

Using Neo4j to Organize and Explore Educational Content

Monday 29 September 2025 16:40 (1h 30m)

Neo4j is a global leader in graph database technology and an excellent tool for organizing and managing learning content. Its flexible and intuitive data model makes it particularly well-suited for educational contexts, where information such as courses, topics, prerequisites, and user progress is deeply interconnected. Neo4j enables users to store and navigate learning resources in a way that mirrors how knowledge is naturally structured—as a network of relationships.

This beginner-level workshop introduces participants to the core concepts of graph databases and demonstrates how Neo4j can be used to build a dynamic, searchable, and scalable learning material system. The focus is on accessibility and practical skills, using a suite of user-friendly tools including:

- Neo4j AuraDB –cloud-based graph database
- Neo4j Data Importer –visual tool for importing CSV files
- Neo4j Bloom –intuitive interface for graph exploration
- Arrows App –for modeling graph structures visually

Workshop Structure:

1. Introduction: What is a graph database and why use Neo4j?
2. Basic Theory: Nodes, relationships, and the Cypher query language
3. Tools Overview: Setting up and navigating with AuraDB, Importer, Bloom
4. Hands-on Exercises: Modeling a course structure, importing data, querying with Cypher

Expected Outcome:

Participants will gain a foundational understanding of graph databases and hands-on experience with Neo4j's ecosystem. By the end of the workshop, they will be able to model basic educational data, import structured content, and explore it interactively—paving the way for advanced applications such as recommendation engines, adaptive learning paths, or curriculum planning.

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Session Classification: Parallel workshops & talks