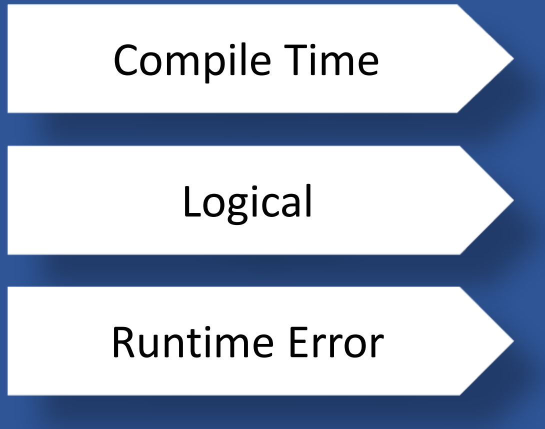
Exception Handling

Axpino
Technologies

Python Programing

Exception Handling

Types of Errors



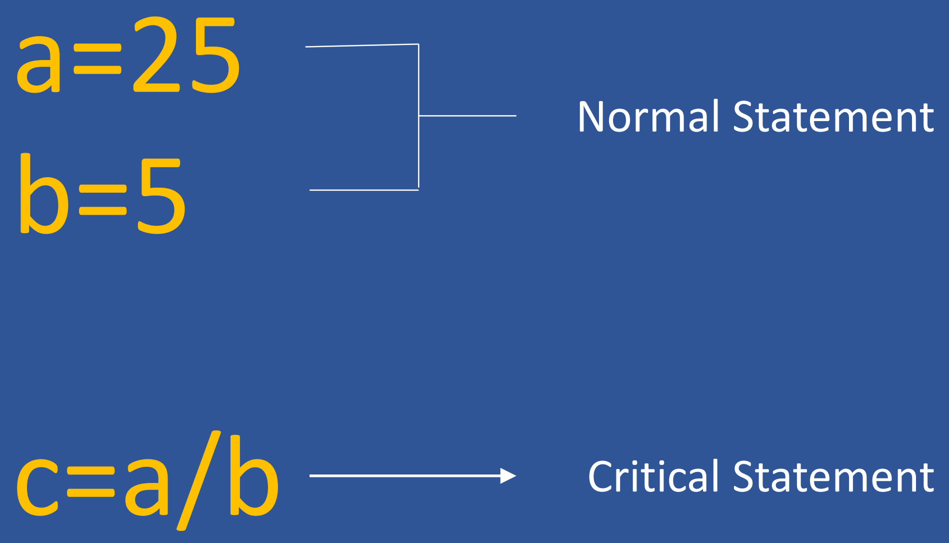
Compile Time

Logical

Runtime Error

Exception Handling

Types of Statements



a=25

b=5

Normal Statement

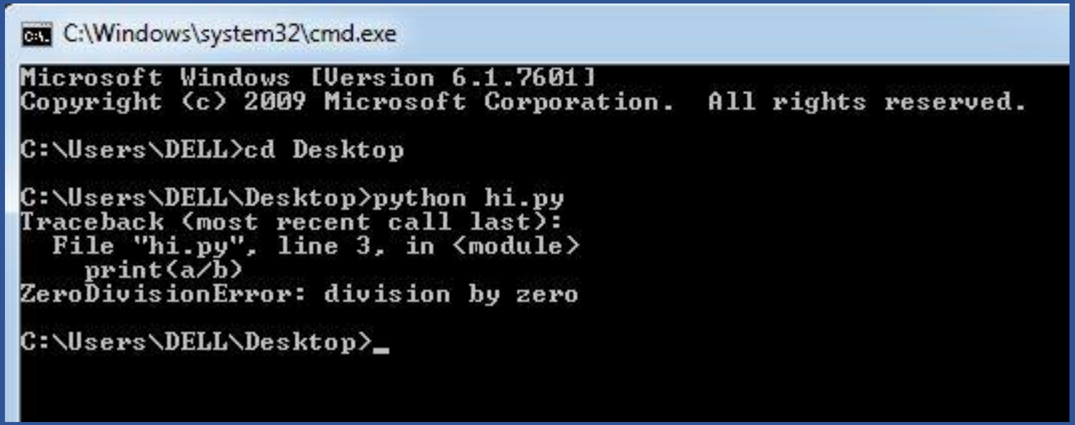
c=a/b

Critical Statement

Exception Handling

Runtime Error Example

```
a=25
b=0
print(a/b)
```



C:\Windows\system32\cmd.exe

```
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation.  All rights reserved.

C:\Users\DELL>cd Desktop

C:\Users\DELL\Desktop>python hi.py
Traceback (most recent call last):
  File "hi.py", line 3, in <module>
    print(a/b)
ZeroDivisionError: division by zero

C:\Users\DELL\Desktop>_
```

Exception Handling

Runtime Error Example

```
a=5
b=0

try:
        print(a/b)
except Exception:
        print("You cannot divide a number by zero")

print("bye")
```

Exception Handling

Try/Except/finally

```
a=5
b=2

try:
        print("Calculation mode started")
        print(a/b)

except Exception:
        print("You cannot divide a number by
zero")

finally:
        print("Calculation mode closed")
```

Exception Handling

Handling Specific Errors

```
a=5
b=2

try:
        print("Calculation mode started")
        print(a/b)

except ZeroDivisonError:
        print("You cannot divide a number by
zero")

finally:
        print("Calculation mode closed")
```

Multi Threading

Multi Threading

Multi Threading

```
from threading import *
from time import sleep
class hello(Thread):
    def run(self):
        for i in range(0,50):
            print("hello")
            sleep(1)

class hi(Thread):
    def run(self):
        for i in range(0,50):
            print("hi")
            sleep(1)


t1=hello()
t2=hi()

t1.start()
sleep(0.2)
t2.start()
```

Concept of Join

Multi Threading

```
from threading import *
from time import sleep
class hello(Thread):
        def run(self):
                for i in range(0,10):
                        print("hello")
                        sleep(1)

class hi(Thread):
        def run(self):
                for i in range(0,10):
                        print("hi")
                        sleep(1)

t1=hello()
t2=hi()

t1.start()
sleep(0.2)
t2.start()

t1.join()
print("bye")
```

