This documents mentions 6 steps to run the server.

Step1:

Install the apache server and mod\_wsgi

sudo apt-get install apache2 apache2-utils libexpat1 ssl-cert python

sudo apt-get install libapache2-mod-wsgi

sudo systemctl restart apache2

Create a script in python to serve via mod\_wsgi module for testing

Sudo vi /var/www/html/wsgi\_test\_script.py

And add the following content …..

def application(environ,start\_response):

    status = '200 OK'

    html = '<html>\n' \

           '<body>\n' \

           ' Hooray, mod\_wsgi is working\n' \

           '</body>\n' \

           '</html>\n'

    response\_header = [('Content-type','text/html')]

    start\_response(status,response\_header)

    return [html]

Now we need to configure the apache server to serve the file over this file over http protocol.

Sudo nano /etc/apache2/conf-available/mod-wsgi.conf

And add the following content ….

WSGIScriptAlias /test\_wsgi /var/www/html/wsgi\_test\_script.py

After completing the above steps enable the mod-wsgi and restart the apache

Sudo a2enconf mod-wsgi

Sudo systemctl restart apache2

Now go to configuration file of apache2

Sudo vi /etc/apache2/apache2.conf

And append comment out Listen 80

#Listen 80

Listen 192.168.1.6:8079

And then restart Apache server

Sudo systemctl restart apache

Please refer the internet if you face some difficulties.

Step2:

Now put the media folder containing GFF SCI\_OUT ABOUT\_US and DOWNLOAD under /var/www/html as /var/www/html/media/GFF,/var/www/html/media/SCI\_OUT,/var/www/html/media/ABOUT\_US,/var/www/html/media/DOWNLOAD

These folders are already made available to us from IICB.

Put Executables folder under Downloads in home directory(/home/sutripa /Downloads OR /home/ajay/Downloads)

Put IICB\_GRAPH under home directory (/home/sutripa)

These folders we again made available from IICB.

If u need them u can have a check in ajay server.

Step3:

For database access go to 10.10.10.7 where we have original database and give grant permission to all the schemas required to username@ip\_of\_the\_server.

GRANT ALL PRIVILEGES ON \*.\* TO ‘username’@’ip\_of\_the\_server’ IDENTIFIED BY ‘password’

Go to the server and check using

> Mysql -h 10.10.10.7 -u username -p

> password

For Eg, GRANT ALL PRIVILEGES ON \*.\* TO ‘iicbadmin’@’10.0.0.234’ IDENTIFIED BY ‘root123’

Step4:

Enabling the COR headers

Sudo a2enmod headers

Sudo vi /etc/apache2/mods-enabled/headers.conf and add the following lines …

<IfModule mod\_headers.c>

Header set Access-Control-Allow-Origin “\*”

<IfModule>

Please Copy the above exactly.

Now restart the apache server

Sudo service apache2 restart

Step5:

Now we will make changes in the configuration.ini file

[folders]

prefix = /home/sutripa

prefix2=/var/www/html

media=%(prefix2)s/media

GFF\_PATH=%(prefix2)s/media/GFF

IICB\_Graph = %(prefix)s/IICB\_GRAPH

CODON\_PATH = %(prefix)s/Downloads/Executables

EXE\_PATH = %(prefix)s/Downloads/Executables

SCI\_OUT\_PATH = %(prefix2)s/media/SCI\_OUT

ABOUT\_US\_PATH = %(prefix2)s/media/ABOUT\_US

DOWNLOAD\_PATH = %(prefix2)s/media/DOWNLOAD

HELP\_PATH= %(prefix2)s/media/DOWNLOAD

[server]

FRONTEND\_FOLDER\_PATH=/home/sutripa/Desktop/IICB\_Testing/FRONTEND\_LATEST/eumicrobedb

BACKEND\_FOLDER\_PATH=/home/sutripa/Desktop/IICB\_Testing/BACKEND\_LATEST/IICB

IP\_ADDRESS=10.0.0.234

BACKEND\_PORT=8080

FRONTEND\_PORT=4200

APACHE\_PORT=8079

ENV\_FILE\_PATH=/home/sutripa/Desktop/IICB\_Testing/BACKEND\_LATEST/IICB/venv

PACKAGE\_PATH=/home/sutripa/Desktop/IICB\_Testing/BACKEND\_LATEST/IICB/requirement.txt

[database]

MARIA\_HOST=10.10.10.7

MARIA\_PORT=3306

MARIA\_USER=iicbadmin

MARIA\_PASSWORD=root123

MARIA\_DB\_IICB=IICB\_EUMICROBEDB

MARIA\_DB\_SCHEMA\_SRES = oomycetes\_cgl\_sres

MARIA\_DB\_SCHEMA\_DOTS = oomycetes\_cgl\_dots

MARIA\_DB\_SCHEMA\_CORE = oomycetes\_cgl\_core

[loggers]

keys=root,sLogger,vLogger,noLogging

logger\_name=noLogging

[handlers]

keys=consoleHandler,fileHandler

[formatters]

keys=fileFormatter,consoleFormatter

[logger\_root]

level=DEBUG

handlers=consoleHandler

[logger\_vLogger]

level=DEBUG

handlers=fileHandler

qualname=vLogger

propagate=0

[logger\_sLogger]

level=DEBUG

handlers=consoleHandler,fileHandler

qualname=sLogger

propagate=0

[logger\_noLogging]

level=CRITICAL

handlers=consoleHandler,fileHandler

qualname=noLogging

propagate=0

[handler\_consoleHandler]

class=StreamHandler

level=DEBUG

formatter=consoleFormatter

args=(sys.stdout,)

