

PART 1. GIT

INSTALL GIT ON DOCKER01

```
sudo apt-get install git
```

```
git --version
```

THE CLONE

```
seraphim@docker01-seraphim:~$ pwd
/home/seraphim
seraphim@docker01-seraphim:~$ hostname
docker01-seraphim
seraphim@docker01-seraphim:~$ git clone https://github.com/seraphimgerber/SYS-265
Cloning into 'SYS-265'...
remote: Enumerating objects: 36, done.
remote: Counting objects: 100% (36/36), done.
remote: Compressing objects: 100% (35/35), done.
remote: Total 36 (delta 10), reused 0 (delta 0), pack-reused 0
Receiving objects: 100% (36/36), 1.21 MiB | 11.54 MiB/s, done.
Resolving deltas: 100% (10/10), done.
```

CREATE A DIRECTORY STRUCTURE

```
seraphim@docker01-seraphim:~$ pwd
/home/seraphim
seraphim@docker01-seraphim:~$ mkdir /home/seraphim/SYS-265/docker01
seraphim@docker01-seraphim:~$ cd SYS-265/docker01
seraphim@docker01-seraphim:~/SYS-265/docker01$ pwd
/home/seraphim/SYS-265/docker01
```

ADD, COMMIT, AND PUSH

```

seraphim@docker01-seraphim:~/SYS-265/docker01$ echo "docker01 configuration" >> README.md
seraphim@docker01-seraphim:~/SYS-265/docker01$ git add .
seraphim@docker01-seraphim:~/SYS-265/docker01$ git status
On branch main
Your branch is up to date with 'origin/main'.

Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        new file:   README.md

seraphim@docker01-seraphim:~/SYS-265/docker01$ git config user.email seraphim.gerber@mymail.champlai
n.edu
seraphim@docker01-seraphim:~/SYS-265/docker01$ git config user.name seraphimgerber
seraphim@docker01-seraphim:~/SYS-265/docker01$ git commit -m "added a readme!!"
git commit -m "added a readmegit config user.name seraphimgerber"
[main ab00594] added a readmegit config user.name seraphimgerber
 1 file changed, 1 insertion(+)
 create mode 100644 docker01/README.md
seraphim@docker01-seraphim:~/SYS-265/docker01$ git push

```

Deliverable 1. A screenshot similar to the following that shows the configuration files (not your wiki) added to your github site. Note how the README.md is displayed

[SYS-265](#) / [docker01](#) /

Add file ▾

⋮



seraphimgerber added files

8a1b3a8 · 2 minutes ago

History

| Name | Last commit message | Last commit date |
|--------------------|---------------------------------------------------|------------------|
| .. | | |
| README.md | added a readmegit config user.name seraphimgerber | 28 minutes ago |
| docker-compose.yml | added files | 2 minutes ago |
| index.html | added files | 2 minutes ago |

README.md



docker01 configuration

GIT CLONE

Deliverable 2. Provide a screenshot similar to the one above

```
seraphim@docker01-seraphim:~/SYS-265/docker01$ cat README.md
docker01 configuration
seraphim@docker01-seraphim:~/SYS-265/docker01$ rm README.md
seraphim@docker01-seraphim:~/SYS-265/docker01$ git checkout .
Updated 1 path from the index
seraphim@docker01-seraphim:~/SYS-265/docker01$ cat README.md
docker01 configuration
```

CLONE REPO ON MGMT01

Install and execute git-bash from git-scm.com/download/win.

```
seraphim.gerber-adm@mgmt01-seraphim MINGW64 ~
$ pwd
/c/Users/seraphim.gerber-adm

seraphim.gerber-adm@mgmt01-seraphim MINGW64 ~
$ cd Desktop

seraphim.gerber-adm@mgmt01-seraphim MINGW64 ~/Desktop
$ git clone https://github.com/seraphimgerber/SYS-265
Cloning into 'SYS-265'...
remote: Enumerating objects: 45, done.
remote: Counting objects: 100% (45/45), done.
remote: Compressing objects: 100% (41/41), done.
remote: Total 45 (delta 12), reused 9 (delta 1), pack-reused 0
Receiving objects: 100% (45/45), 1.21 MiB | 10.38 MiB/s, done.
Resolving deltas: 100% (12/12), done.
```

Deliverable 3. Screenshot similar to the one below

SYS-265 / mgmt01 /

Add file ▾ ...

seraphimgerber added funny readme b4795a7 · 1 minute ago History

| Name | Last commit message | Last commit date |
|-----------|---------------------|------------------|
| .. | | |
| README.md | added funny readme | 1 minute ago |

README.md

hostname

FIX HOSTNAME

Oops ... the intent was to put the actual hostname in the README file. Figure out the correct use of echo to make that happen.

```
seraphim.gerber-adm@mgmt01-seraphim MINGW64 ~/Desktop/SYS-265/mgmt01 (main)
$ echo "$(hostname)" > README.md

seraphim.gerber-adm@mgmt01-seraphim MINGW64 ~/Desktop/SYS-265/mgmt01 (main)
$ cat README.md
mgmt01-seraphim
```

Deliverable 4. Re-commit with the comment, “oops”, and push. Provide a screenshot similar to the one below.