File Handling

File Handling

Opening a file in Python

open(“filename”,”mode”)

"r" - Read - Default value. Opens a file for reading, error if the file does not exist

"a" - Append - Opens a file for appending, creates the file if it does not exist

"w" - Write - Opens a file for writing, creates the file if it does not exist

"x" - Create - Creates the specified file, returns an error if the file exists

File Handling

Reading Complete file

```
f=open("hello.txt","r")
print(f.read())
```

File Handling

Reading bits of a file

```
f=open("hello.txt","r")
print(f.read(6))
```

File Handling

Reading one line at a time

```
f=open("hello.txt","r")
print(f.readline())
print(f.readline())
```

File Handling

Reading Bits of a line

```
f=open("hello.txt","r")
print(f.readline())
print(f.readline(4))
```

File Handling

Writing a file

```
f=open("hello.txt","w")
f.write("hi who are you??")
```

File Handling

Append to a file

```
f=open("hello.txt",“a")
f.write("hi who are you??")
```

File Handling

Using for loop with file handler

```
f=open("hello.txt","r")

f1=open("hi.txt","a")

for i in f:
        f1.write(i)
```

File Handling

Removing a file

```
import os
os.remove("hi.txt")
```

File Handling

Removing a file

```
import os

if os.path.exists("hello.txt"):
        os.remove("hello.txt")
else:
        print("no file")
```

DJANGO

What is Django

Django is a high-level Python Web framework that encourages rapid development and clean, pragmatic design. Built by experienced developers, it takes care of much of the hassle of Web development, so you can focus on writing your app without needing to reinvent the wheel. It’s free and open source.

