

DevOps Vs Agile: Differences, Tradeoffs, and Use Cases



- This course clarifies how Agile and DevOps relate



- Covers definitions, key differences, and misconceptions



- Explores real-world use cases and practical implementation



- Reviews culture, tradeoffs, and decision guidance



- For developers, DevOps teams, and project leads



Agile Fundamentals



- **Agile** is a mindset for iterative, customer-focused delivery, rooted in the Agile Manifesto



- **Values:** individuals and interactions, working software, customer collaboration, responding to change



- **Twelve principles:** continuous delivery, embracing change, sustainable pace, technical excellence, self-organization



- **Frameworks:** Scrum (sprints, roles, ceremonies), Kanban (flow, WIP limits), XP (technical practices), Lean

The Four Agile Values



Individuals and interactions



Working software

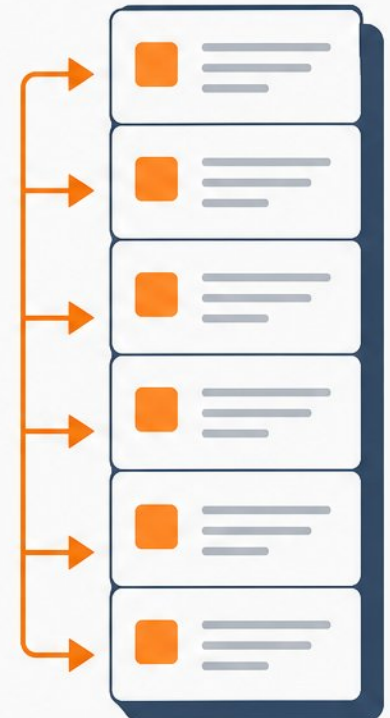


Customer collaboration



Responding to change

Backlog of Work Items



Agile in Practice: Roles, Artifacts, and Workflow



- Work proceeds in small increments—user stories, sprints, or Kanban items



- Feedback cycles run from one to four weeks



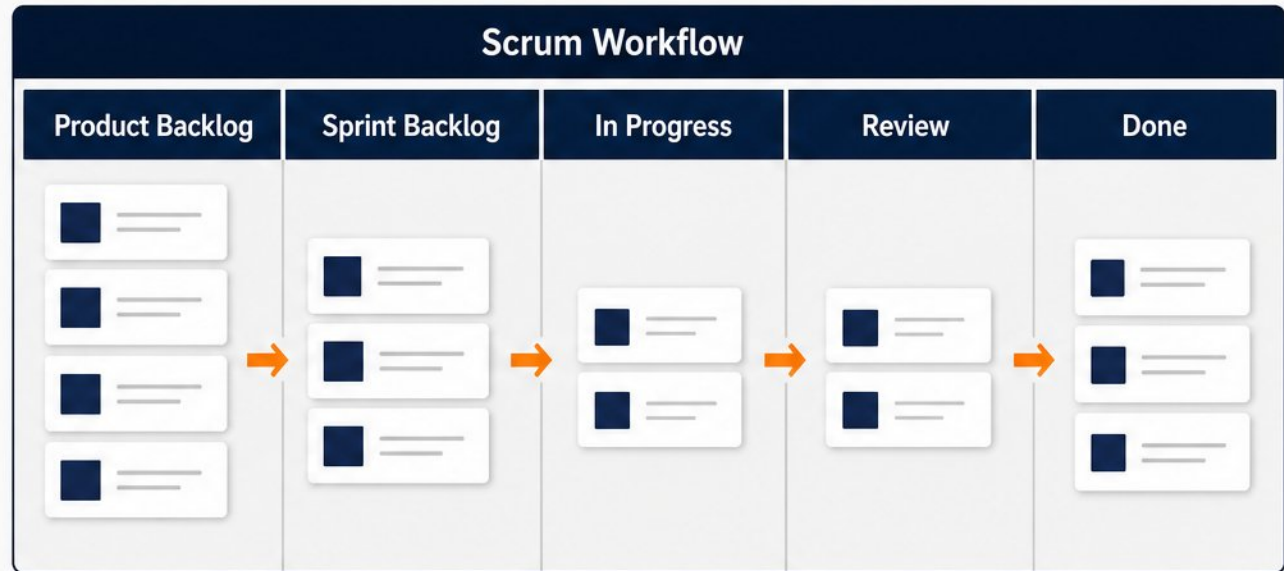
- Scrum roles: Product Owner sets priorities; Scrum Master enables the process



