**6.401 & 6.402 Installing and configuring a channels app**

**terminal**

django-admin startproject chat\_example

cd chat\_example

python manage.py startapp chat

cd chat

rm admin.py apps.py models.py tests.py

touch urls.py

touch consumers.py

touch routing.py

mkdir templates

mkdir templates/chat

touch templates/chat/index.html

touch templates/chat/room.html

cd ../chat\_example

touch routing.py

**routing.py**

from channels.routing import ProtocolTypeRouter

application = ProtocolTypeRouter({

# Empty for now (http->django views is added by default)

})

**settings.py**

ASGI\_APPLICATION = "chat\_example.routing.application"

INSTALLED\_APPS =

[

'channels',

'chat',

ALLOWED\_HOSTS = [

'localhost',

'127.0.0.1',

'.coursera-apps.org',

'.labs.coursera.org',

]

**6.403 Implementing a chat site**

**chat\_example/urls.py**

from django.conf.urls import include

urlpatterns = [

path('', include('chat.urls')),

path('admin/', admin.site.urls),

]

**chat/urls.py**

from django.urls import path

from . import views

urlpatterns = [

path('', views.index, name='index'),

path('chat/<str:room\_name>/', views.room, name='room'),

]

**chat/views.py**

def index(request):

return render(request, 'chat/index.html')

def room(request, room\_name):

return render(request, 'chat/room.html', {'room\_name': room\_name })

**chat/templates/index.html**

<!DOCTYPE html>

<html>

<head>

<meta charset="utf-8"/>

<title>Chat Rooms</title>

</head>

<body>

What chat room would you like to enter?<br>

<input id="room-name-input" type="text" size="100"><br>

<input id="room-name-submit" type="button" value="Enter">

<script>

document.querySelector('#room-name-input').focus();

document.querySelector('#room-name-input').onkeyup = function(e) {

if (e.keyCode === 13) { // enter, return

document.querySelector('#room-name-submit').click();

}

};

document.querySelector('#room-name-submit').onclick = function(e) {

var roomName = document.querySelector('#room-name-input').value;

window.location.pathname = '/chat/' + roomName + '/';

};

</script>

</body>

</html>

**chat/templates/room.html**

<!DOCTYPE html>

<html>

<head>

<meta charset="utf-8"/>

<title>Chat Room</title>

</head>

<body>

<textarea id="chat-log" cols="100" rows="20"></textarea><br>

<input id="chat-message-input" type="text" size="100"><br>

<input id="chat-message-submit" type="button" value="Send">

{{ room\_name|json\_script:"room-name" }}

<script>

const roomName = JSON.parse(document.getElementById('room-name').textContent);

const chatSocket = new WebSocket('ws://'+ window.location.host+ '/ws/'+roomName+ '/'

);

chatSocket.onmessage = function(e) {

const data = JSON.parse(e.data);

document.querySelector('#chat-log').value += (data.message + '\n');

};

chatSocket.onclose = function(e) {

console.error('Chat socket closed unexpectedly');

};

document.querySelector('#chat-message-input').focus();

document.querySelector('#chat-message-input').onkeyup = function(e) {

if (e.keyCode === 13) { // enter, return

document.querySelector('#chat-message-submit').click();

}

};

document.querySelector('#chat-message-submit').onclick = function(e) {

const messageInputDom = document.querySelector('#chat-message-input');

const message = messageInputDom.value;

chatSocket.send(JSON.stringify({

'message': message

}));

messageInputDom.value = '';

};

</script>

</body>

</html>

**terminal**

python manage.py runserver

**6.404 Writing a Consumer**

**chat\_example/routing.py**

from channels.auth import AuthMiddlewareStack

from channels.routing import ProtocolTypeRouter, URLRouter

import chat.routing

application = ProtocolTypeRouter({

# (http->django views is added by default)

'websocket': AuthMiddlewareStack(

URLRouter(

chat.routing.websocket\_urlpatterns

)

),

})

**chat/routing.py**

from django.urls import re\_path

from . import consumers

# NOTE USE OF ws/ to separate out our ws URIs, like rest use of api/

websocket\_urlpatterns = [

re\_path(r'ws/(?P<room\_name>\w+)/$', consumers.ChatConsumer.as\_asgi()),

]

**chat/consumers.py**

import json

from channels.generic.websocket import WebsocketConsumer

class ChatConsumer(WebsocketConsumer):

def connect(self):

self.accept()

def disconnect(self, close\_code):

pass

def receive(self, text\_data):

text\_data\_json = json.loads(text\_data)

message = text\_data\_json['message']

self.send(text\_data=json.dumps({

'message': message

}))

**terminal**

python manage.py migrate

python manage.py runserver 127.0.0.1:8080