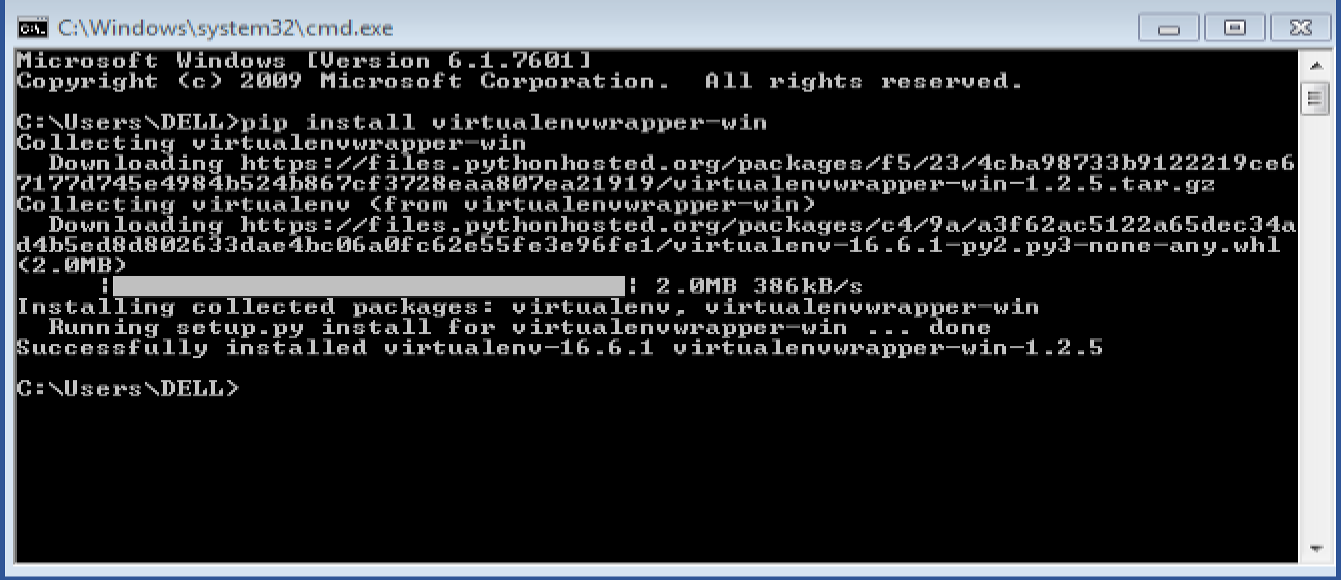
Why Django

- Fast
- Secure
- Scalable

Installation

Firstly we will install virtual environment wrapper

pip install virtualenvwrapper-win

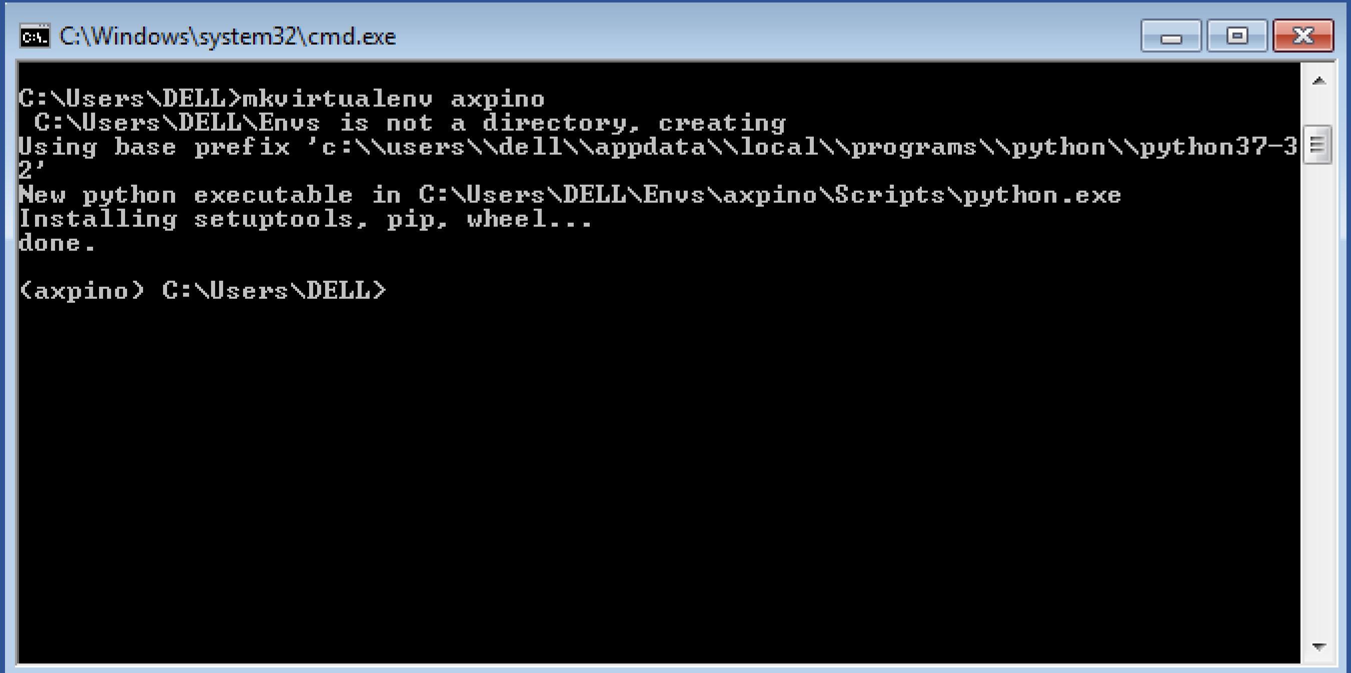


```
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation.  All rights reserved.

C:\Users\DELL>pip install virtualenvwrapper-win
Collecting virtualenvwrapper-win
  Downloading https://files.pythonhosted.org/packages/f5/23/4cba98733b9122219ce6
7177d745e4984b524b867cf3728eaa807ea21919/virtualenvwrapper-win-1.2.5.tar.gz
Collecting virtualenv (from virtualenvwrapper-win)
  Downloading https://files.pythonhosted.org/packages/c4/9a/a3f62ac5122a65dec34a
d4b5ed8d802633dae4bc06a0fc62e55fe3e96fe1/virtualenv-16.6.1-py2.py3-none-any.whl
(2.0MB)
    |████████████████████████████████| 2.0MB 386kB/s
Installing collected packages: virtualenv, virtualenvwrapper-win
  Running setup.py install for virtualenvwrapper-win ... done
Successfully installed virtualenv-16.6.1 virtualenvwrapper-win-1.2.5

C:\Users\DELL>
```

Firstly we will create a virtual environment for Django

Installation

mkvirtualenv axpino

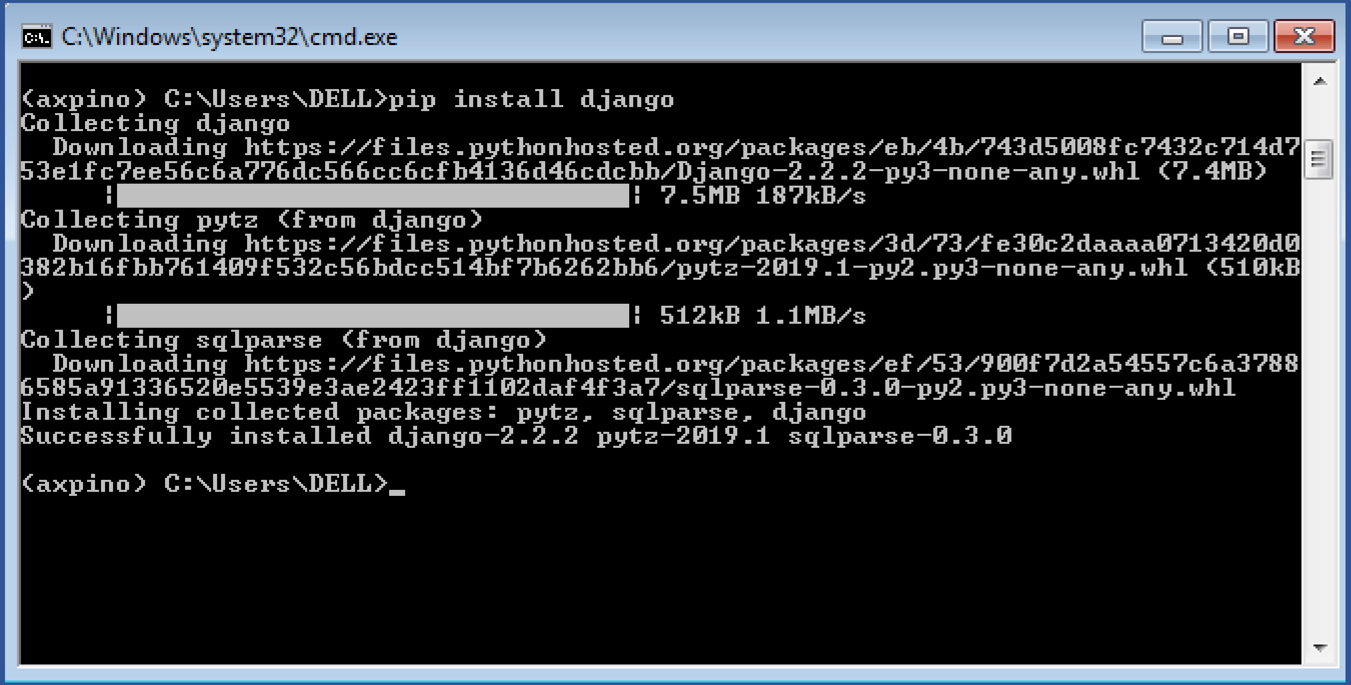


```
C:\Users\DELL>mkvirtualenv axpino
 C:\Users\DELL\Envs is not a directory, creating
Using base prefix 'c:\\users\\dell\\appdata\\local\\programs\\python\\python37-3
2'
New python executable in C:\Users\DELL\Envs\axpino\Scripts\python.exe
Installing setuptools, pip, wheel...
done.

(axpino) C:\Users\DELL>
```