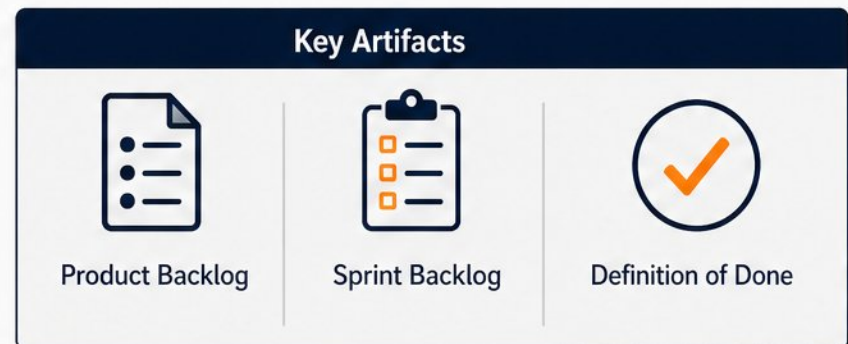
- Key artifacts: Product Backlog, Sprint Backlog, Definition of Done



- Kanban visualizes work and limits WIP to optimize flow

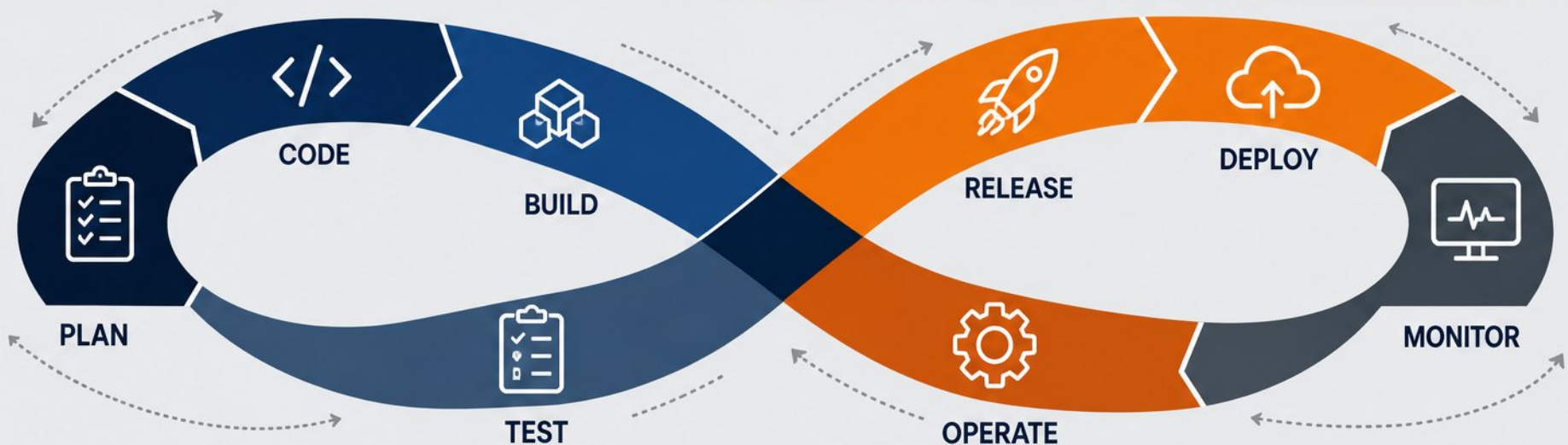


Feedback Cycle
One to four weeks

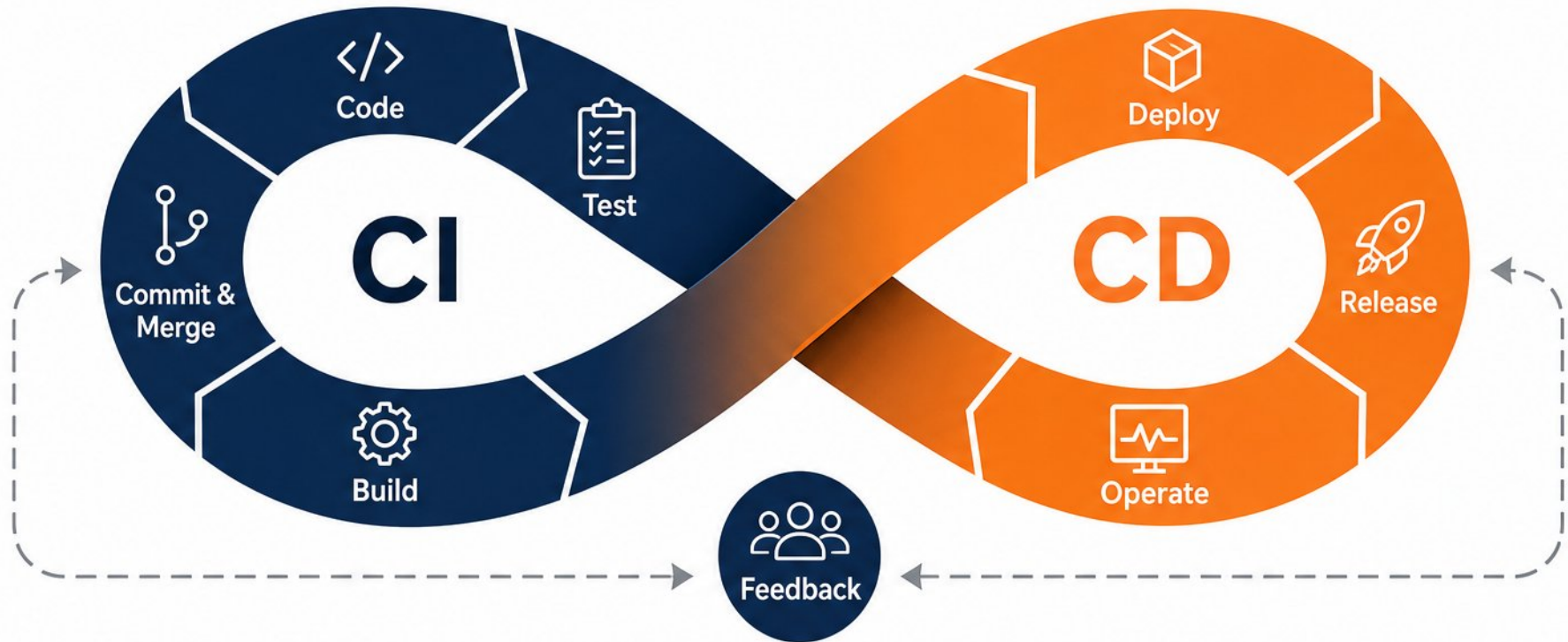


DevOps Fundamentals

- - Merges development and operations to improve delivery speed, reliability, and shared ownership
- - Frameworks: CALMS (Culture, Automation, Lean, Measurement, Sharing) and the Three Ways
- - Core practices: CI/CD, version control, infrastructure as code, automated testing, observability
- - Represented as an infinity loop: plan, code, build, test, release, deploy, operate, monitor

