

Welcome to

Software Development Practice II

# Basic web server

Send file to --> Client (web browser)

# start from terminal (command line)

```
python3 -m http.server
```

# Common Gateway Interface (CGI)

Client ---> Server ---> CGI ---> Your Program

Client <--- Server <--- CGI <--- Your Program

# Web Framework

- A web framework or web application framework is a software framework that is designed to support the development of web applications [https://en.wikipedia.org/wiki/Web\\_framework](https://en.wikipedia.org/wiki/Web_framework)

- To try Django <https://www.djangoproject.com>

Pronounced : JANG-oh (The “D” is silent)

# Django Web Framework

- 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

# Create a new project

```
# commandline/terminal
```

```
django-admin startproject hello
```

```
# new project will be in directory hello
```

# Project Files

```
# commandline/terminal
```

```
cd hello
```

```
ls
```

```
hello  manage.py
```

```
ls hello
```

```
# Another hello directory (inside hello)
```

```
# containing setting files
```

```
__init__.py  settings.py  urls.py  wsgi.py
```

# Start a server in a new terminal

```
# Open a new terminal
```

```
cd hello
```

```
python3 manage.py runserver
```

```
...
```

```
Django version 2.0.1, using settings 'hello.settings'
```

```
Starting development server at http://127.0.0.1:8000/
```

```
Quit the server with CONTROL-C.
```

# Need manage.py to runserver

# correct directory?



# Open a browser

URL `http://127.0.0.1:8000`

django

[View release notes](#) for Django 2.0



The install worked successfully! Congratulations!

# Create a new app

(many apps in a project?)

```
# back to the first terminal
```

```
ls
```

```
# in the correct directory
```

```
hello  manage.py
```

```
# with manage.py
```

```
python manage.py startapp demo
```

```
ls demo
```

```
# demo directory containing several files
```

```
admin.py  apps.py  __init__.py  migrations
```

```
models.py  tests.py  views.py
```

# Create a function

in `demo/views.py`

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

```
from django.http import HttpResponse
```

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

```
    response = "Hello from index (demo/views.py)"
```

```
    return HttpResponse(response)
```

# Config URL for the function

(from project)

```
# edit project URL config
# hello/urls.py

from django.urls import include, path

urlpatterns = [
    path('demo/', include('demo.urls')),
]

# Project hello/urls.py include app demo/urls.py
# Project URL start with 'demo/' will to app URL
# Project URL link to app URL
# try http://127.0.0.1:8000/demo/
```

URL `http://127.0.0.1:8000/demo`

`ImportError: No module named 'demo.urls'`

# Project **hello/urls.py** include app **demo/urls.py**

# But **demo/urls.py** does not exist

# Config URL for the function

(from app)

```
# create demo/urls.py
```

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

```
from . import views
```

```
urlpatterns = [
```

```
    path('hi/', views.index, name='index'),
```

```
]
```

```
# Project hello/urls.py include app demo/urls.py
```

```
# Project URL start with 'demo/' will to app URL
```

```
# Project URL start with 'hi/' call the function
```

URL <http://127.0.0.1:8000/demo/hi>

# may need to restart server

# Try HTML tag

```
def index(request):  
    response = "<b>Hello</b> from index ..."  
    return HttpResponse(response)
```



# Config URL for more functions

(from app)

```
# create demo/urls.py
from django.urls import path
from . import views

urlpatterns = [
    path('hi/', views.index, name='index'),
    path('time/', views.showtime, name='time'),
]

# must create showtime()
```

# Showtime()

```
# Simple way to debug
```

```
 #(get a updated response?)
```

```
from django.http import HttpResponse
```

```
from datetime import datetime
```

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

```
    r = "<b>Hello</b> from index (demo/views.py)"
```

```
    return HttpResponse(r)
```

```
def showtime(r):
```

```
    t = datetime.now()
```

```
    r = "current time: " + t.strftime("%A, %d. %B %Y %I:%M:%S")
```

```
    return HttpResponse(r)
```

# Change Timezone

```
# edit hello/settings.py  
# change TIME_ZONE as below  
  
TIME_ZONE = 'Asia/Bangkok'
```

...

# Exercise

- Create more functions in views
  - to make sure you understand the basic

- Follow Django tutorials

<https://docs.djangoproject.com/en/2.0/intro/tutorial01/>

- Prepare slides to present next time

# Tutorial part 1

- Creating a project
- Creating the Polls app  
(Projects vs. apps)
- Write your first view

# Tutorial part 2

- Database setup

`(not needed, use sqlite)`

- Creating models

- Playing with the API

- Introducing the Django Admin

# Tutorial part 3

- Writing more views
- Use the template system
- Namespacing URL names



# Tutorial part 4

- Write a simple form
- Use generic views