

Lecture # 9&10

CSC336 Web Technologies

Credit Hours: 3(2, 1)

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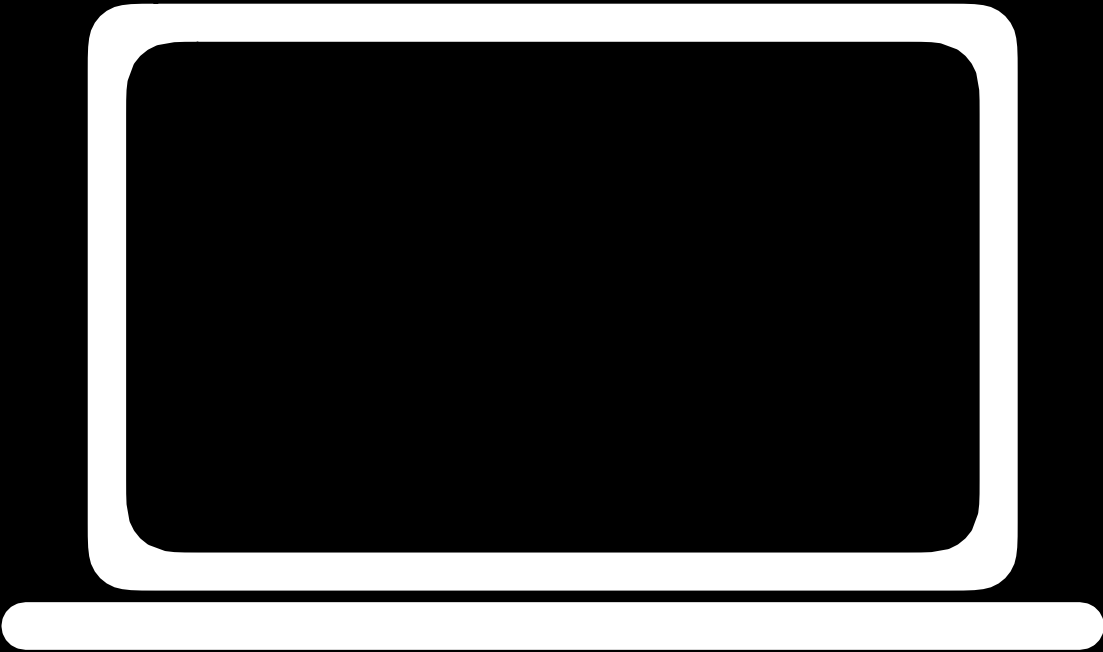
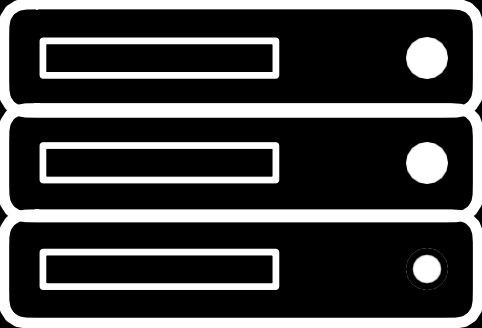
MSc University of Leicester, UK

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Django

Web Applications

HTTP



GET / HTTP/1.1

Host: www.example.com

...

HTTP/1.1 200 OK

Content-Type: text/html

...

HTTP Status Codes

Status Code	Description
200	OK
301	Moved Permanently
403	Forbidden
404	Not Found
500	Internal Server Error

Django

pip

Install Django

```
➤ pip3 install Django_
```

```
django-admin startproject PROJECT_NAME
```

Start Project in Django

```
➤ django-admin startproject lab5
```

Project Files

- `manage.py`: utility for interacting with project
- `PROJECT_NAME/settings.py`: settings and configuration
- `PROJECT_NAME/urls.py`: URLs that can be visited

Run server

➤ `cd lab5`

➤ `python manage.py runserver`

```
python manage.py startapp APP_NAME
```


Start App in Django Project

➤ `python manage.py startapp hello`

lab5 > settings.py

```
INSTALLED_APPS = [  
    'hello',  
    'django.contrib.admin',  
    'django.contrib.auth',  
    'django.contrib.contenttypes',  
    'django.contrib.sessions',  
    'django.contrib.messages',  
    'django.contrib.staticfiles',  
]
```

hello > views.py

```
from django.shortcuts import render  
from django.http import HttpResponse
```

```
# Create your views here.
```

```
def index(request):  
    return HttpResponse("Hello, World!")
```

hello > urls.py

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

```
from . import views
```

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

lab5 > urls.py

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

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

Run server

➤ `python manage.py runserver`

hello > views.py

```
from django.shortcuts import render
from django.http import HttpResponse

# Create your views here.
def index(request):
    return HttpResponse("Hello!")
```

hello > views.py

```
# Create your views here.
```

```
def index(request):  
    return HttpResponse("Hello!")
```

```
def saif(request):  
    return HttpResponse("Hello, Saif!")
```


hello > urls.py

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

```
urlpatterns = [  
    path("", views.index, name="index"),  
    path("saif", views.saif, name="saif")  
]
```

hello > views.py

```
# Create your views here.
```

```
def index(request):  
    return HttpResponse("Hello!")
```

```
def saif(request):  
    return HttpResponse("Hello, Saif!")
```

```
def ali(request):  
    return HttpResponse("Hello, Ali!")
```

hello > urls.py

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

```
from . import views
```

```
urlpatterns = [  
    path("", views.index, name="index"),  
    path("saif", views.saif, name="saif"),  
    path("ali", views.ali, name="ali")  
]
```

