

Docker Container Deployment:

Powershell (As admin): docker run --name Myubuntu -it ubuntu

Run ubuntu commands

<https://www.youtube.com/watch?v=Rv3DAJbDrS0>

Docker Container (ALWAYS RUN docker images command when running each build command below)

Steps:

Dockerfile: (To show that ubuntu server is working as a static web app first)

FROM ubuntu

RUN apt-get update

RUN DEBIAN_FRONTEND="noninteractive" apt-get install -y apache2

RUN DEBIAN_FRONTEND="noninteractive" apt-get install apache2-utils

RUN apt-get clean

EXPOSE 80

CMD ["apache2ctl", "-D", "FOREGROUND"]

Now on terminal: docker build -t name-ubuntu .

Now to run this: docker run -p 81:80 name-ubuntu

(GO to docker app and run the webpage)

To show static web page (hello.html)

Make a file in the same path

Change Dockerfile contents:

FROM nginx

COPY ./hello.html /usr/share/nginx/html/index.html

Now go to terminal and again make a new docker image:

docker build -t name-nginx .

Now go to terminal:

docker run -it --rm -d -p 82:80 name-nginx

Now go to docker app and run the webpage

Jenkins:

Installation (click radiobutton which has "Run service as LocalSystem)

Now for pipeline:

Go to pipeline (write a name)

Now go to Pipeline script section:

```
pipeline {  
    agent any  
  
    stages {  
        stage('Build') {  
            steps {  
                echo 'Building stage'  
            }  
        }  
        stage('Test'){  
            steps{  
                echo 'Testing stage'  
            }  
        }  
        stage('Deploy'){  
            steps{  
                echo 'Deploy stage'  
            }  
        }  
    }  
}
```

Now click to Build Now

For Java Program in Jenkins:

Name it something, in configure now go to advanced in General Section, go to Use Custom Workspace and paste the directory without the file name

Now go to build category, and write:

```
javac file.java  
java file
```

Click on save and do build now

Now click on #1 (if GREEN) and then click on console output

For Python Program in Jenkins:

Same as above, but run:

Python file.py

Docker Program to Run Java Program:

Dockerfile (contents):

FROM ubuntu:20.04

RUN apt update

RUN apt install default-jdk -y

COPY . .

RUN javac hello.java

CMD ["java", "hello"]

Now, run the terminal:

docker build -t java .

docker run -it java

Docker Program to Run C Program:

Dockerfile (contents):

FROM ubuntu:20.04

RUN apt update

RUN apt install default gcc -y

COPY . .

RUN gcc hello.c -o program

CMD ["/program"]

Now run the terminal:

Docker build -t cprog .

Docker run -it cprog

Docker Program to Run Python Program:

Dockerfile(contents):

FROM ubuntu:20.04

RUN apt update

RUN apt install python3 -y

WORKDIR /usr/app/src

COPY . .

CMD ["python3", "./pyt.py"]

Now run on terminal:

docker build -t p1 .

docker run -it p1

Git:

git init

git add .

git status

git commit -m "committing new"

git remote add origin github-link

git push -u origin master

git checkout -b prateek

```
paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial
$ git init
Initialized empty Git repository in C:/Users/paria/Desktop/gittrial/.git/

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (master)
$ git add .

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (master)
$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
        new file:   hello.py

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (master)
$ git commit -m "committing"
[master (root-commit) 4a0874c] committing
 1 file changed, 1 insertion(+)
 create mode 100644 hello.py

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (master)
$ git remote add origin https://github.com/VP45/devops1.git

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (master)
$ git push -u origin main
error: src refspec main does not match any
error: failed to push some refs to 'https://github.com/VP45/devops1.git'

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (master)
$ git push -u origin master

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (master)
$ git push -u origin master
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Writing objects: 100% (3/3), 219 bytes | 219.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/VP45/devops1.git
 * [new branch]      master -> master
branch 'master' set up to track 'origin/master'.

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (master)
$ git checkout -b prateek
Switched to a new branch 'prateek'
```