[handler\_fileHandler]

class=FileHandler

level=DEBUG

formatter=fileFormatter

args=('/home/sutripa/Desktop/IICB\_Testing/BACKEND\_LATEST/IICB/debug5.log',)

[formatter\_fileFormatter]

format=%(asctime)s - %(name)s - %(levelname)s - %(message)s

[formatter\_consoleFormatter]

format=%(levelname)s - %(message)s

Please use the knowledge below to configure the configuration.ini

The prefix (/home/sutripa) and prefix2(/var/www/html) is a reusable variables for referencing the home directory and apache web server root folder location respectively. All media contents will be put under apache web server root folder (/var/www/html/media).The media will contain GFF,SCI\_OUT,ABOUT\_US,DOWNLOAD. The home directory (eg, /home/sutripa ) will contain IICB\_GRAPH(/home/sutripa/IICB\_GRAPH) and Executables(/home/sutripa/Downloads/Executables).

Note prefix replaces (/home/sutripa) and prefix2 replaces (/var/www/html).

Note:If you git clone the project IICB\_Testing in Desktop (~/Desktop) using

git clone <https://github.com/computational-genomics-lab/IICB_Testing.git>

a IICB\_Testing folder is created in ur desktop .The above changes in configuration is by default made keeping in mind the git clone has been done in Desktop, and hence the paths mentioned

FRONTEND\_FOLDER\_PATH=/home/sutripa/Desktop/IICB\_Testing/FRONTEND\_LATEST/eumicrobedb

BACKEND\_FOLDER\_PATH=/home/sutripa/Desktop/IICB\_Testing/BACKEND\_LATEST/IICB

We had the home directory as /home/sutripa .In case you have different /home/ajay just replace sutripa with ajay and try to clone the project in the Desktop so that we can the project by making minimum configurational changes in configuration.ini

Check IP\_ADDRESS (the server ip 10.0.0.234) ,

Check BACKEND\_PORT(Django server works on port 8000)

Check FRONTEND\_PORT which works on 4200 port

Check the APACHE\_ PORT which is running on 8079

Note ur apache port is not listening on port 80 but on 8079 hence the line mentioned under apache2.conf file as LISTEN 10.0.0.234:8079.

The ENV\_FILE\_PATH contains the environment required for running python django scripts.This is a folder named **venv** which will be created in IICB folder under BACKEND\_LATEST once we run the bash file **venv.sh** .Please not the **venv** folder will be created once we run **venv.sh**

The PACKAGE\_PATH contains path for **requirement.txt** (BACKEND\_LATEST/IICB/requirement.txt) which is a text file containing library name s required to be installed in the above mentioned environment in **venv** folder.

Note we donot need to mention the environment path for angular frontend i.e. node\_modules as angular itself takes care of it.But for python we need to create and install environment separately hece the concept of virtual environment.

For configuring the database in [databse]

MARIA\_HOST --The database host ip  
MARIA\_PASSWORD --the database password  
MARIA\_USER – database username

MARIA\_PASSWORD --database password which is same as IDENTIFIED BY ‘password’ while giving GRANT Permissions

MARIA\_DB\_SCHEMA\_IICB---This is for dots schema\_name

MARIA\_DB\_SCHEMA\_SRES ---This is for sres schema\_name

MARIA\_DB\_SCHEMA\_DOTS ---This is for dots schema\_name  
MARIA\_DB\_SCHEMA\_CORE --This is for core schema\_name

The loggers configuration need not be changed just keep it as it is.

Just go down to [handle\_fileHandler] the args parameter contains the path of the logfile debug5.log

Step6:

Now save the changes in configuration.ini and go ahead and run the following script order wise

First run the venv.sh

The venv.sh file will create node\_modules under FRONTEND\_LATEST/eumicrobedb

And venv folder containing python libraries will be created under BACKEND\_LATEST/IICB.

Now before running the servers finally using IICB.sh script we need to make two more changes in the libraries mentioned under venv folder which is to be done manually.

go to path in venv folder

**/home/sutripa/Desktop/IICB\_Testing/BACKEND\_LATEST/IICB/venv/lib/python3.5/site-packages/django/db/backends/mysql**

And edit file : - **base.py** (find out the lines :

if version < (1, 3, 13):

raise ImproperlyConfigured('mysqlclient 1.3.13 or newer is required; you have %s.' % Database.\_\_version\_\_)

and comment them out.

Save the above and then edit …

In **Operations.py** file change the following line

if query is not None:

query = query.decode(errors='replace')

return query

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return query

Save the above file and then go back to the base directory IICB\_Testing

Finally please run the IICB.sh file using bash IICB.sh which will make both the servers running.

Note if we have the node\_modules and venv folder in the FRONTEND\_LATEST/eumicrobedb and BACKEND\_LATEST/IICB respectively we will not run the venv.sh bash script. But if you have freshly git cloned the project then by default the above mentioned folders node\_modules and venv will not be available. We will run the venv.sh script first in this case to create them in their respective location (FRONTEND\_LATEST/eumicrobedb and BACKEND\_LATEST/IICB) and then make changes in base.py and operations.py files in venv folder.

Now after all these changes finally we can run the IICB.sh to run both the servers.

The IICB.sh will start the BACKEND server first on 10.0.0.234:8000 and then the angular FRONTEND server will start on 10.0.0.234:4200

The above ip is the ip of the server.Just put the 10.0.0.234:4200 url across the addressbar the webpage will start automatically.