

# Workload Management: X11-Forwarding does not work with Slurm, what now?

Bright Cluster Manager generates the SSH keys for cluster users using ECDSA instead of RSA algorithm. However, this might cause X11-Forwarding through srun to fail to work in some versions of Slurm (due to a known bug reported [here](#)).

This problem might be reproduced as follows:

1. Enable X11-Forwarding in Slurm by adding the option `PrologFlags=X11` to the Slurm configuration file (`slurm.conf`).
2. Run an X application using `srun`. For example: `srun --x11 xclock`
3. You will get an error message similar to:  
Error: Can't open display: localhost:10.0  
srun: error: node001: task 0: Exited with exit code 1

This problem can be solved by generating RSA keys alongwith the ECDSA keys for all users. For bash/sh users, this can be accomplished by creating the file `/etc/profile.d/rsa_ssh.sh` as root, with the following contents:

```
if [ "$(id -u 2>/dev/null)" != "0" ]; then
  if [ ! -f ~/.ssh/id_rsa ]; then
    if [ -w ~ ]; then
      echo Creating RSA key for ssh
      ssh-keygen -t rsa -f ~/.ssh/id_rsa -q -N ""
      cat ~/.ssh/id_rsa.pub >> ~/.ssh/authorized_keys
      chmod 600 ~/.ssh/authorized_keys ~/.ssh/id_rsa ~/.ssh/id_rsa.pub
    fi
  fi
fi
```

Make sure this file has the correct permissions: `chmod 644 /etc/profile.d/rsa_ssh.sh`

Similarly, for csh users, create the file `/etc/profile.d/rsa_ssh.csh` with these contents:

```
if ( "id -u" != "0" ) then
  if ( ! -e ~/.ssh/id_rsa ) then
    if ( -w ~/ ) then
      echo Creating RSA key for ssh
      ssh-keygen -t rsa -f ~/.ssh/id_rsa -q -N ""
      cat ~/.ssh/id_rsa.pub >> ~/.ssh/authorized_keys
      chmod 600 ~/.ssh/authorized_keys ~/.ssh/id_rsa ~/.ssh/id_rsa.pub
    endif
  endif
endif
```

And apply the correct permissions: `chmod 644 /etc/profile.d/rsa_ssh.csh`

Unique solution ID: #1463

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