Installation

Now we will install Django into our Environment

pip install django

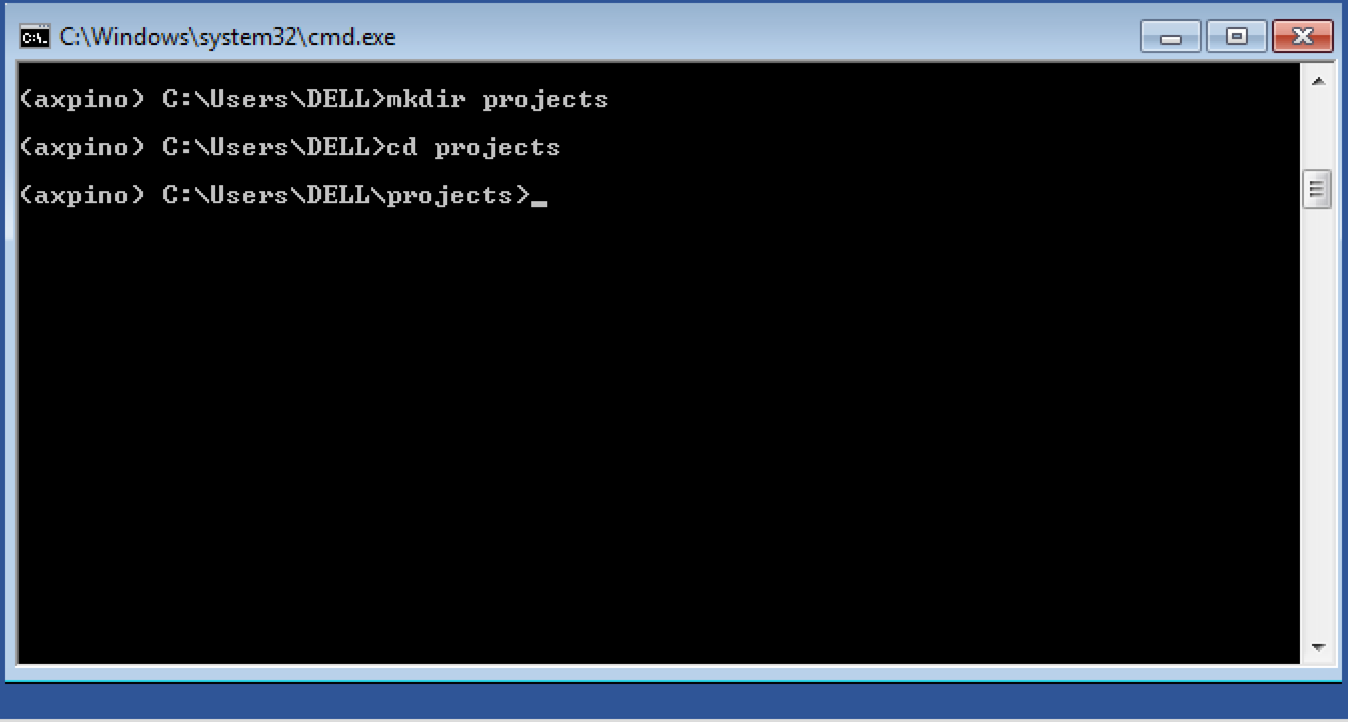


```
(axpino) C:\Users\DELL>pip install django
Collecting django
  Downloading https://files.pythonhosted.org/packages/eb/4b/743d5008fc7432c714d7
53e1fc7ee56c6a776dc566cc6cfb4136d46cdcbb/Django-2.2.2-py3-none-any.whl (7.4MB)
     ¦████████████████████████████████¦ 7.5MB 187kB/s
Collecting pytz (from django)
  Downloading https://files.pythonhosted.org/packages/3d/73/fe30c2daaaa0713420d0
382b16fbb761409f532c56bdcc514bf7b6262bb6/pytz-2019.1-py2.py3-none-any.whl (510kB
)
     ¦████████████████████████████████¦ 512kB 1.1MB/s
Collecting sqlparse (from django)
  Downloading https://files.pythonhosted.org/packages/ef/53/900f7d2a54557c6a3788
6585a91336520e5539e3ae2423ff1102daf4f3a7/sqlparse-0.3.0-py2.py3-none-any.whl
Installing collected packages: pytz, sqlparse, django
Successfully installed django-2.2.2 pytz-2019.1 sqlparse-0.3.0

(axpino) C:\Users\DELL>_
```

Installation

Now we will create a folder to store our projects and navigate to it

```
mkdir projects
cd projects
```

