You must connect all nodes, even if using only one node, to a 10GbE switch.

> ℹ **Note:** You need at least three nodes for high availability (HA). Each appliance can have up to four nodes.

Step 2: Connect iDRAC ports

Connect the iDRAC management ports of each node to the management switch.

See Dell Port Location [See page 5].

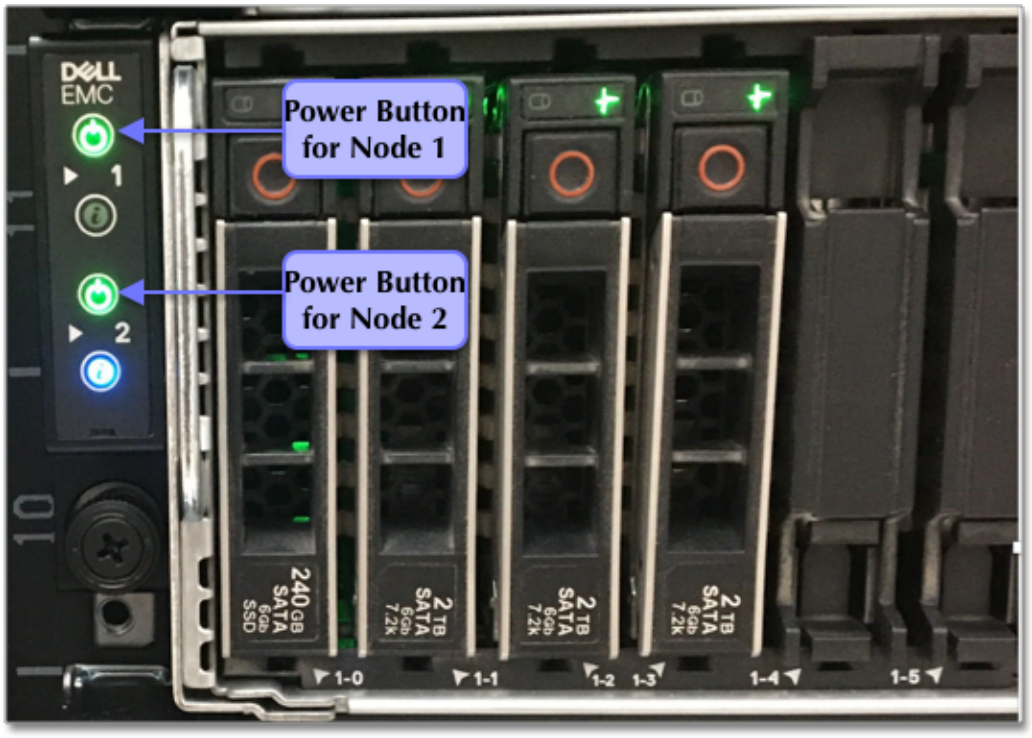
Step 3: Connect a keyboard and monitor

Connect a keyboard and monitor to the appliance. You need these to initially configure the appliance, and you can disconnect them later. Use the adapter Dell provides. Plug it into the Display Port shown in Dell Port Location [See page 5], and plug the monitor in on the other side of the adapter.

Dell-provided display to VGA adapter

Step 4: Turn on nodes

Turn on power for the nodes by pressing the power button for each one; see Dell Power Buttons [See page 7].



Dell power buttons

There is one power button for each node.

Configure the management settings

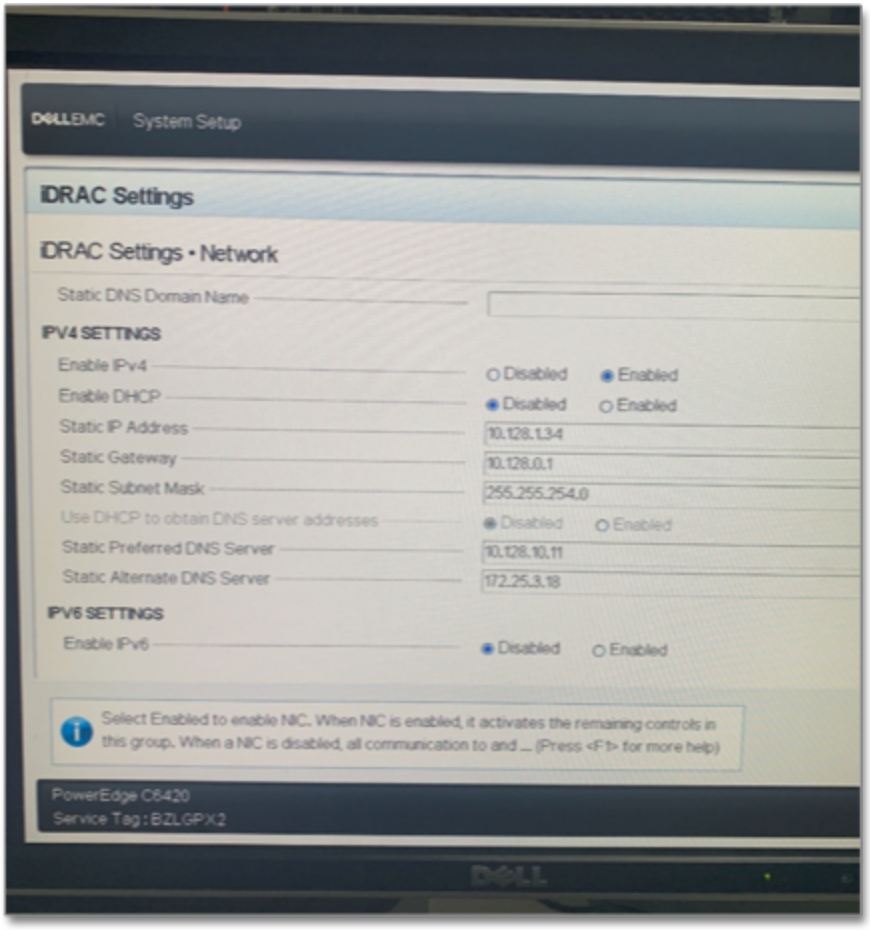
Next, configure the management settings. [See page 8]