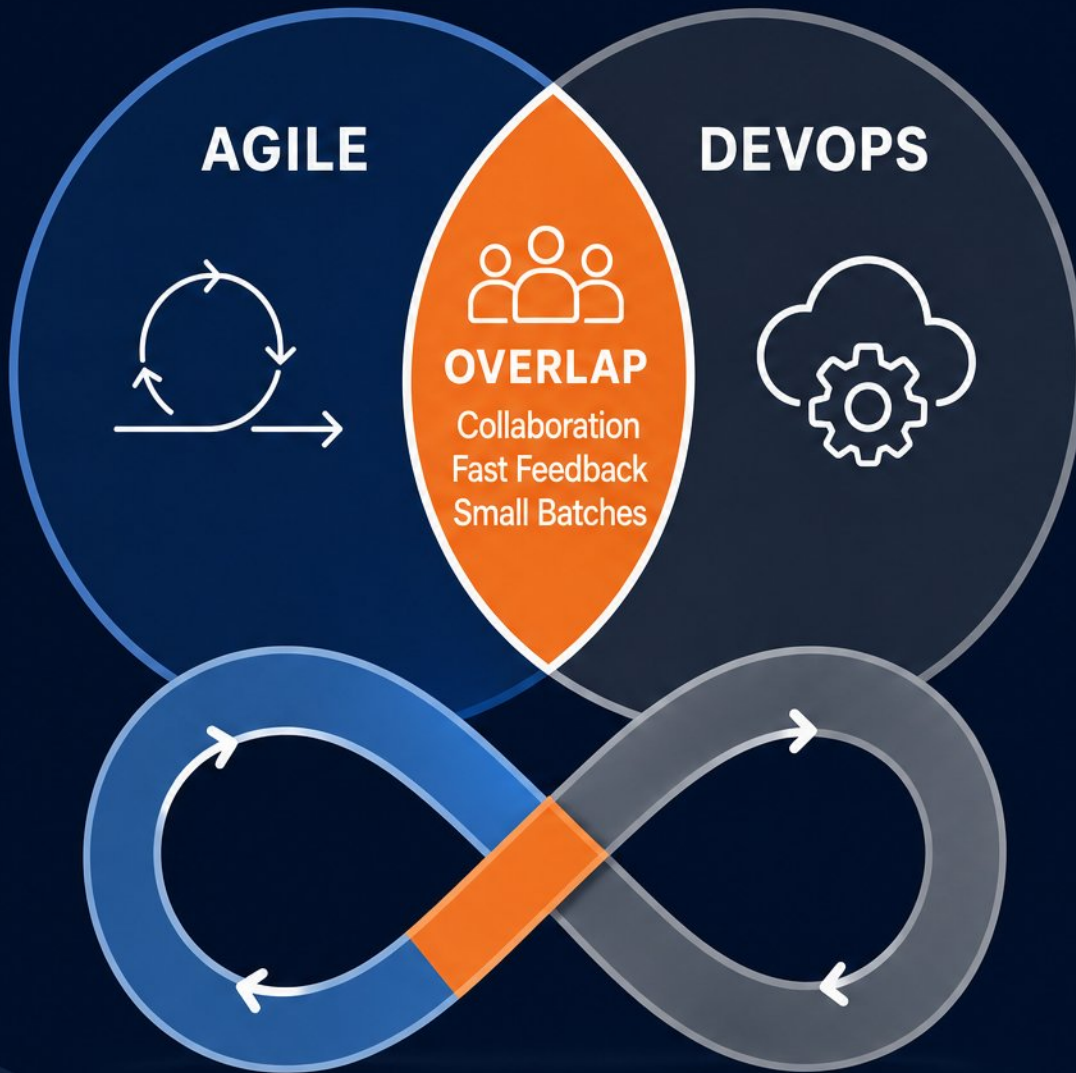


Inside the DevOps Pipeline: CI/CD, Automation, and Feedback



- CI: merge code frequently, build and test automatically
- CD: keep main branch deployable; deployment automates releases
- IaC, automated testing, and monitoring enable repeatable, low-risk releases
- Continuous feedback loops from production back into planning

Where Agile and DevOps Overlap



- Shared focus: collaboration, fast feedback, small batches



- Both reject silos, rigid handoffs, and risk-heavy processes



- DevOps extends Agile from code to deployment and operations



- Common path: start with Agile, then add DevOps to remove release bottlenecks

Key Differences Between Agile and DevOps

	 AGILE	 DEVOPS
 Focus	- Focus: Agile on planning and building; DevOps on delivering and operating.	
 Scope	- Scope: Agile ends at code; DevOps spans pipeline to production and recovery.	
 Teams	- Teams: Agile product roles; DevOps cross-functional Dev, Ops, QA, Security.	
 Feedback	- Feedback: Agile human and periodic; DevOps automated and continuous.	
 Tools	- Tools: DevOps automation-heavy; Agile tool-agnostic and ceremony-driven.	