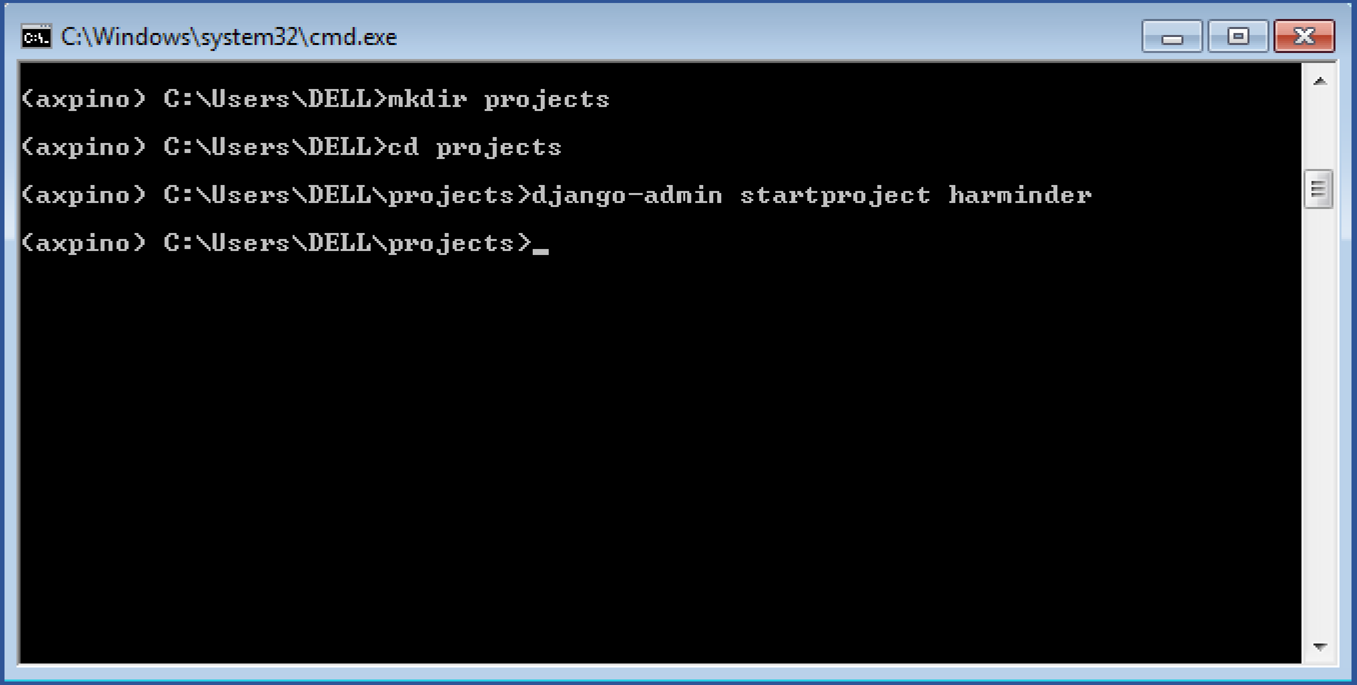


```
(axpino) C:\Users\DELL>mkdir projects

(axpino) C:\Users\DELL>cd projects

(axpino) C:\Users\DELL\projects>_
```

Installation

Now we will create our first project

django-admin startproject projectname

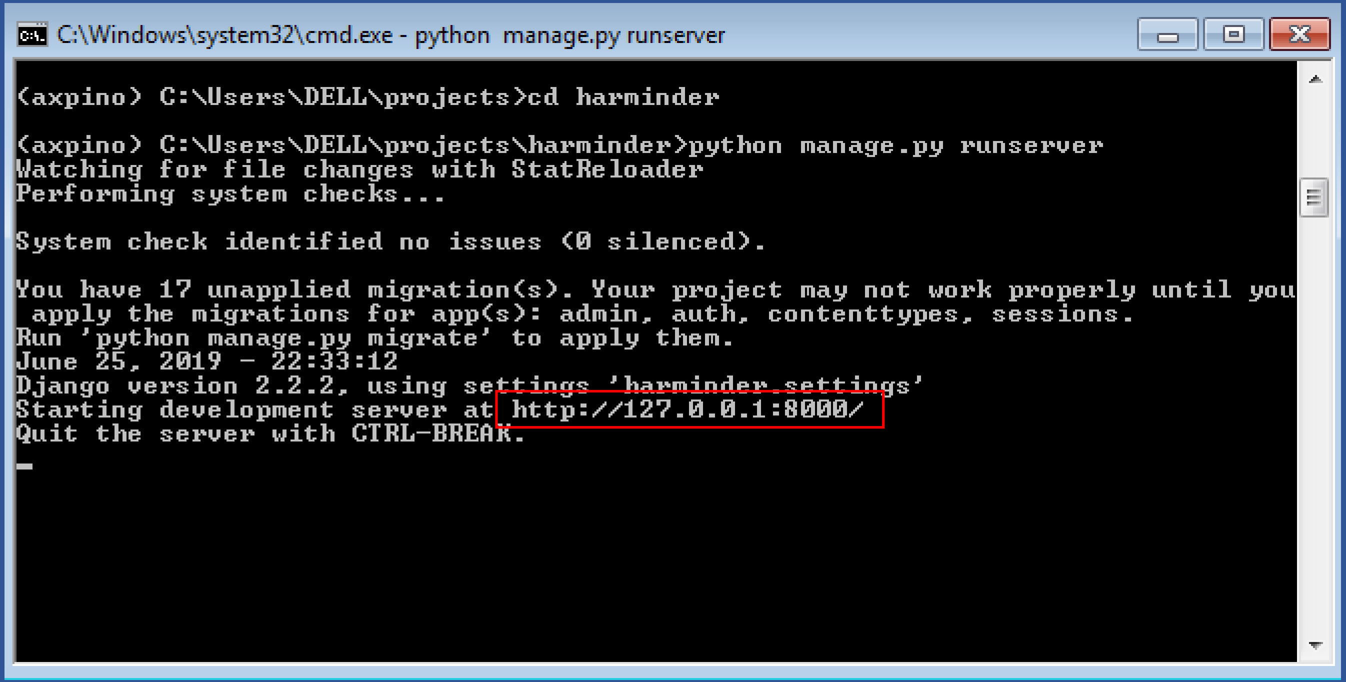


```
(axpino) C:\Users\DELL>mkdir projects

(axpino) C:\Users\DELL>cd projects

(axpino) C:\Users\DELL\projects>django-admin startproject harminder

(axpino) C:\Users\DELL\projects>_
```

Navigate to project folder and start server

```
cd projectname
python manage.py runserver
```

