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# Introduction to DevOps

 Internship  
Spring 2025 





# Who am I?



Igor Bannicov

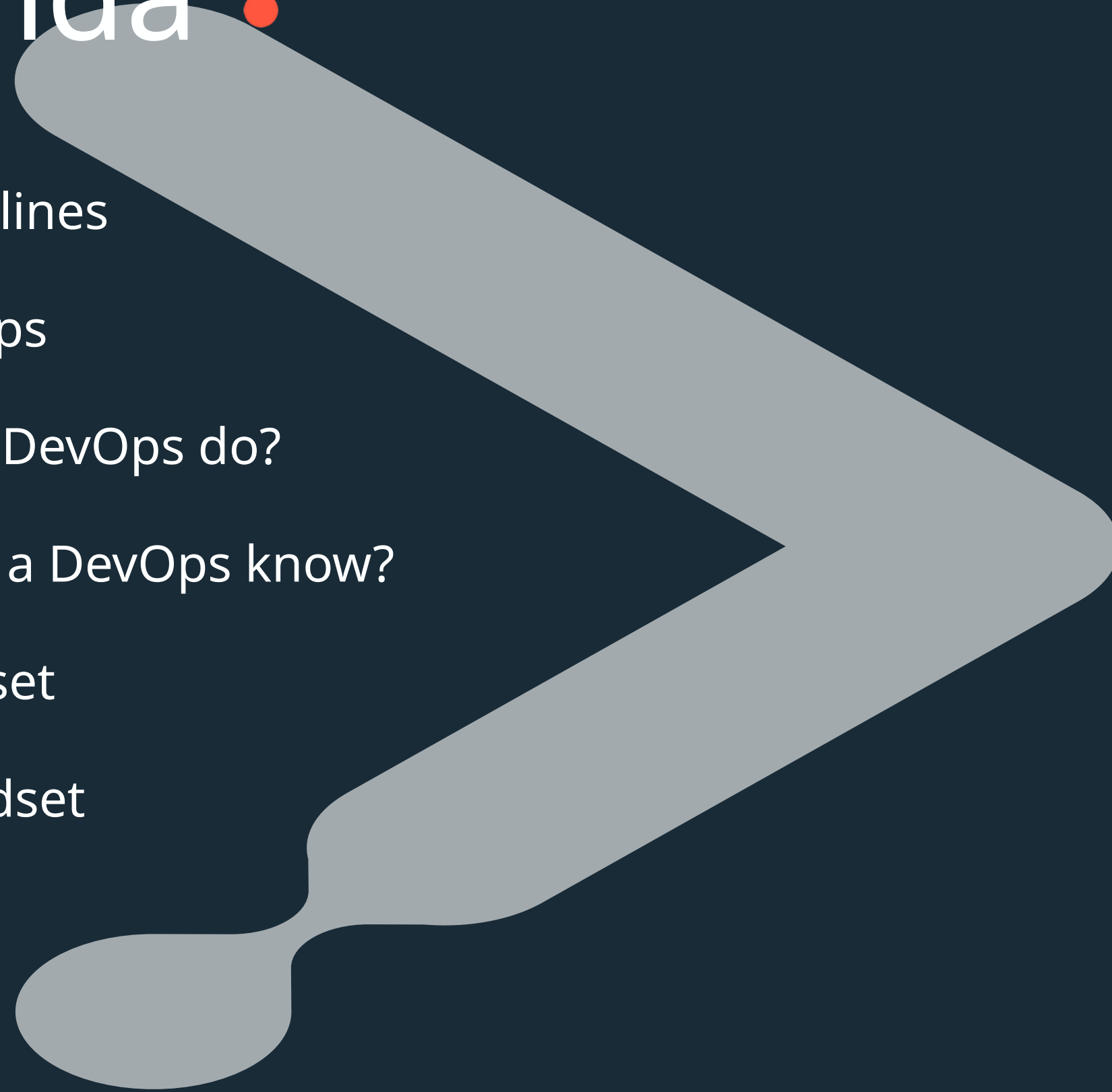
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# Agenda

- 01 DevOps timelines
- 02 Define DevOps
- 03 What does a DevOps do?
- 04 What should a DevOps know?
- 05 DevOps toolset
- 06 DevOps mindset
- 07 Q&A



# 01 DevOps Timelines

## DevOps Timeline

### 01 DevOps is Introduced

Patrick Debois and Andrew Clay come with "DevOps" at "Birds of a Feather" Session  
Agile Conference, Toronto



2008



02

### 1st DevOps Days

Short Description  
Ghent, Belgium

2009

03

### State of DevOps report

1<sup>st</sup> Report was drawn up and launched by Alanna Brown

Puppet

2012

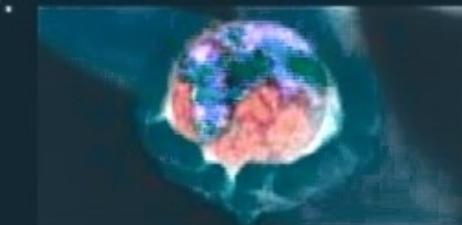


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### DevOps Impact "Enterprise"

Many organization adopt the DevOps culture. DevOps adoption increasing worldwide.

