



Belal Ahmed Siddiqui <belalahmedsiddiqui8@gmail.com>

Session 2 - Preview/Pre-read: ERA V4

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To: belalahmedsiddiqui8@gmail.com

Session 2: Python Essentials, Version Control, and Web Development Basics

What we'll cover

1. Version Control with Git & GitHub

- Why version control matters (history, collaboration).
- Basic Git commands: init, add, commit, status, log.
- Local vs remote repos (GitHub).
- Branching, merging, collaboration basics.
- Hands-on: create a repo, track changes, push to GitHub.

2. Python 101 Refresher

- Core syntax relevant for AI programming.
- Data structures (lists, dicts, sets, tuples).
- Functions, loops, conditionals.
- Hands-on coding exercises.

3. Web Development Basics

- Introduction to **HTML**, **CSS**, and **JavaScript**.
- Building a simple single-page interface.

- Hosting via **Flask** (Python micro-framework).
- Connecting frontend (JS) ↔ backend (Flask).

4. Deployment on Cloud (AWS EC2)

- Setting up a free-tier Ubuntu instance.
- Cloning your GitHub repo to EC2.
- Running your Flask app on the cloud.
- Accessing it in the browser from anywhere.

5. Mini-Project Assignment

- Build a small **AI-related demo app**.
- Push to GitHub → Deploy on EC2 → Record demo video → Share links.

Pre-read (before class)

- Install **Git** → git-scm.com/downloads

Verify with:

```
git --version
```

- Configure Git:

```
git config --global user.name "Your Name"  
git config --global user.email "you@example.com"
```

- Brush up Python basics if possible:
 - Lists, dicts, loops, functions.
- Skim through **HTML/CSS/JS basics** (if possible):
 - What's a <div>?
 - How CSS styles HTML?
 - What does JavaScript do in a web page?

- Create a **GitHub account** if you don't already have one.
- Create **AWS account** if you don't already have one.

Outcome

By the end of Session 2, you'll be able to:

- Use Git/GitHub to track & share your code.
- Write small Python utilities confidently.
- Build a **simple Flask web app** with a modern UI.
- Deploy your app on AWS EC2 so the world can access it.



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