Configure the Dell Management Settings

Summary: Configure the management settings for Dell before you can deploy ThoughtSpot.

Input your specific network information to configure the management settings for your Dell appliance. Refer to Dell Management Configuration [See page 9]. If you need additional guidance, view Dell Support [See page 0] for this product.

1. **Open the iDRAC settings modal** Before the node boots, a screen appears on your monitor with several options. Click F11 to enter the Boot Manager.
2. **Press F2** Click F2 when the option to do so appears on your screen.
3. **Select iDRAC** In the Bios setup screen, there are several options. Select **iDRAC** to configure your iDRAC management settings.
4. **Select network configuration** From the iDRAC settings options, select **network**.
5. **Fill out the iDRAC settings form** Add your specific network information for the IP address, Gateway, and Netmask in the empty boxes. DNS information is optional. Refer to your ThoughtSpot site survey for a quick reference, and ask your network administrator for help if you have not filled out the site survey yet.
    - For **Enable IPv4**, select **enabled**.
    - For **Enable DHCP**, select **disabled**.
    - For **Enable IPv6**, select **disabled**.
6. **Save changes and reboot** Follow the prompts on the monitor to save changes to the management settings form, exit, and reboot the system.
7. **Log into ThoughtSpot** After the system reboots, the login page appears. Log in as an administrator. Ask your network administrator if you do not know the admin credentials.



Dell Management Configuration

Configure nodes

Next, configure nodes. [See page 10]

Configure Nodes

Summary: Configure ThoughtSpot nodes on your Dell appliance.

After you connect the appliance, a command line appears on your console. Configure the nodes on this command line. Follow the steps in this checklist.

- ❏ Step 1: Get a template for network configuration [See page 0]
- ❏ Step 2: Prepare node configuration [See page 0]
- ❏ Step 3: Configure the nodes [See page 0]
- ❏ Step 4: Confirm node configuration [See page 0]

Step 1: Get a template for network configuration

Make sure you have logged into your cluster. If you have not, use admin credentials to log into your cluster.

Run the `tscli cluster get-config` command to get a template for network configuration. Redirect it to the file `nodes.config`.
You can find more information on this process in the `nodes.config` file reference [See page 0].

```
$ tscli cluster get-config |& tee nodes.config
```

Step 2: Prepare node configuration

1. Add your specific network information for the nodes in the `nodes.config` file, as demonstrated in the autodiscovery of one node example [See page 0].
2. Fill in the areas specified in Parameters of the nodes.config file [See page 0] with your specific network information.
   If you have additional nodes, complete each node within the nodes.config file in the same way.

Do not edit any part of the `nodes.config` file except the sections described in Parameters of the nodes.config file [See page 0]. If you delete quotation marks, commas, or other parts of the code, it may cause setup to fail.

Step 3: Configure the nodes

Configure the nodes in the `nodes.config` file using the `set-config` command.

Run `$ cat nodes.config | tscli cluster set-config` in your terminal.

If the command returns an error, refer to set-config error recovery [See page 0].

```
$ cat nodes.config | tscli cluster set-config

Connecting to local node-scout
Setting up hostnames for all nodes
Setting up networking interfaces on all nodes
Setting up hosts file on all nodes
Setting up IPMI configuration
Setting up NTP Servers
Setting up Timezone
Done setting up ThoughtSpot
```

Step 4: Confirm node configuration

Use the `get-config` command to confirm node configuration.