SYS-265 / mgmt01 /

seraphimgerber whoopsie daisies!

5d4f026 · now History

| Name | Last commit message | Last commit date |
|-----------|---------------------|------------------|
| .. | | |
| README.md | whoopsie daisies! | now |

README.md

mgmt01-seraphim

GIT PULL

Now the local repository on docker01 is out of sync with the online version because of the push from mgmt01 that is not reflected in the local repo on docker01. Let's sort that out.

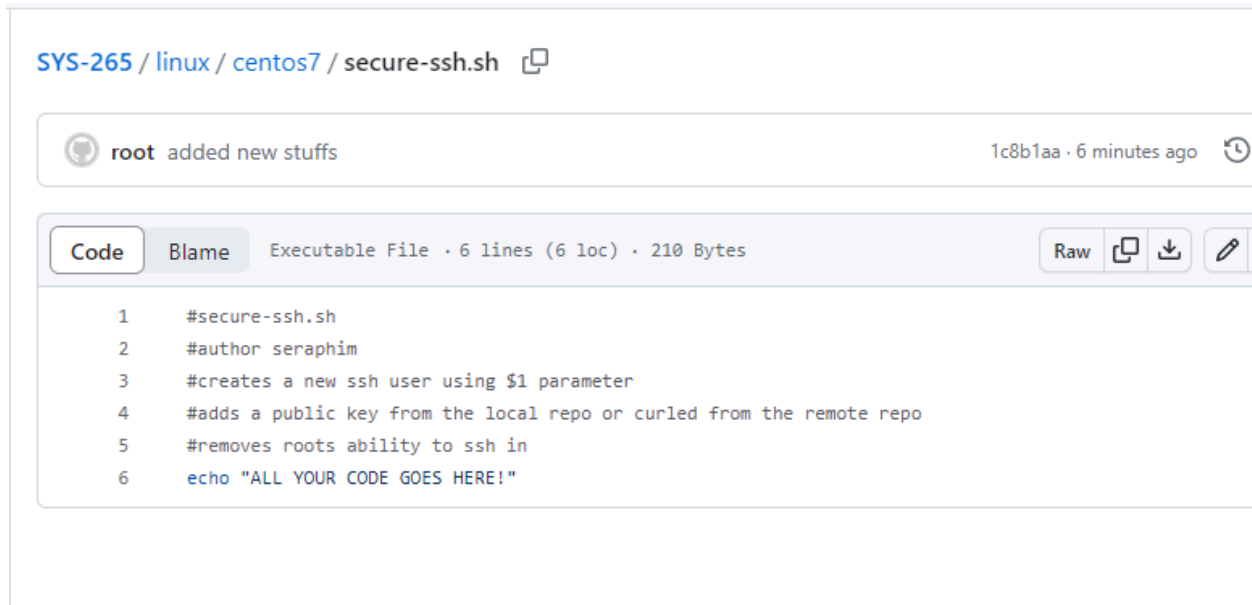
Deliverable 5. Provide a screenshot similar to the one below, that shows README.md being pulled.

```
seraphim@docker01-seraphim:~/SYS-265/docker01$ cd ..
seraphim@docker01-seraphim:~/SYS-265$ git status
On branch main
Your branch is up to date with 'origin/main'.

nothing to commit, working tree clean
seraphim@docker01-seraphim:~/SYS-265$ git pull
remote: Enumerating objects: 9, done.
remote: Counting objects: 100% (9/9), done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 8 (delta 2), reused 7 (delta 1), pack-reused 0
Unpacking objects: 100% (8/8), 601 bytes | 120.00 KiB/s, done.
From https://github.com/seraphimgerber/SYS-265
   8a1b3a8..5d4f026  main       -> origin/main
Updating 8a1b3a8..5d4f026
Fast-forward
 mgmt01/README.md | 1 +
 1 file changed, 1 insertion(+)
 create mode 100644 mgmt01/README.md
```

