

# Debugging SSH Public Key Authentication Issues

Riyad Derguini

February 20, 2025

## 1 Error Description

When attempting to use `ssh-copy-id`, to copy my pub key from une machine de salle tp to mon conteneur i incountred this error:

```
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed:
"/export/home/users1/licence/licence2/l2info/e12312754/.ssh/id_rsa.pub"
/usr/bin/ssh-copy-id: INFO:
attempting to log in with the new key(s), to filter out any that are already installed
/usr/bin/ssh-copy-id: INFO:
1 key(s) remain to be installed -- if you are prompted now it is to install the new keys
my_user_name@my_IPv6: Permission denied (publickey).
```

Askip this error suggests that authentication via public key is failing.

## 2 Possible Causes and Fixes

### 2.1 Ensure the Correct Key is Being Used

I should verify that the correct key is being used by running:

```
ssh -i ~/.ssh/id_rsa my_user_name@my_IPv6
```

If authentication succeeds with this method,i should add the key to my SSH agent:

```
ssh-add ~/.ssh/id_rsa
```

Then retry connecting:

```
ssh my_user_name@my_IPv6
```

If not then, i should :

## 2.2 Manually Copy the Key to the Remote Server

If `ssh-copy-id` fails, then i will have to manually append the public key.

1. Retrieve my public key:

```
cat ~/.ssh/id_rsa.pub
```

Copy the output.

2. Access the remote server via password authentication if possible:

```
ssh root@2001:910:1410:523::fada:f387:5d11
```

3. Append the key to `authorized_keys`:

```
echo "PASTE_MY_PUBLIC_KEY_HERE" >> ~/.ssh/authorized_keys
chmod 600 ~/.ssh/authorized_keys
```

## 2.3 Verify SSH Configuration on the Remote Server

Check `/etc/ssh/sshd_config` to ensure public key authentication is enabled:

```
cat /etc/ssh/sshd_config | grep -E "PermitRootLogin|PubkeyAuthentication"
```

Ensure these settings exist:

```
PermitRootLogin yes
PubkeyAuthentication yes
AuthorizedKeysFile .ssh/authorized_keys
```

Restart the SSH service if any changes are made:

```
sudo systemctl restart sshd
```

## 2.4 Check File Permissions on the Remote Server

Ensure the correct file permissions are set:

```
chmod 700 ~/.ssh
chmod 600 ~/.ssh/authorized_keys
```

## 2.5 Debug Using Verbose Mode

To get detailed debugging information, use:

```
ssh -vvv root@2001:910:1410:523::fada:f387:5d11
```

This will provide more details on why the authentication is failing.

## 3 Final Steps

1. If `ssh-copy-id` fails, manually add the key. 2. Verify SSH configuration on the remote server. 3. Ensure correct file permissions are set. 4. Use `ssh -vvv` for debugging.