2014



N..

06

### Next Gen of DevOps

More organization using DevOps and SRE part of DevOps. DevSecOps approach introduced. More event like DevOps Days held Worldwide.



2013

04

### The Phoenix Project Published

Fictional Novel about IT, DevOps and helping Organization adopt DevOps by Nicole Forsgren, Gene Kim, Jez Humble and others  
IT Revolutions





# DevOps milestones



## ●02 Define DevOps

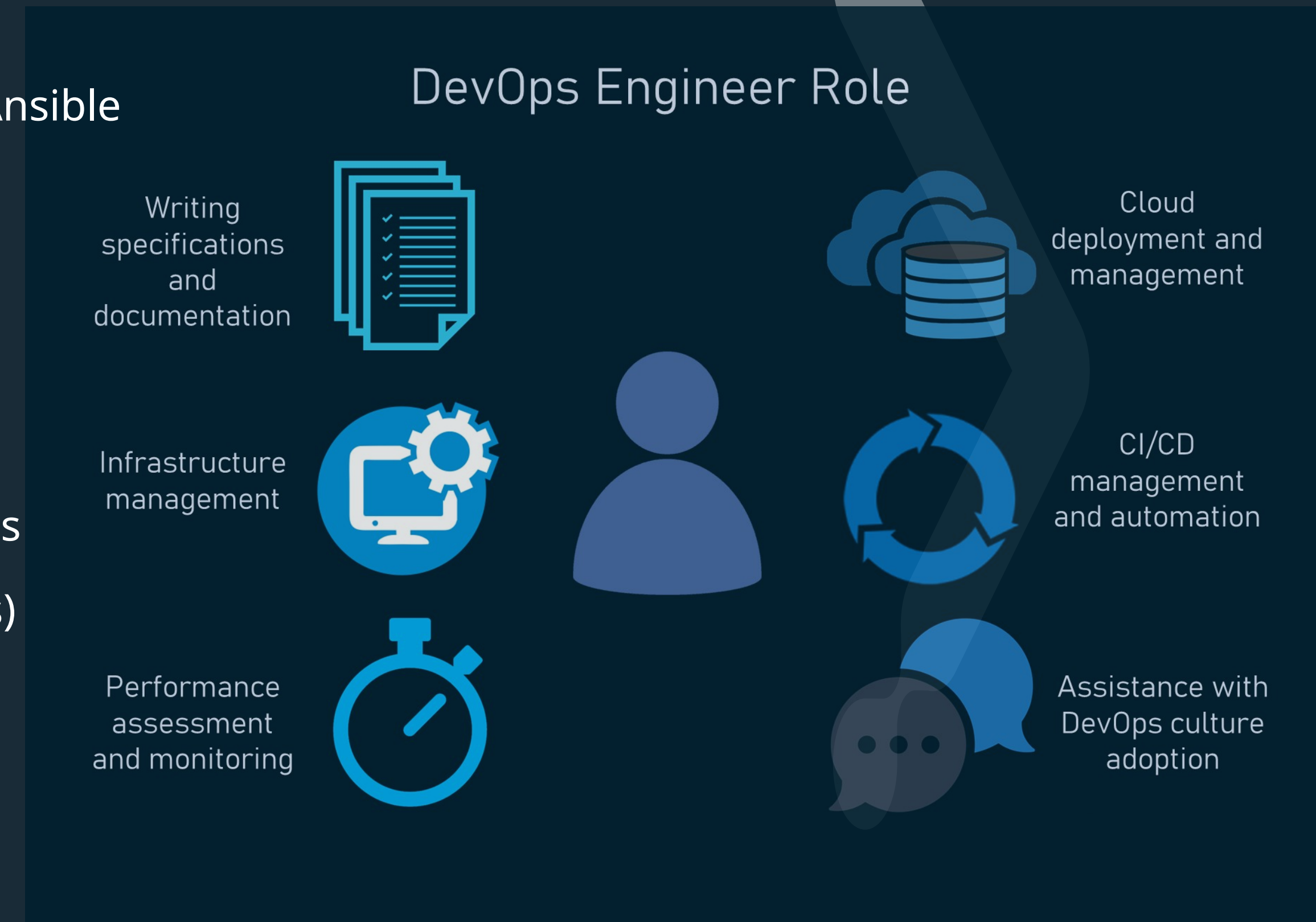
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**DevOps is everything that happens to the code from developers IDE to the customer.**



# 03 What should a DevOps do?

- **CI/CD pipeline building** – automate code build, test, and deploy
- **Infrastructure as Code (IaC)** – write infra using tools like Terraform, Ansible
- **Cloud management** – AWS, Azure, GCP, etc. setup & optimization
- **Monitoring & alerting** – set up tools like Prometheus, Grafana, ELK
- **Automation everywhere** – from testing to backups and scaling
- **Containerization** – Docker images, Kubernetes deployments
- **Version control support** – manage Git workflows, branching strategies
- **Security & compliance** – integrate security in the pipeline (DevSecOps)
- **Incident response** – logs, debugging, and fixing prod issues fast
- **Collaboration** – work closely with devs, QA, and ops teams
- **Performance tuning** – find bottlenecks, optimize systems
- **Documentation & knowledge sharing** – make sure stuff isn't tribal knowledge





