Distributed Systems - Project 1
Environment Setup Walkthrough

1. **Connecting to remote machines**
    a. Linux or MacOS: directly from terminal window
    b. Windows: SSH client (e.g., Putty, OpenSSH)

2. **4 remote machines:**
    a. Address: *yahoocluster-x.maas* (x = 18, 22, 33, or 34)

3. **Username and access key**
    a. Sent individually via slack

4. **Configuring access key**
    a. Copy the key file *id_rsa_ds* into the directory *~/.ssh*
    b. Add required permission to the key: `chmod 400 ~/.ssh/id_rsa_ds2020`

5. **Access machines with personal user id and access key**
    a. Command:
    ```
    ssh -o ProxyCommand='ssh ds2020@clusterinfo.unineuchatel.ch
    -i ~/.ssh/id_rsa_ds -W "%h:%p"' user_id@yahoocluster-x.maas
    -i ~/.ssh/id_rsa_ds
    ```

6. **Simplifying command**
    a. Add *User*, *ProxyCommand* and *IdentityFile* to your *~/.ssh/config* file
    b. If you don't have it yet, create a file named *config* in directory *~/.ssh/*
    c. Copy the following content into config file:
    ```
    Host *.maas
        User user_x
        ProxyCommand ssh ds2020@clusterinfo.unineuchatel.ch -i
    ~/.ssh/id_rsa_ds -W "%h:%p"
        IdentityFile ~/.ssh/id_rsa_ds
    ```
    d. Run command: `ssh yahoocluster-x.maas`

7. **Testing access to machines. Verify that:**
    a. You can access all 4 machines from your local machine
    b. Each machine can access the other 3
    c. Each machine contains the directories *shared_public* and *shared_private*
    d. Directory *shared_public* contains *POPJavaMatrix.zip* file
    e. When you copy *POPJavaMatrix.zip* file from *shared_public* to *shared_private*, it is available in the *shared_private* directory of all machines