

DEPLOYMENT

Set up a hosted linux server with tomcat and mysql and deploy a java web application

NETWORK

Host	DIGITALOCEAN.COM
Server	DROPLET
Web server	TOMCAT
Database	MYSQL
War	JAVA WEB APPLICATION FILE

SSH

- Cryptographic network protocol
- SSH provides a secure channel over an unsecured network in a client-server architecture, connecting an SSH client application with an SSH server
- Secure remote command-line login and command execution

Keys

Public key

Can be revealed to anyone

Private key

Must not be revealed to anyone

GIT

<https://git-scm.com/downloads>

Version control system / Source code management

GIT GUI

GitGUI – Graphical user interface

About – Help – Show SSH key

C:\Users\username\.ssh

PUTTY

<https://www.putty.org/>

<https://the.earth.li/~sgtatham/putty/latest/w32/putty.zip>

Download and unpack zip

Putty key generator - PuttyGen

Create SSH key

Key – Generate key pair – Save public / private key

Import SSH key

Conversions – Import key

Export SSH key

Conversions - Export OpenSSH key

DIGITALOCEAN

Sign up

Apply for student account on github to get free account on Digital Ocean:

<https://education.github.com/pack>

Settings – Security - Add SSH keys

Create droplet

Ubuntu 17.10 x64 / 1GB / Frankfurt / SSH? / HostName

IP Address

Power – Power off

Snapshots – Take snapshot

Images – Snapshots – More – Create droplet / Restore droplet

Destroy – Destroy droplet

Power – Power on

Access - Reset password

GIT BASH

GitBash – Shell command line interface for git and unix commands in minimal bash emulation

C:\Program Files\Git

FILEZILLA

<https://filezilla-project.org/>

FTP Client Application

File manager for transferring files between local and remote computers

File – Site manager – New site

Protocol: SFTP

LogonType: KeyFile

User: root / username

KeyFile: C:\Users\username\.ssh\PrivateSSHKeyFile (Show all files)

LINUX

Commands...

Root / sudo (/root)

User (/home/username)

Connecting to DigitalOcean

ssh -i .ssh/PrivateSSHKeyFile username@ip

Folders / Files

<code>cd DirectoryName</code>	Change directory
<code>cd /</code>	Change to root folder
<code>cd /c</code>	Change to c: drive in git bash
<code>cd ~</code>	Go to user home folder
<code>ls</code>	List files and folders
<code>nano filename</code>	Edit file with nano editor
<code>ctrl + c / ctrl + x</code>	Close / Exit
<code>sudo poweroff / sudo reboot</code>	Shut down server / Restart server
<code>apt-get install PackageName</code>	Install packages
<code>apt-get update</code>	Update package manager
<code>apt-get upgrade</code>	Install upgrades
<code>apt-get dist-upgrade</code>	Install distribution upgrades
<code>apt-get autoremove</code>	Remove packages that are no longer needed
<code>apt-get purge PackageName</code>	Uninstall package

MYSQL

Install mysql

```
sudo apt-get install mysql-server
```

Set mysql root password

```
sudo mysql_secure_installation
```

“No” to password plugin and change password

“Yes” to other

Workbench

Add new mysql connection

ConnectionName

ConnectionMethod: Standard TCP/IP over SSH

SSHHostName: DigitalOceanIP

SSHUserName

SSHKeyFile: PrivateSSHKeyFile

Connect

Create / Update / Delete / Read

Verify

```
mysql -u root -p  
show databases;  
exit;
```

Folder

```
/etc/mysql
```

JAVA

Install java jdk

```
sudo apt-get install default-jdk
```

HAVEGED

Install haveged

```
sudo apt-get install haveged
```

TOMCAT

Install tomcat

```
sudo apt-get install tomcat8 tomcat8-admin
```

Folders

```
/etc/tomcat8
```

```
/usr/share/tomcat8
```

Files

```
/etc/tomcat8/tomcat-users.xml
```

Create user

```
<role rolename="manager-gui"/>
```

```
<user username="tomcat8admin" password="1234" roles="manager-gui,manager-script"/>
```

```
/etc/tomcat8/server.xml
```

Change connector port from 8080 to 80

```
<Connector port="80" protocol="HTTP/1.1" connectionTimeout="20000" redirectPort="8443"/>
```

```
/etc/default/tomcat8
```

Change AUTHBIND from commented "no" to uncommented "yes"

```
AUTHBIND=yes
```

Restart tomcat

```
service tomcat8 restart
```

Browser

```
http://DigitalOceanIP:8080
```

Manager

```
http://DigitalOceanIP:8080/manager
```

WAR

Maven Web Application

ProjectName/target/ProjectName.war

Select war file to deploy in tomcat manager

Deploy / Path

USERS

- LINUX
- MYSQL
- TOMCAT