

Building Bots - Tech Cohort

Intro to Backend Development

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OVERVIEW & PURPOSE

Introduction to programming the backend of the Web, delivering data and content to Web and/or Mobile applications. Beginner level this is the first step toward a career in Data Science, Machine Learning and app development. This course will be run like Agile Project Sprints and ticketing system with participants being backend devs teams.

EDUCATION STANDARDS

1. Each participant should not be more than 2 weeks behind.
2. Attendance will be taken every class by check in or assignment collection.
3. Be courteous, 24 hour notice is required when missing a class.
4. Each participant shall not miss more than 2 class sessions.
5. Participant is a part of the dev team. Teammates are encourage to help each other and post/engage in the BOT Slack Channel #IntroToBackend by asking questions and answering questions and providing status updates, etc.
6. The instructor will respond to questions within 24 hours.
7. The Instructor will try to record meetings and post them in the slack or class email.

This course will meet virtually on: Tuesdays at 6pm

PREREQUISITES

Participants should have some basic knowledge of different web servers and http request types. Having some knowledge of the web languages HTML, CSS, Javascript, XML and JSON. Git version control will be used and participants should have a basic understanding of what version control.

Prerequisites Tutorials (not required but helpful)

- Github <https://www.youtube.com/watch?v=0fKg7e37bQE>
- HTML <https://www.youtube.com/watch?v=UB1O30fR-EE>
- CSS https://www.youtube.com/watch?v=1PnVor36_40
- Javascript https://www.youtube.com/watch?v=Ukg_U3CnJWI

OBJECTIVES

1. Understand Backend Development
2. Setting up Local Development Environment
3. Understand Application Programming Interfaces (API)
4. Writing Server Side Code
5. Connecting to Databases and Web Data Sources
6. Backend API types RESTFul, SOAP, and GraphQL

MATERIALS NEEDED

1. Computer/tablet with text editor
2. Internet Access
3. BOT Slack Access
4. GitHub account

VERIFICATION

1. Participants will create customized service side code
2. Participants will create custom code for an Slack App
3. Participants will create github projects for examples of their work for showcase

Course Outline by Week

1 Hr min Lesson Format:

- *10 intro/review/standup*
- *35 min lecture/*
- *10 min Q&A*
- *5 Min Show and tell*

1. Week one: Let's get to work
 - a. Introductions/Requirements
 - b. Define backend development
 - c. Sprint Setup
2. Week two: Getting Setup
 - a. Creating the github
 - b. Trello Ticketing
 - c. Slack Channel
3. Week Three: Sweat Shop * Local DevOPS *
 - a. Local Development Environments
 - b. Sprint Planning
4. Week Four: Save Me
 - a. Connecting to Database
 - b. SQL Database
 - c. NoSQL Database
5. Week Five: In the Thick
 - a. Consuming APIs
 - b. Data Converting
6. Week Six: Getting it working
 - a. Creating an API
 - b. Frontend consuming the API
7. Week Seven: Organizing
 - a. Creating Multiple endpoints
 - b. documentation
8. Week Eight: Final Project
 - a. API that post to our Slack Channel
 - b. Web hooks