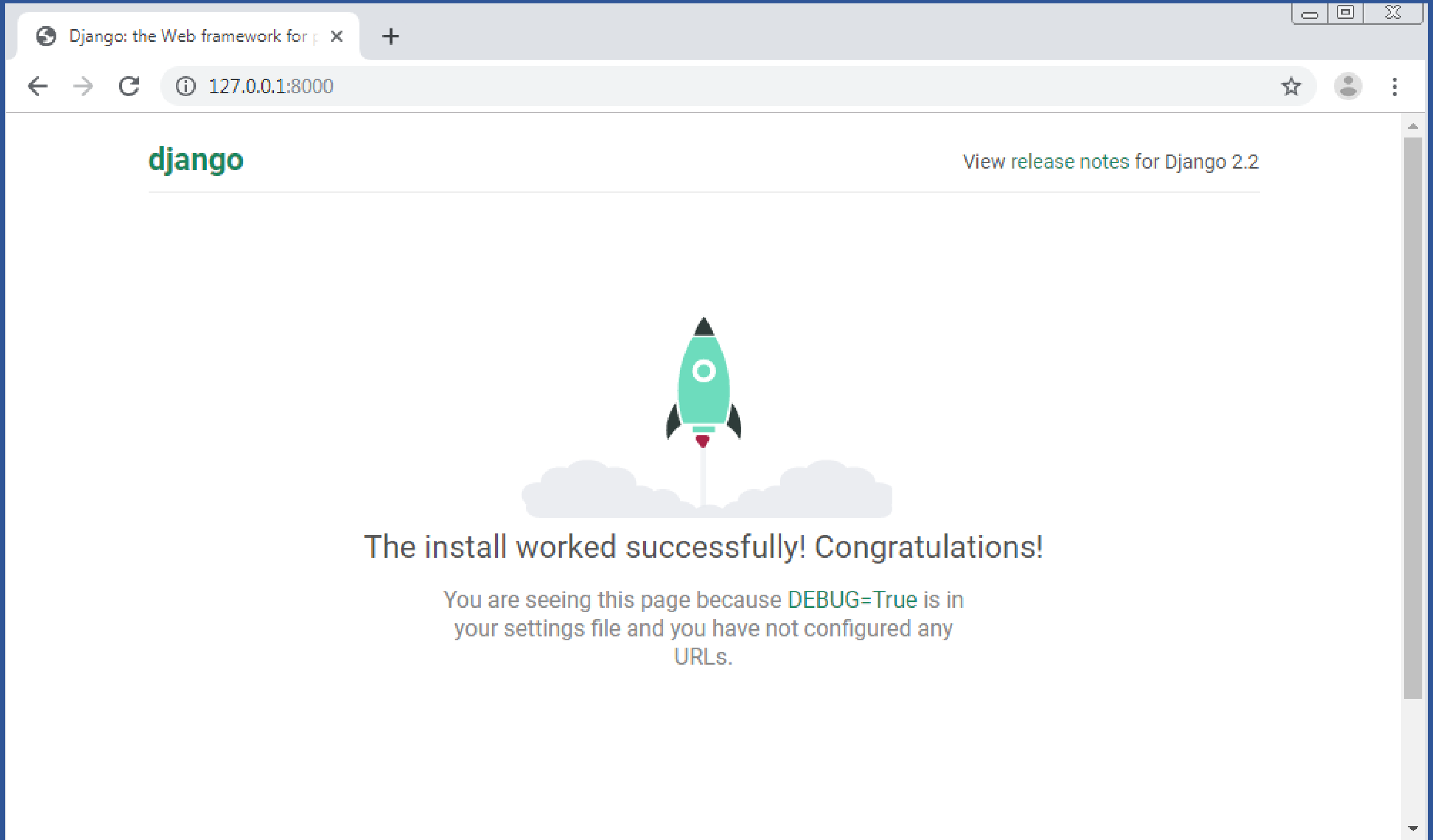
Installation



```
(axpino) C:\Users\DELL\projects>cd harminder

(axpino) C:\Users\DELL\projects\harminder>python manage.py runserver
Watching for file changes with StatReloader
Performing system checks...

System check identified no issues (0 silenced).

You have 17 unapplied migration(s). Your project may not work properly until you
 apply the migrations for app(s): admin, auth, contenttypes, sessions.
Run 'python manage.py migrate' to apply them.
June 25, 2019 - 22:33:12
Django version 2.2.2, using settings 'harminder.settings'
Starting development server at http://127.0.0.1:8000/
Quit the server with CTRL-BREAK.
```

Installation

Now lets access the main url of project



django

View release notes for Django 2.2

The install worked successfully! Congratulations!

You are seeing this page because DEBUG=True is in your settings file and you have not configured any URLs.