Git push -u origin Prateek

Git branch

Git checkout Prateek

Git add hello.java

Git commit -m "in Prateek committed"

```
paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (prateek)
$ git push -u origin prateek
Total 0 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: Create a pull request for 'prateek' on GitHub by visiting:
remote:   https://github.com/VP45/devops1/pull/new/prateek
remote:
To https://github.com/VP45/devops1.git
 * [new branch]      prateek -> prateek
branch 'prateek' set up to track 'origin/prateek'.

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (prateek)
$ git branch
  master
* prateek

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (prateek)
$ git checkout master
Switched to branch 'master'
Your branch is up to date with 'origin/master'.

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (master)
$ git branch
* master
  prateek

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (master)
$ git checkout prateek
Switched to branch 'prateek'
Your branch is up to date with 'origin/prateek'.

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (prateek)
$ git add hello.java

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (prateek)
$ git status
On branch prateek
Your branch is up to date with 'origin/prateek'.

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

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (prateek)
$ git commit -m "in prateek"
[prateek baf7899] in prateek
 1 file changed, 3 insertions(+)
 create mode 100644 hello.java
```

```
paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (prateek)
$ git push -u origin prateek
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 12 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 285 bytes | 285.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/VP45/devops1.git
 4a0874c..baf7899 prateek -> prateek
branch 'prateek' set up to track 'origin/prateek'.

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (prateek)
$ git merge prateek
Already up to date.

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (prateek)
$ git checkout master
Switched to branch 'master'
Your branch is up to date with 'origin/master'.

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (master)
$ git merge prateek
Updating 4a0874c..baf7899
Fast-forward
 hello.java | 3 +++
 1 file changed, 3 insertions(+)
 create mode 100644 hello.java

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (master)
$ git checkout prateek
Switched to branch 'prateek'
Your branch is up to date with 'origin/prateek'.

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (prateek)
$ git push --set-upstream origin prateek
Everything up-to-date
branch 'prateek' set up to track 'origin/prateek'.

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (prateek)
$ git checkout master
Switched to branch 'master'
Your branch is ahead of 'origin/master' by 1 commit.
  (use "git push" to publish your local commits)

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (master)
$ git merge prateek
Already up to date.
```

```
paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (master)
$ git checkout prateek
Switched to branch 'prateek'
M    hello.py
Your branch is up to date with 'origin/prateek'.

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (prateek)
$ git commit -m "changed hi to hello"
On branch prateek
Your branch is up to date with 'origin/prateek'.

Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        modified:   hello.py

no changes added to commit (use "git add" and/or "git commit -a")

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (prateek)
$ git push -u origin prateek
Everything up-to-date
branch 'prateek' set up to track 'origin/prateek'.

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (prateek)
$ git checkout prateek
Already on 'prateek'
M    hello.py
Your branch is up to date with 'origin/prateek'.

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (prateek)
$ get add hello.py
bash: get: command not found

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (prateek)
$ git add hello.py

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (prateek)
$ git status
On branch prateek
Your branch is up to date with 'origin/prateek'.

Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        modified:   hello.py
```



```
paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (prateek)
$ git commit -m "hi to hello"
[prateek 74dac61] hi to hello
1 file changed, 1 insertion(+), 1 deletion(-)

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (prateek)
$ git push -u origin prateek
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 12 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 286 bytes | 286.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/VP45/devops1.git
   baf7899..74dac61  prateek -> prateek
branch 'prateek' set up to track 'origin/prateek'.

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (prateek)
$ git checkout master
Switched to branch 'master'
Your branch is ahead of 'origin/master' by 1 commit.
    (use "git push" to publish your local commits)

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (master)
$ git merge prateek
Updating baf7899..74dac61
Fast-forward
 hello.py | 2 +-
1 file changed, 1 insertion(+), 1 deletion(-)

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (master)
$ git add hello.py

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (master)
$ git commit -m "prateek to master"
On branch master
Your branch is ahead of 'origin/master' by 2 commits.
    (use "git push" to publish your local commits)

nothing to commit, working tree clean
```

```
paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (master)
$ git branch
* master
  prateek

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/gittrial (master)
$ git push -u origin master
Total 0 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/VP45/devops1.git
   4a0874c..74dac61  master -> master
branch 'master' set up to track 'origin/master'.
```

```
MINGW64:/c/Users/paria/Desktop/git2

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/git2
$ git clone https://github.com/VP45/devops1.git
Cloning into 'devops1'...
remote: Enumerating objects: 9, done.
remote: Counting objects: 100% (9/9), done.
remote: Compressing objects: 100% (5/5), done.
remote: Total 9 (delta 0), reused 9 (delta 0), pack-reused 0
Receiving objects: 100% (9/9), done.

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/git2
$ git clone https://github.com/prathamupadhyay-tech/prathamDevops.git
Cloning into 'prathamDevops'...
remote: Enumerating objects: 3, done.
remote: Counting objects: 100% (3/3), done.
remote: Total 3 (delta 0), reused 3 (delta 0), pack-reused 0
Receiving objects: 100% (3/3), done.

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/git2
$ |
```

Now I changed code in github master branch of devops clone on website

Now I run git bash again in this cloned repo here and run the following 2 commands:

Git init

Git pull github-link

```
paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/git2/devops1 (master)
$ git init
Reinitialized existing Git repository in C:/Users/paria/Desktop/git2/devops1/.git/

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/git2/devops1 (master)
$ git pull https://github.com/VP45/devops1.git
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), 671 bytes | 33.00 KiB/s, done.
From https://github.com/VP45/devops1
 * branch            HEAD       -> FETCH_HEAD
Updating 74dac61..7b255e6
Fast-forward
 hello.py | 2 +-
 1 file changed, 1 insertion(+), 1 deletion(-)

paria@LAPTOP-3C3QJ9PN MINGW64 ~/Desktop/git2/devops1 (master)
$
```