Tradeoffs and Common Misconceptions



- Agile without DevOps: faster sprints, still slow, risky releases



- DevOps without Agile: fast delivery of the wrong product



- Neither is inherently better; value depends on context and bottleneck



- DevOps isn't a role or toolset; Agile isn't no planning



- Failure patterns: empty ceremonies, automation without ownership, siloed teams



Use Cases:

When to Prioritize Agile



Use Cases: When to Prioritize DevOps



- Prioritize DevOps when deployments are slow, manual, or unstable



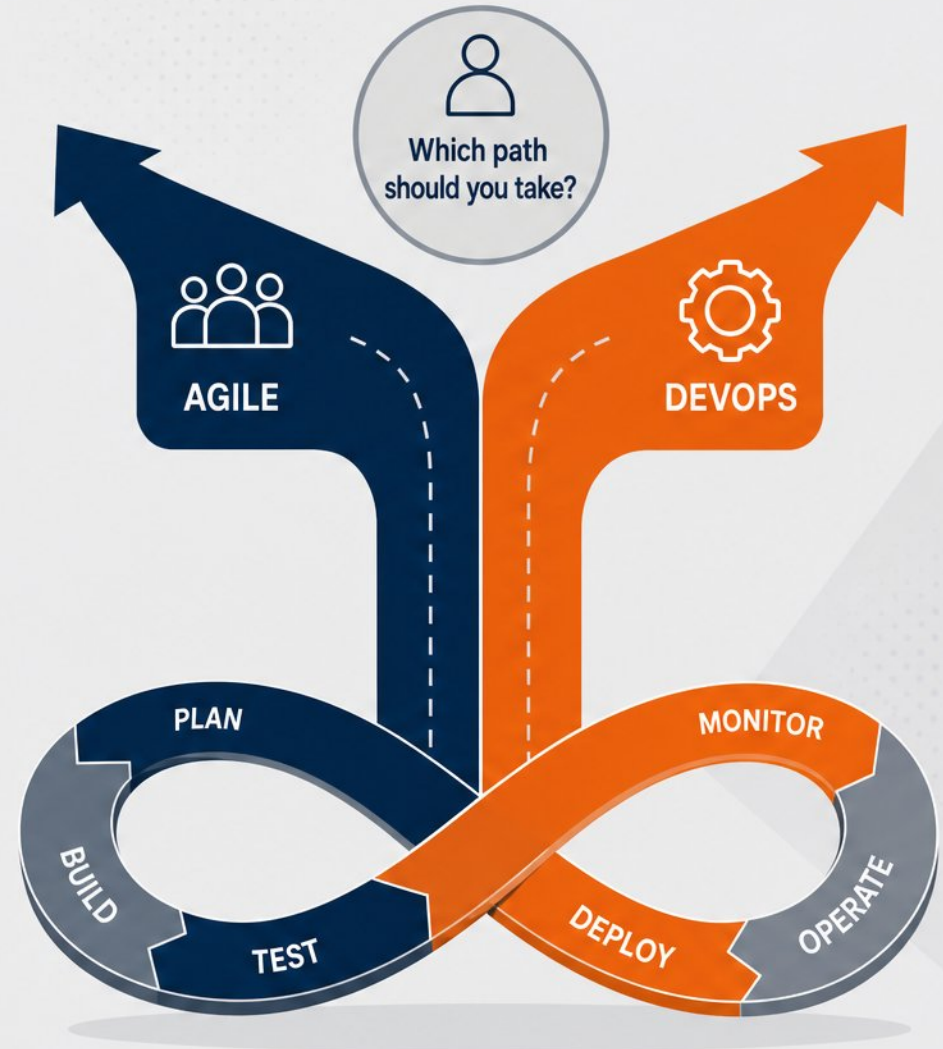
- Ideal for cloud-native platforms and microservices architectures



- Addresses release flow, recovery, observability, and operational handoffs



- Start with planning discipline; add automation as release pain grows



Practical Implementation Strategies



- Locate the real bottleneck: trace a change from request to production



- Establish shared vocabulary and aligned goals before tooling



- Use a phased roadmap: stabilize, automate, shift quality left, scale



- Add CI/CD, IaC, and monitoring as delivery pain emerges



- Avoid tool-first transformations and siloed DevOps teams

PHASED ROADMAP



Measuring Success with the Right Metrics



- Use DORA metrics: deployment frequency, lead time, change failure rate, recovery time



