Training Day-2 report

24 June, 2025

Today marked the technical commencement of my summer training. My assigned task was to develop a backend service for URL shortening — a system that accepts a long URL and generates a shortened version that redirects users appropriately when accessed.

Work Undertaken:
• Designed and implemented a basic backend architecture to handle URL shortening and redirection logic.
• Gained clarity on how data should flow from client to server in such a service.
• Initially explored existing libraries to generate shortened URLs.
   – Discovered Node.js library: **nanoid**, which I successfully integrated.
• Attempted to go beyond library use by creating a **custom hash function** using the **Node.js crypto module**, helping me understand its basic utilities.

Challenges Faced & Solutions:

1. **Shortening Logic:**
   – Faced uncertainty about how to effectively shorten URLs.
   – Researched extensively and opted for nanoid due to deprecation issues with other libraries.
   – Later, experimented with custom hashing for learning purposes.

2. **Import Issue with Files:**
   – Encountered a bug when trying to import a file named url.
   – Renaming it to **URL.js** (with uppercase) resolved the issue — possibly due to internal naming conflicts or reserved keywords.

Additional Exploration:
• Post completion of the URL shortener, I began exploring how to create a basic **Blog API**.
• Researched RESTful API design and considered potential models and endpoints for future development.

Conclusion:
The day was both engaging and informative. I resolved practical challenges, explored alternative approaches, and enhanced my understanding of Node.js internals. I'm excited to continue building upon this foundation in the upcoming sessions.

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