Your output may look similar to the following:

```
$ tscli cluster get-config

{
  "ClusterId": "",
  "ClusterName": "",
  "DataNetmask": "255.255.252.0",
  "DataGateway": "192.168.4.1",
  "IPMINetmask": "255.255.252.0",
  "IPMIGateway": "192.168.4.1",
  "Timezone": "America/Los_Angeles",
  "NTPServers": "0.centos.pool.ntp.org,1.centos.pool.ntp.or
g,2.centos.pool.ntp.org,3.centos.pool.ntp.org",
  "DNS": "192.168.2.200,8.8.8.8",
  "SearchDomains": "example.company.com",
  "Nodes": {
        "ac:1f:6b:8a:77:f6": {
          "NodeId": "ac:1f:6b:8a:77:f6",
          "Hostname": "Thoughtspot-server1",
          "DataIface": {
            "Name": "eth2",
            "IPv4": "192.168.7.70"
          },
          "IPMI": {
            "IPv4": "192.168.5.70"
          }
        }
  }
}
```

Install your cluster

Next, install your cluster. [See page 13]

Install Cluster

Summary: Install your ThoughtSpot cluster(s) on your Dell appliance.

Install the cluster using the release tarball. Installation takes approximately one hour. Make sure you can connect to ThoughtSpot remotely. If you can, you can run the installer on your local computer.

Refer to your welcome letter from ThoughtSpot to find the link to download the release tarball. If you do not have a link to download the release tarball, open a support ticket at ThoughtSpot Support [See page 0] to access the release tarball.

Follow the steps in this checklist to install your cluster.

- ❏ Step 1: Run the installer [See page 0]
- ❏ Step 2: Check cluster health [See page 0]
- ❏ Step 3: Finalize installation [See page 0]

Step 1: Run the installer

1. Copy the downloaded release tarball to `/home/admin`:

   Run `scp <release-number> admin@<hostname>:/home/admin/<file-name>`. Note the following parameters:

   - `release-number` is the version of ThoughtSpot on your cluster, in the form `0.0.tar.gz`. For example, `6.0.tar.gz`.
   - `hostname` is your network hostname. Ask your network administrator if you do not know your hostname.
   - `file-name` is the name of the tarball file on your local computer.

   ```
   $ scp 0.0.tar.gz admin@<hostname>:/home/admin/<file-name>
   ```

2. Create the cluster using `tscli cluster create <release-number>`.

```
$ tscli cluster create 0.0.tar.gz
```

3. Edit the ouput using your specific cluster information. For more information on this process, refer to Using the cluster create command [See page 0] and Parameters of the `cluster create` command [See page 0].

The cluster installer automatically reboots all the nodes after the install. Wait at least 15 minutes for the installation process to complete. The system is rebooting, which takes a few minutes. Log into any node to check the current cluster status, using the command `tscli cluster status`.

Step 2: Check cluster health

After you install the cluster, check its status using the `tscli cluster status` command.

Your output may look something like the following:

```
$ tscli cluster status
Cluster: RUNNING
Cluster name    : thoughtspot
Cluster id      : 1234X11111
Number of nodes : 3
Release         : 6.0
Last update     = Wed Oct 16 02:24:18 2019
Heterogeneous Cluster : False
Storage Type    : HDFS

Database: READY
Number of tables in READY state: 2185
Number of tables in OFFLINE state: 0
Number of tables in INPROGRESS state: 0
Number of tables in STALE state: 0
Number of tables in ERROR state: 0

Search Engine: READY
Has pending tables. Pending time = 1601679ms
Number of tables in KNOWN_TABLES state: 1934
Number of tables in READY state: 1928
Number of tables in WILL_REMOVE state: 0
Number of tables in BUILDING_AND_NOT_SERVING state: 0
Number of tables in BUILDING_AND_SERVING state: 128
Number of tables in WILL_NOT_INDEX state: 0
```

Step 3: Finalize installation

After the cluster status changes to `READY`, sign into the ThoughtSpot application on your browser.

Follow these steps:

1. Start a browser from your computer.
2. Enter your secure IP information on the address line.

   ```
   https://<IP-address>
   ```

3. If you don't have a security certificate for ThoughtSpot, you must bypass the security warning to proceed:
   - Click **Advanced**
   - Click **Proceed**

4. The ThoughtSpot login page appears.
5. In the ThoughtSpot sign-in window [See page 16], enter admin credentials, and click **Sign in**.

   ThoughtSpot recommends changing the default admin password.

ThoughtSpot's sign-in window

Error recovery

`Set-config` error recovery

If you get a warning about node detection when you run the `set-config` command, restart the node-scout service.

Your error may look something like the following:

```
Connecting to local node-scout WARNING: Detected 0 nodes, but f
ound configuration for
only 1 nodes.
Continuing anyway. Error in cluster config validation: [] is no
t a valid link-local
IPv6 address for node: 0e:86:e2:23:8f:76 Configuration failed.
Please retry or contact support.
```

Restart the node-scout service with the following command.

```
$ sudo systemctl restart node-scout
```

Ensure that you restarted the node-scout by running `sudo systemctl status node-scout`. Your output should specify that the node-scout service is active. It may look something like the following:

```
$ sudo systemctl status node-scout
  ● node-scout.service - Setup Node Scout service
    Loaded: loaded (/etc/systemd/system/node-scout.service; ena
bled; vendor preset: disabled)
    Active: active (running) since Fri 2019-12-06 13:56:29 PS
T; 4s ago
```

Next, retry the `set-config` command.

```
$ cat nodes.config | tscli cluster set-config
```

The command output should no longer have a warning.