



Welcome to the Software Development Track

Mohamed A. Abdisamad

Inclusive Digital Innovation for a
Trusted and Collaborative Digital
Economy in Somalia.

Congratulations!!



- Congratulations on being chosen from a large pool of applicants.
- Over the upcoming sessions, we'll dive into building, deploying, and scaling modern web applications.
- We're excited to have you here—let's get started!

Workshop Facilitators



- **Mohamed A. Abdisamad** – *NIRA, Track Lead*
- **Khadar Adam Jamac**, *Director of Infrastructure Services, NIRA*
- **Abdulshakur Ahmed**, *CTO, Somali Payment Switch (SPS)*
- **Hassan Omar**, *Lead Software Team, SIU*
- **Mohamed Abdirahman Ahmed**, *Software Developer, Tabaarak ICT / Rikaab*
- **Abdihakim Mohamed**, *Software Engineer, Somali Payment Switch (SPS)*

Introduction



- This software development track focuses on building a **real-world** Event Management System using a modern TypeScript-based full-stack stack with **Next.js**, **NestJS**, **PostgreSQL**, and **Prisma**, from architecture and database design to secure deployment with Docker and CI/CD.

What's included in the track?



- Explore modern full-stack architecture with client–server design, RESTful APIs, and best practices
- Set up a professional development environment with Node.js, Git, VS Code, and a Next.js project structure
- Design and model a relational database in PostgreSQL for events, tracks, sessions, locations, and users
- Work with Prisma ORM and NestJS fundamentals (modules, controllers, services, dependency injection)

What's included in the track (Cont..)



- Build robust RESTful APIs with validation, DTOs, error handling, and pagination for event and registration workflows
- Develop responsive user interfaces in React/Next.js for registration, event listing, track browsing, and conference management
- Implement authentication, JWT-based sessions, and role-based access control for admins, facilitators, and participants
- Containerize the full application stack with Docker and Docker Compose, and set up a CI/CD deployment pipeline for production

Scan for full Workshop Schedule



How about you....?



- Introduce yourself:
- Name
- Which field best describes your work: Frontend, Backend, Full-stack, or DevOps?
- How many languages do you speak?
- What's your favorite language?



How do you stay up-to-date with new technologies?

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- **Syntax.fm** – HTML, CSS, React, Node.js, TypeScript, GraphQL, and more
- **TalkPythonToMe** – Python developers
- **GoTime** – Go developers
- **Inside Java** – Java developers
- **Software Newsletters** – Stay up-to-date with industry trends

Course teaching style



- Theory explained first then followed by a practical session
- You'll be organized into groups.
- Each group will have a Virtual Machine running Ubuntu that you will access from your laptop
- **Feel free to ask questions anytime**
- If you need help during the session, raise your hand so the instructors can assist.
- Kindly mute your phones during classes

Timetable – please keep time



- ▪ First Session 08:00 to 10:00
 - Tea break 10:00 to 10:30
- Second Session from 10:30 to 12:30
 - Prayer & Lunch from 12:30 to 13:30
- Third Session- from 13:30 to 15:30
 - Tea break – 16:00 to 16:30
- Fourth Session – 16:00 to 17:30
 - Closing

Inventory



- You should have received:
 - badges
 - notebook, pen
- Keep your badge with you At the end of the workshop, you will receive:
 - Many resources about Software Development
 - Please share the resources with your colleagues at your institution.

Connectivity



- Use your own laptops for:
 - Web browsing
 - Coding
 - Project exercises
- Wireless Internet
 - Use the SomNOG7 or
 - SSID
 - **Track3**
 - The password is "**SomNOGSuccess**"

Resources



- All resources—slides, guides, and examples—will be at sd.somnog.org (please check after 4 p.m. today).
- The source code is available on GitHub at github.com/somnog.

Join the Discord



Join our Discord channel for help and support whenever you need it.



Safety



- Please be careful in class:
 1. Trip on power cords
 2. Pull cables out of sockets
 3. Knock equipment off tables
 4. Fall from leaning back too far in your chair

Final Message



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Final Message



- Our facilitators are here to share their professional experiences, taking time out of their busy schedules to do so.
- Please show your appreciation and respect by arriving on time, keeping quiet during presentations, and engaging actively in discussions.

How about you....?



- Introduce yourself:
- Name
- Which field best describes your work: Frontend, Backend, Full-stack, or DevOps?
- How many languages do you speak?
- What's your favorite language?
- What are your expectations for this track?

THANK YOU