PART 1. HARDENING SSH

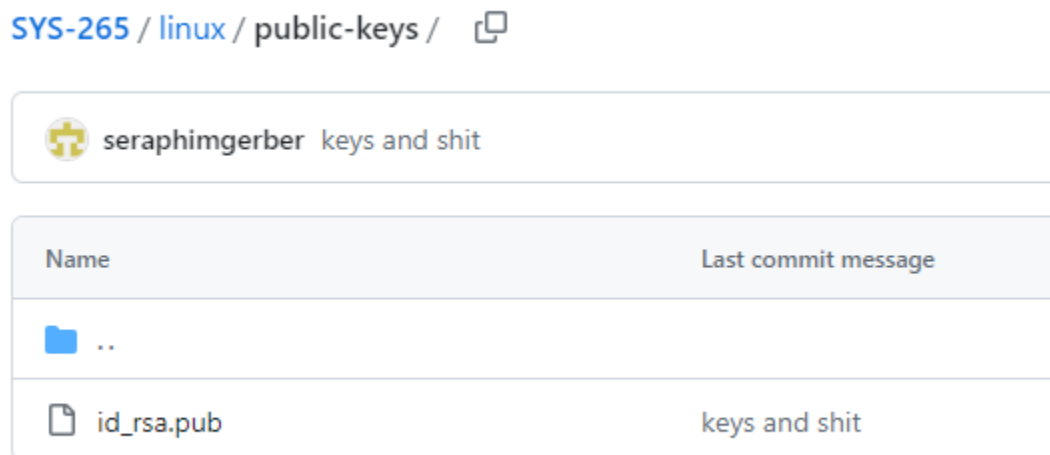
Deliverable 6. Provide a screenshot that shows your submitted secure-ssh.sh file



The screenshot shows a GitHub repository for 'SYS-265' under the 'linux' directory, specifically the 'secure-ssh.sh' file. The file was added by user 'root' 6 minutes ago. The file is an executable script with 6 lines of code and 210 bytes. The code content is as follows:

```
1 #secure-ssh.sh
2 #author seraphim
3 #creates a new ssh user using $1 parameter
4 #adds a public key from the local repo or curled from the remote repo
5 #removes roots ability to ssh in
6 echo "ALL YOUR CODE GOES HERE!"
```

Deliverable 7. Provide a screenshot similar to the one below that shows your public key on github.



The screenshot shows a GitHub repository for 'SYS-265' under the 'linux' directory, specifically the 'public-keys' directory. The directory was created by user 'seraphimgerber' with the commit message 'keys and shit'. The table below lists the files in the directory:

| Name | Last commit message |
|------------|---------------------|
| .. | |
| id_rsa.pub | keys and shit |

Deliverable 8. Provide a screenshot, showing the passwordless login.

```
[root@web01-seraphim ~]# ssh SYS-265@docker01-seraphim
Welcome to Ubuntu 22.04 LTS (GNU/Linux 5.15.0-33-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

System information as of Thu Feb 29 12:38:02 AM UTC 2024

System load:  0.009765625      Processes:            209
Usage of /:   42.8% of 18.53GB Users logged in:        1
Memory usage: 19%             IPv4 address for docker0: 172.17.0.1
Swap usage:   0%              IPv4 address for ens160: 10.0.5.12

 * Strictly confined Kubernetes makes edge and IoT secure. Learn how MicroK8s
   just raised the bar for easy, resilient and secure K8s cluster deployment.

   https://ubuntu.com/engage/secure-kubernetes-at-the-edge

237 updates can be applied immediately.
159 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

Last login: Thu Feb 29 00:35:05 2024 from 10.0.5.200
```

Deliverable 9. Cat the script syntax, show a test running of your script on docker01, and the passwordless ssh login from web01 (similar to the one above).

```
seraphim@docker01-seraphim:~/SYS-265/linux/centos7$ cat secure-ssh.sh
#secure-ssh.sh
#author seraphim
#creates a new ssh user using $1 parameter
#adds a public key from the local repo or curled from the remote repo
#removes roots ability to ssh in
echo -n "Enter username: "
read user
useradd -m -d /home/$user -s /bin/bash $user
mkdir /home/$user/.ssh
cp SYS-265/linux/public-keys/id_rsa.pub /home/$user/.ssh/authorized_keys
chmod 700 /home/$user/.ssh
chmod 600 /home/$user/.ssh/authorized_keys
chown -R $user:$user /home/$user/.ssh
seraphim@docker01-seraphim:~/SYS-265/linux/centos7$
```

Deliverable 10. Provide a direct link to the updated secure-ssh.sh file on github.

<https://github.com/seraphimgerber/SYS-265/blob/main/linux/centos7/secure-ssh.sh>

Deliverable 11. Provide a link to your tech journal. Make sure you spend some time on reviewing/explaining what you did with git, ssh and keys. We are raising the bar on tech journal entries. They should actually be useful, accessible and well formatted.

<https://github.com/seraphimgerber/SYS-265/tree/main>