Full Stack Development - Teaching Script

Self-Introduction

Hi Ling, nice to meet you! I'm Nelson Lai, your instructor for this session. I'm a full-stack developer with years of experience leading software engineering teams in multinational companies like Amazon and Apple. I specialize in full-stack development, meaning I work on both the front-end and back-end of applications-everything from building user interfaces to managing databases and deploying web services. I'm also a certified gold-level teacher on Amazing Talker. Today, I'll walk you through the basics of full-stack development and give you a clear overview of what technologies are involved and how they all connect.

Slide 1: Title Slide

Let's get started! Today's topic is: Full Stack Development .

Slide 2: What Is Full Stack Development?

Full Stack Development means being able to build an entire web or mobile application from start to finish. That includes front-end development, which is everything the user sees and interacts with, and back-end development, which handles logic, servers, and databases.

Example: Think of a website like Amazon: the product page (front-end), the cart logic (back-end), and the customer data (database) all work together.

Slide 3: Front-End Technologies

On the front end, developers build the user interface. Technologies:
- HTML: for structure
- CSS: for design
- JavaScript: for interactions
For mobile apps:
- Swift (iOS)
- Kotlin (Android)

Ask Ling: Have you tried using HTML or JavaScript before?

Slide 4: Back-End Technologies

On the back end, we handle all the data processing and logic:

- Python (Flask or Django)

- Node.js

- React.js

- Databases: MySQL (structured), MongoDB (NoSQL)

- RESTful APIs

- 3rd-party resources (e.g., Stripe, Google Maps)

Slide 5: Data Flow Diagram

How data flows in a full-stack system:

- Front-End: user interacts with UI

- Back-End: server processes input

- Database: stores/retrieves data

- 3rd Parties: handles external services

Example: Logging into Instagram.

Slide 6: Full Stack Technologies

Summary of technologies:

- Frontend: HTML, CSS, JS

- Backend: Node.js, Django

- Database: MySQL, MongoDB

- Tools: Git, Docker, VS Code, Postman

Slide 7: Advantages of Full Stack Development

Why learn full stack?

- Complete ownership: You can build an entire product

- Understanding of all layers: Easier debugging

- Better teamwork

- More job opportunities

Full-stack developers are valuable because they can bridge frontend and backend teams.

Wrap-Up & Q&A

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That's the overview of full-stack development! We covered what it is, the technologies involved, how the parts connect, and why it's useful.

Do you have any questions? Would you like to go deeper into frontend or backend in a future session?