

# Configuring SSH Authentication

Two types of ssh authentication need to be configured: communication between nodes and access to nodes from outside the cluster.

## Communication Between Nodes

ssh authentication between nodes is required for:

- Connecting via ssh between nodes
- Using the `clx` tool to collect logs, run diagnostics and perform cluster-wide actions.
- ClustrixDB Upgrades

## Key Pair Authentication

Generate the key pair as the database user (clxd) using default filenames.

```
shell> ssh username@hostname
shell> ssh-keygen
```

The output will look like:

```
Generating public/private rsa key pair.
Enter file in which to save the key (/home/clxd/.ssh/id_rsa):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/clxd/.ssh/id_rsa.
Your public key has been saved in /home/clxd/.ssh/id_rsa.
pub.
The key fingerprint is:
96:f6:07:ef:a7:cc:e3:0c:9a:44:c7:ed:33:fa:cf:62 clxd@node1
```

Add this to the list of authorized keys:

```
shell> mkdir -p ~/.ssh
shell> cat id_rsa.pub >> ~/.ssh/authorized_keys
shell> chmod 600 ~/.ssh/authorized_keys
shell> chmod 700 ~/.ssh
```

Now copy the `~/.ssh/id_rsa.pub`, `~/.ssh/id_rsa` and `~/.ssh/authorized_keys` files to every node in the cluster as the `clxd` user and verify that they have the same permissions.

To verify that ssh authentication is configured correctly, run this command as the `clxd` user

```
shell> /opt/clustrix/bin/clx cmd 'date'
```

If dates are correctly returned from each node and no passwords are requested, setup is successful.

Repeat these steps for the `clxm` user.

## Remote access to the cluster

Clustrix recommends configuring ssh keys for the `clxd` user to access the cluster remotely, though you may use an alternate configuration if desired.

If you do not already have one, generate a public key pair and copy it to every node:

```
shell> mkdir -p ~clxd/.ssh
```

Append the public key to `~clxm/.ssh/authorized_keys`

```
shell> chown -R clxd ~clxd/.ssh
shell> chmod 700 ~clxd/.ssh
shell> chmod 600 ~clxd/.ssh/authorized_keys
shell> cat id_rsa.pub >> ~/.ssh/authorized_keys
```