hello > views.py

```
# Create your views here.
```

```
def index(request):
```

```
    return HttpResponse("Hello!")
```

```
def saif(request):
```

```
    return HttpResponse("Hello, Saif!")
```

```
def ali(request):
```

```
    return HttpResponse("Hello, Ali!")
```

```
def greet(response, name):
```

```
    return HttpResponse(f"Hello, {name}!")
```

hello > urls.py

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

```
urlpatterns = [  
    path("", views.index, name="index"),  
    path("saif", views.saif, name="saif"),  
    path("ali", views.ali, name="ali"),  
    path("<str:name>", views.greet, name="greet")  
]
```

hello > views.py

```
# Create your views here.
```

```
def index(request):
```

```
    return HttpResponse("Hello!")
```

```
def saif(request):
```

```
    return HttpResponse("Hello, Saif!")
```

```
def ali(request):
```

```
    return HttpResponse("Hello, Ali!")
```

```
def greet(response, name):
```

```
    return HttpResponse(f"Hello, {name.capitalize()}!")
```

hello > templates > hello > index.html

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
  <head>
```

```
    <title>Hello</title>
```

```
  </head>
```

```
  <body>
```

```
    <h1>Hello, World!</h1>
```

```
  </body>
```

```
</html>
```

hello > views.py

```
# Create your views here.
```

```
def index(request):
```

```
    return render(request, "hello/index.html")
```

```
def saif(request):
```

```
    return HttpResponse("Hello, Saif!")
```

```
def ali(request):
```

```
    return HttpResponse("Hello, Ali!")
```

```
def greet(response, name):
```

```
    return HttpResponse(f"Hello, {name.capitalize()}!")
```


hello > templates > hello > greet.html

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
  <head>
```

```
    <title>Hello</title>
```

```
  </head>
```

```
  <body>
```

```
    <h1>Hello, {{ name }}!</h1>
```

```
  </body>
```

```
</html>
```

hello > views.py

```
# Create your views here.
```

```
def index(request):  
    return render(request, "hello/index.html")  
  
def greet(request, name):  
    return render(request, "hello/greet.html", {  
        "name": name.capitalize()  
    })
```

Lecture # 10

WebApp:

Is it new year?

Start App in Django Project

➤ `python manage.py startapp newyear`

lab5 > settings.py

```
# Application definition
```

```
INSTALLED_APPS = [  
    'hello',  
    'newyear',  
    'django.contrib.admin',  
    'django.contrib.auth',  
    'django.contrib.contenttypes',  
    'django.contrib.sessions',  
    'django.contrib.messages',  
    'django.contrib.staticfiles',  
]
```

lab5 > urls.py

```
from django.contrib import admin
```

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

```
from django.urls.conf import include
```

```
urlpatterns = [
```

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

```
    path('hello/', include("hello.urls")),
```

```
    path('newyear/', include("newyear.urls"))
```

```
]
```

newyear > urls.py

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

```
from . import views
```

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


newyear > views.py

```
from django.shortcuts import render  
from django.http import HttpResponse
```

```
# Create your views here.
```

```
def index(request):  
    return render(request, "index.html",  
{"newyear": "NO"})
```

newyear > templates > index.html

```
<!DOCTYPE html>
```

```
<html>
```

```
  <head>
```

```
    <title>Is it New Year?</title>
```

```
  </head>
```

```
  <body>
```

```
    {{ newyear }}
```

```
  </body>
```

```
</html>
```

Command Prompt

```
> python
```

```
>>> import datetime
```

```
>>> now = datetime.datetime.now()
```

```
>>> now.year
```

```
2021
```

```
>>> now.month
```

```
10
```

```
>>> now.day
```

```
12
```

```
>>> now.month == 1 and now.day == 1
```

```
False
```

newyear > views.py

```
from django.http.response import HttpResponseRedirect
from django.shortcuts import render
import datetime
```

```
# Create your views here.
```

```
def index(request):
    now = datetime.datetime.now()
    return render(request, "index.html", {
        "newyear": now.month == 1 and now.day
        == 1
```

newyear > templates > index.html

```
<!DOCTYPE html>
<html>
  <head>
    <title>Is it New Year?</title>
  </head>
  <body>
    {% if newyear %}
      <h1>YES</h1>
    {% else %}
      <h1>NO</h1>
    {% endif %}
  </body>
</html>
```

newyear > views.py

```
from django.shortcuts import render
from django.http import HttpResponseRedirect

# Create your views here.
def index(request):
    now = datetime.datetime.now()
    return render(request, "index.html", {
        "newyear": True
    })
```

newyear > views.py

```
from django.http.response import HttpResponseRedirect
from django.shortcuts import render
import datetime
```

```
# Create your views here.
```

```
def index(request):
    now = datetime.datetime.now()
    return render(request, "index.html", {
        "newyear": now.month == 1 and now.day
        == 1
```

```
newyear > static > newyear > styles.css
```

```
h1 {  
    font-family: sans-serif;  
    font-size: 90px;  
    text-align: center;  
}
```


newyear > templates > index.html

```
{% load static %}
```

```
<!DOCTYPE html>
```

```
<html>
```

```
    <head>
```

```
        <title>Is it New Year?</title>
```

```
        <link rel="stylesheet" href="{% static 'newyear/styles.css' %}">
```

```
    </head>
```

```
    <body>
```

```
        {% if newyear %}
```

```
            <h1>YES</h1>
```

```
        {% else %}
```

```
            <h1>NO</h1>
```

```
        {% endif %}
```

```
    </body>
```

```
</html>
```

Lab Assignment:
Is it independence day?

Q & A