Creating views

Firstly we will create a app inside our project

Select the Environment using command

```
>>workon env_name
```

Navigate to projects folder

```
>>cd projects
```

Navigate to your project

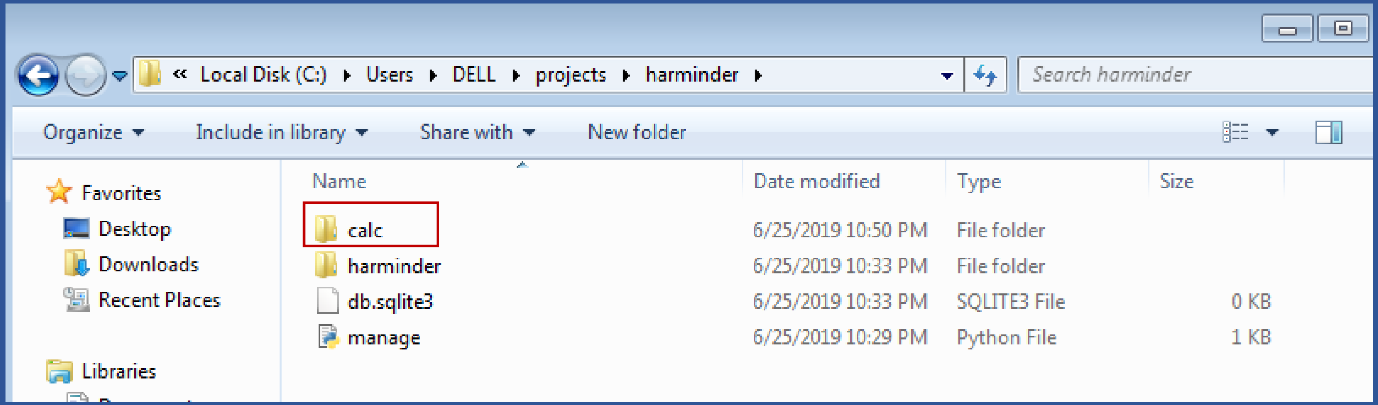
```
>>cd project_name
```

Create a app using command

```
>>python manage.py startapp app_name
```

Lets check our app folder

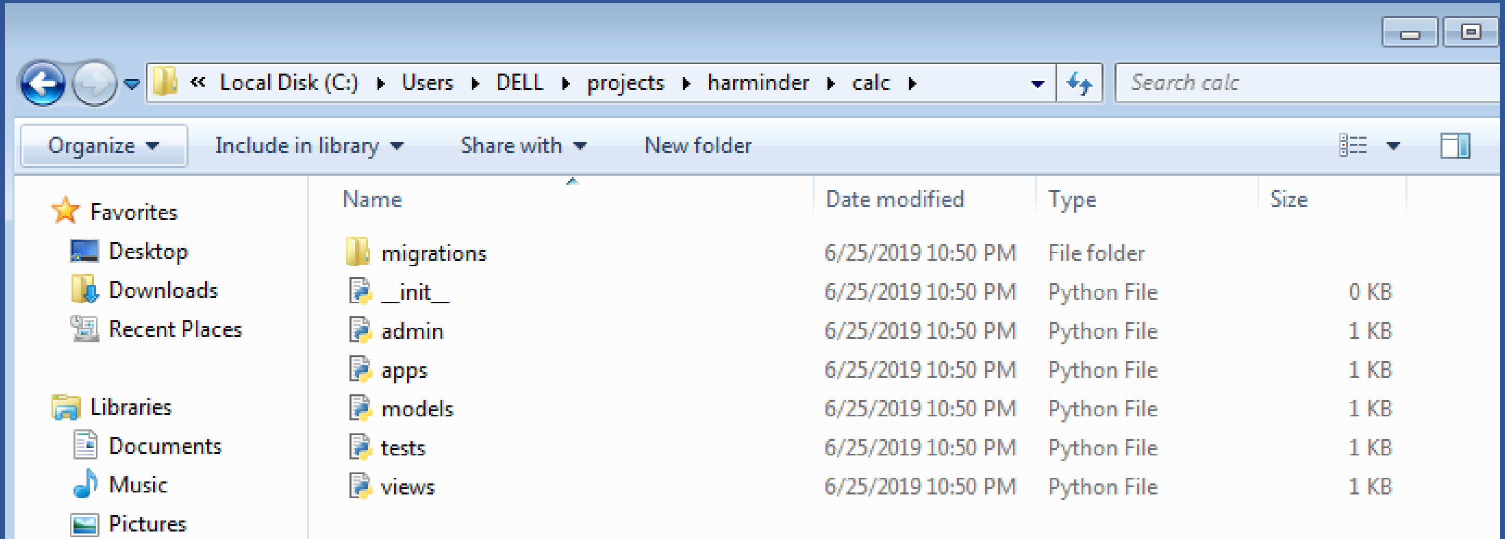
Creating views



Name	Date modified	Type	Size
calc	6/25/2019 10:50 PM	File folder	
harminder	6/25/2019 10:33 PM	File folder	
db.sqlite3	6/25/2019 10:33 PM	SQLITE3 File	0 KB
manage	6/25/2019 10:29 PM	Python File	1 KB

Lets check our app folder

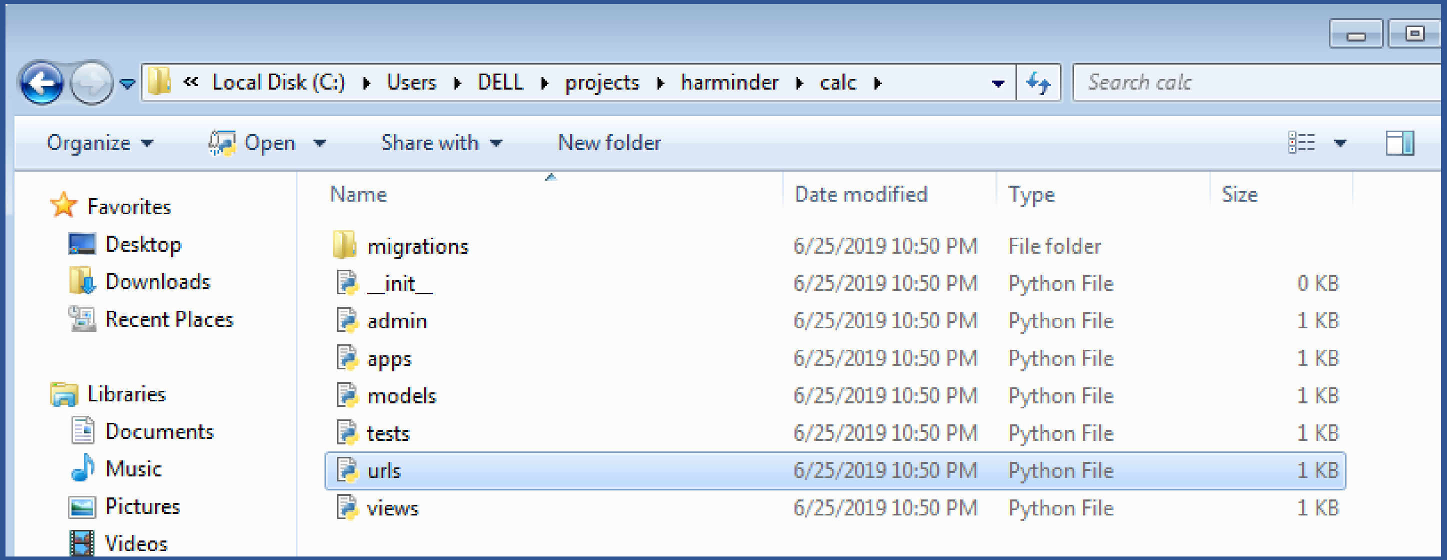
Creating views



Name	Date modified	Type	Size
migrations	6/25/2019 10:50 PM	File folder	
__init__	6/25/2019 10:50 PM	Python File	0 KB
admin	6/25/2019 10:50 PM	Python File	1 KB
apps	6/25/2019 10:50 PM	Python File	1 KB
models	6/25/2019 10:50 PM	Python File	1 KB
tests	6/25/2019 10:50 PM	Python File	1 KB
views	6/25/2019 10:50 PM	Python File	1 KB