- Balance throughput with stability—avoid masking quality issues



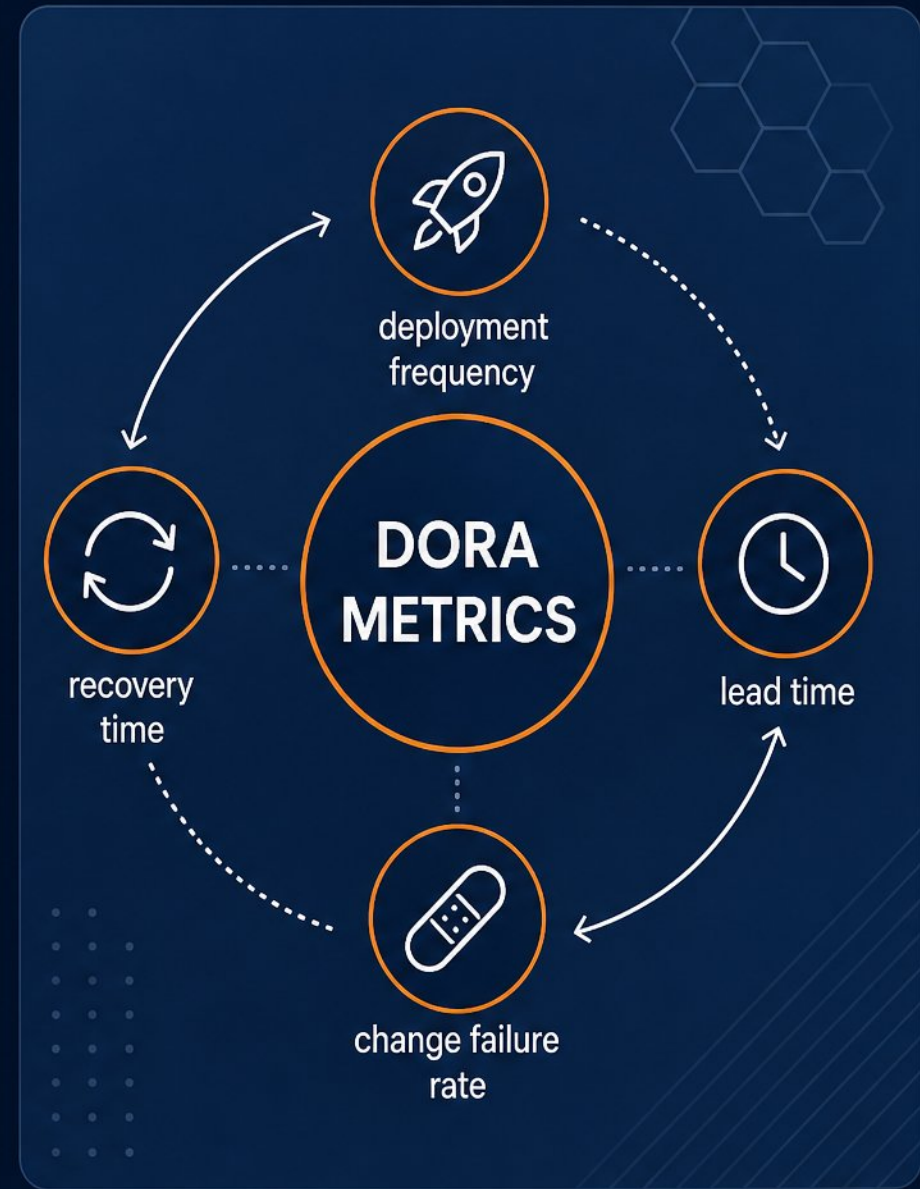
- Start simple: cycle time, deployment frequency, escaped defects



- Track per service/team, not just org-wide averages



- Retire vanity metrics like lines of code or story points



Team Implications and Culture Change



- Agile reshapes planning and stakeholder collaboration



- DevOps broadens ownership: "you build it, you run it"



- Blameless postmortems and psychological safety are essential



- Leaders model change and remove structural barriers



- Project leads shift from oversight to coaching



Summary and Decision Guidance

Agile



Focus: Build the right product

Iterative planning, collaboration, and rapid feedback

Combined Approach

Agile and DevOps together shorten the loop



From idea to working software in front of users

DevOps



Focus: Deliver it reliably

Automation, continuous delivery, and operational excellence

- ✓ Agile focuses on building the right product; DevOps delivers it reliably
- ✓ Assess product uncertainty, delivery bottlenecks, team maturity, and risk tolerance
- ✓ Start with Agile for planning problems; add DevOps when release speed and stability are the pain point
- ✓ Pilot one Agile practice and one DevOps practice in the next quarter
- ✓ Goal: shorten the loop from idea to working software in front of users
- ✓ Measure progress with DORA metrics

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