سازمان جهاد دانشگاهی صنعتی شریف

مرکز آموزش های تخصصی کاربردی

دوره جنگو
(آموزش بک‌اند
دولوپر با Django)

یک وب سایت اختصاصی از دو بخش فرانت اند و بک اند تشکیل شده است. در واقع بک اند هسته اصلی یک وب سایت به حساب می آید و هر چه قدر این بخش قوی تر و حرفه ای تر نوشته شود ما صاحب وب سایت بزرگ تر و قوی تری خواهیم بود. یک برنامه نویس بک اند مسئول ایجاد دیتابیس ها و پایگاه های داده، ایجاد فرم ها، ارتباطات آنها، ثبت اطلاعات کاربران در وب سایت و هر فرایندی که به طور کلی با چشم مشاهده نمیشود در وب سایت است.

جزئیات سرفصل های **دوره بک اند دولوپر (Back End Developer)** به شرح ذیل است:

دوره بک اند دولوپر با جنگو (Back End Developer With Django)

مروری بر برنامه نویسی پایتون

- Installation and setup

- Prepare your ide

- Datatypes

- Functions

- Pip

- Modules

- Virtualenv

- Exceptions

- Oop concepts

- Sample projects

آموزش نحوه کار با Git

- What is git

- How to install it and using github desktop

- Basic knowledge of git and usage

آموزش جنگو مقدماتی

- **Start using Django**

  - Introduction to django

  - Django architecture

  - Setup your first project and learn structures

  - Setup your first app and using url,view,template

  - Choose your template

- **Static, Media and Tempalate**

  - Setup static and media in settings

  - How to use tags and jinja

  - Migrate your chosen template

- o Inheritance of templates

- o Dynamic urls

- o Create blog app

- o Render data to template

- **Database and Admin**

  - o Makemigrations and migrate

  - o Superuser and admin orm

  - o Fields in database

  - o Create model for blog with app

  - o Create model in Django

  - o Connect to shell and use orm

  - o Checkout admin panel

  - o Customizing admin

  - o Meta in models

- **Views and Database**

  - o Fetch data and render to page

  - o url patrameters

  - o completing urls and views for blog app

  - o post categorizations

  - o concatenate the posts

  - o template include

- **Template Tags**

  - o Getting to use tags

  - o Simple tag

  - o Filter tag

- o Inclusion tag
- o Using tags in blog
- o Pagination

- **Django Forms**
  - o Create forms in template
  - o Form
  - o ModelForm
  - o Use forms in blog
  - o Messages

- **Django Modules**
  - o Humanize
  - o Sites framework
  - o Sitemap
  - o Robots
  - o Debugger toolbar
  - o Captcha
  - o meta
  - o Rss feed
  - o Django compressor

- **Django Authentication**
  - o What is authentication
  - o Login form and authentication
  - o Logout
  - o Signup
  - o Authentication decorators

- o Auth module

- o Introduction to allauth

- **Deployment on host**

  - o Deployment on cpanel

  - o Deployment on liara

آموزش داکر (Docker)

- What is docker and how to install

- Basic usage of docker

- What is docker compose

- Setup a service and use for django

آموزش جنگو پیشرفته

- **Introduction**

  - o Why we need to know more

- **Getting Ready**

  - o Setup repo

  - o Create dockerfile

  - o Add docker-compose

  - o Environmets

  - o Database schema

  - o Create needed apps

- **Setup Project**

  o Add models

  o AbstractBaseUser and CustomUser

  o Managers and UserManager

  o Change default auth model

  o Customize admin and admin forms

  o Add profile

  o Django Signals

- **Class Based Views**

  o FBV vs CBV

  o TemplateVIew

  o RedirectView

  o ListView

  o Paginations and Customizations

  o DetailView

  o FormVIew

  o CreateView

  o UpdateView

  o DeleteView

  o Permissions and mixins

  o Start a TodoApp

- **RestFramework and Serializers**

  o Api and RestAPI

  o Whats the difference between rest and render

  o DRF installation

  o views

  o Serilaizers

  o Statuscodes

  o Modelserializers

- o Validation

- o Crud operation

- o Introduction to Postman and usage

- o Permissions

- o Postman Authentication

- **Restframework in class based views**

  - o Migrate to ApiView

  - o Permission classes

  - o Crud in apiview

  - o Migrate to GenericViews

  - o Crud in GenericViews

  - o Migrate to ViewSets and ModelViewSet

  - o Crud in ViewSets

  - o Default and Simple Router

  - o Api Documentation

  - o Customizing representation

  - o Get user info

  - o Permission Classes

  - o FilterBackends

  - o SearchFIlter

  - o Ordering and Sort

  - o Paginations

  - o More filters and customizations

- **Api Documentations**

  - o Swagger and Redic

  - o Swagger to postman

- **Authentications**
  - Add accounting app
  - What endpoints we need
  - Register
  - Token Authentications
  - JWT Authentications
  - Email Verifications and activation
  - SMTP4Dev
  - Email templates
  - Versioning api

- **Reformat and Lint**
  - Black and flake8

- **Tests**
  - What is testcase
  - What should we test
  - url tests
  - fom tests
  - model tests
  - view tests
  - what is Pytest
  - Crud tests for application in api

- **Continues Integrations**
  - What is CI and devops
  - Intro to github actions
  - Workflow
  - Create and deploy ci in actions

- **Fake data**

  o Create fake data with faker

- **Access Management to API**

  o Request with jquery

  o Corsheaders setup

- **Load Testing**

  o Introduction to locust

  o Create some load on api

- **Background tasks**

  o What is background tasks

  o Setup redis and settings

  o What is celery and setup in django

  o Create tasks for workers

  o Create schedule tasks with beat

- **Caching**

  o What is caching

  o Setup redis and settings

  o How to cache pages

  o How to cache api calls

- **Getting ready for Deployment**

  o Getting ready for deployment

  o Setup gunicorn

  o Setup nginx

  o Setup statics and media

  o Create 3 stages of program

- **Deployment**
  - o Deploy on VPS
    - ▪ Setup ssh and docker
    - ▪ Setup server with proxy
    - ▪ Deploy
  - o Deploy on Hamravesh

- **Continuous Deployment**
  - o What is cd
  - o Automate deployment in actions

آشنایی با مفاهیم میکروسرویس ها

- What is microservice
- What is the best tools to choice
- General architectures
- Protocols and Usage

یک پله بالاتر از تخصص ...