To create a url we need to create a file with name urls in our app folder

Creating views



Name	Date modified	Type	Size
migrations	6/25/2019 10:50 PM	File folder	
__init__	6/25/2019 10:50 PM	Python File	0 KB
admin	6/25/2019 10:50 PM	Python File	1 KB
apps	6/25/2019 10:50 PM	Python File	1 KB
models	6/25/2019 10:50 PM	Python File	1 KB
tests	6/25/2019 10:50 PM	Python File	1 KB
urls	6/25/2019 10:50 PM	Python File	1 KB
views	6/25/2019 10:50 PM	Python File	1 KB

Let us add a path in urls file in our app

Creating views

```
from django.urls import path
from . import views

urlpatterns = [
        path('',views.home,name="home")
]
```

Let create a view function

Creating views

```
from django.shortcuts import render
from django.http import HttpResponse
# Create your views here.
def home(request):
        return HttpResponse("This is my webpage")
```

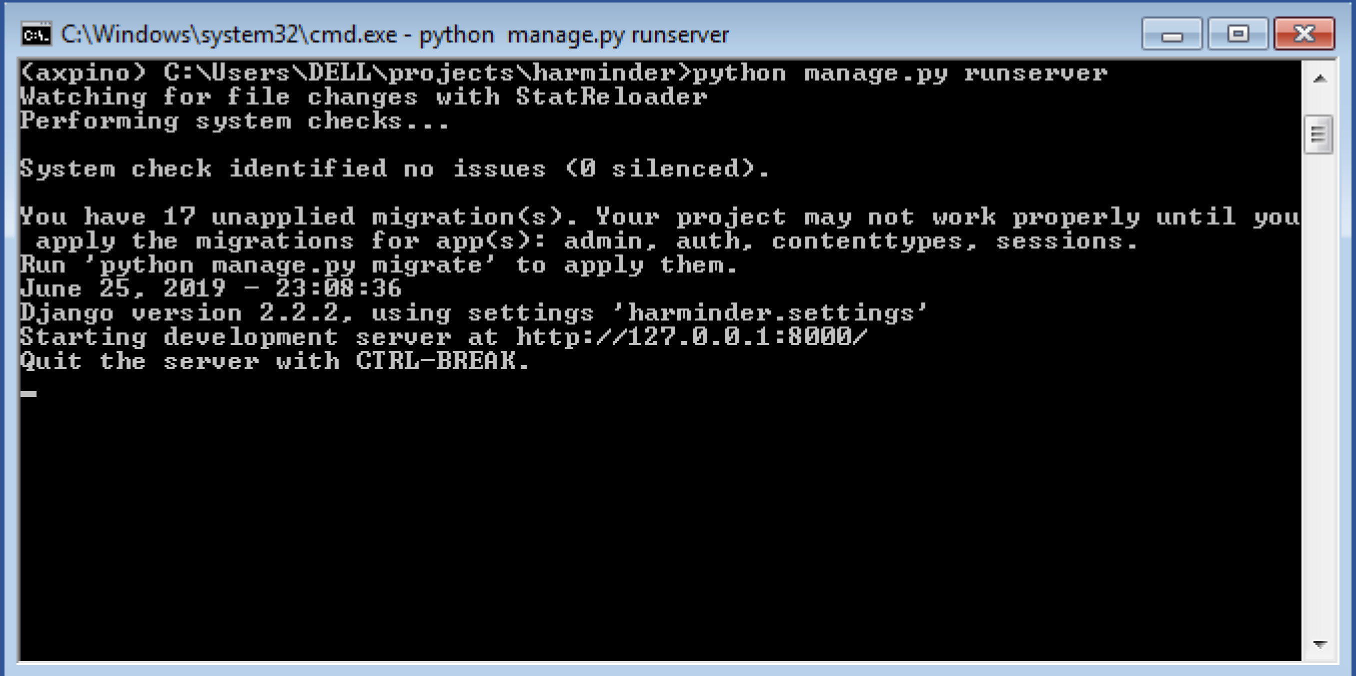
Creating views

Let add path in main project url

```
from django.contrib import admin
from django.urls import path,include

urlpatterns = [
            path('',include('calc.urls’)),
    path('admin/', admin.site.urls),
]
```

Creating views

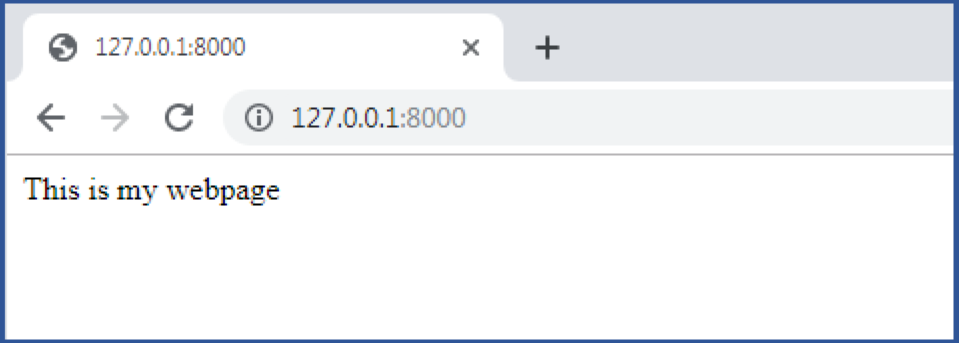
Restart the Server



```
(axpino) C:\Users\DELL\projects\harminder>python manage.py runserver
Watching for file changes with StatReloader
Performing system checks...

System check identified no issues (0 silenced).

You have 17 unapplied migration(s). Your project may not work properly until you
 apply the migrations for app(s): admin, auth, contenttypes, sessions.
Run 'python manage.py migrate' to apply them.
June 25, 2019 - 23:08:36
Django version 2.2.2, using settings 'harminder.settings'
Starting development server at http://127.0.0.1:8000/
Quit the server with CTRL-BREAK.
```

Creating views

Access the project using browser



This is my webpage