

What it covers:

- **Deployment diagrams** show how software artifacts are mapped onto physical hardware nodes.
- Key elements:
 - **Nodes**: e.g. servers, devices, or virtual machines.
 - **Artifacts**: deployable files, executables, databases.
 - **Communication paths**: network connections between nodes.

Why it matters:

- Deployment diagrams link **software architecture** to the **physical environment**.
- They're critical for:
 - Performance planning (e.g. distributed deployments).
 - Scalability analysis (e.g. how many servers needed).
 - Security considerations (where sensitive data lives).
- In AI contexts, they help model:
 - Deployment of ML services (e.g. model servers, inference nodes).
 - Edge vs. cloud computation layouts.