# •04 What should a DevOps know?

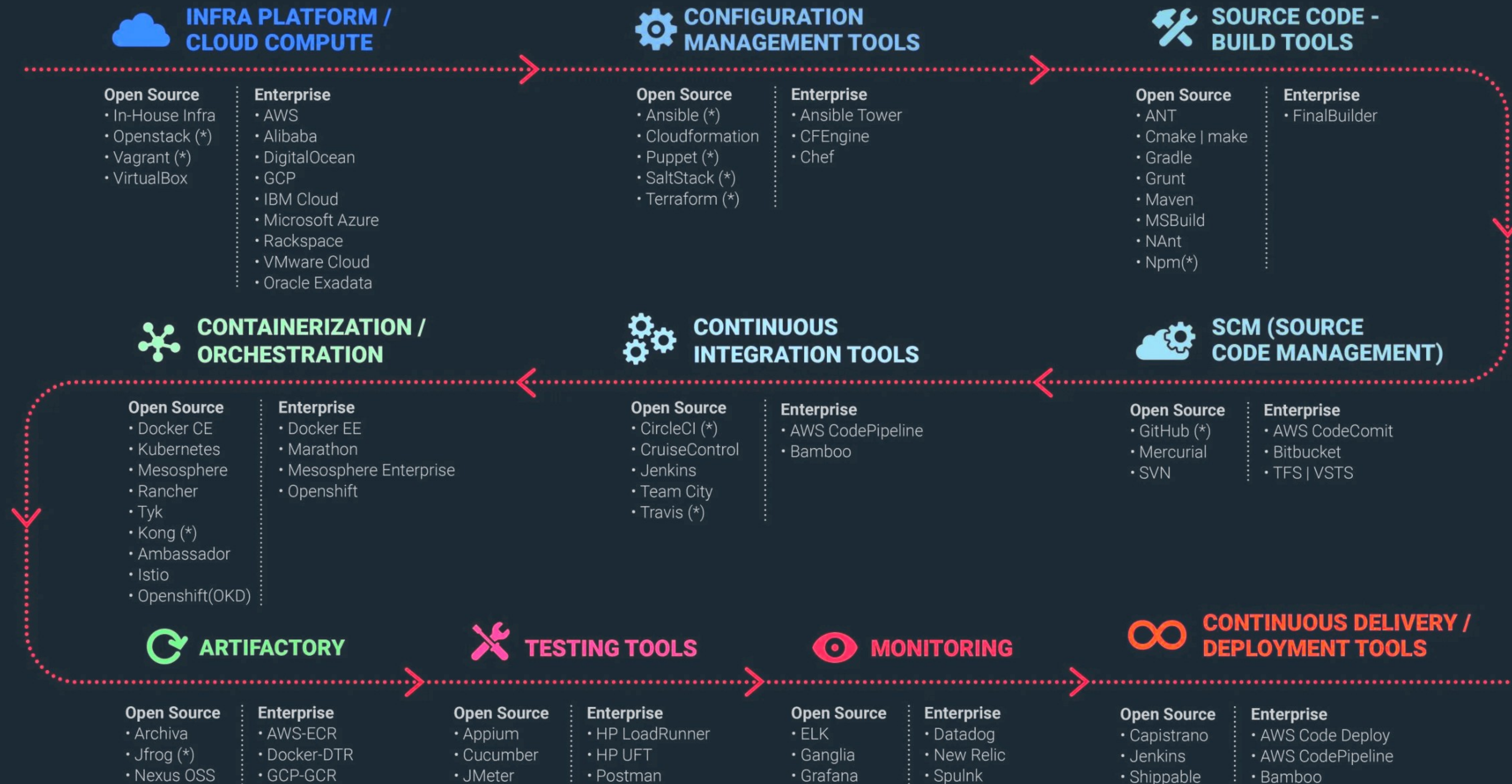
- **Linux fundamentals** – shell scripting, networking, file permissions
- **Git & version control** – Git workflows, branching, GitOps concepts
- **CI/CD tools** – Jenkins, GitLab CI, GitHub Actions, ArgoCD
- **Containers & orchestration** – Docker, Kubernetes (and Helm)
- **Infrastructure as Code (IaC)** – Terraform, Ansible, Pulumi
- **Cloud platforms** – AWS, Azure, GCP basics & core services
- **Monitoring & logging** – Prometheus, Grafana, ELK, Loki
- **Security basics** – secrets management, access control, DevSecOps mindset
- **Networking knowledge** – DNS, TCP/IP, load balancing, firewalls
- **Automation scripting** – Bash, Python, or Go
- **Agile/DevOps culture** – collaboration, feedback loops, fail fast
- **Incident response & troubleshooting** – logs, metrics, system recovery
- **Tooling ecosystem** – know what's out there & how to choose tools wisely





# 05

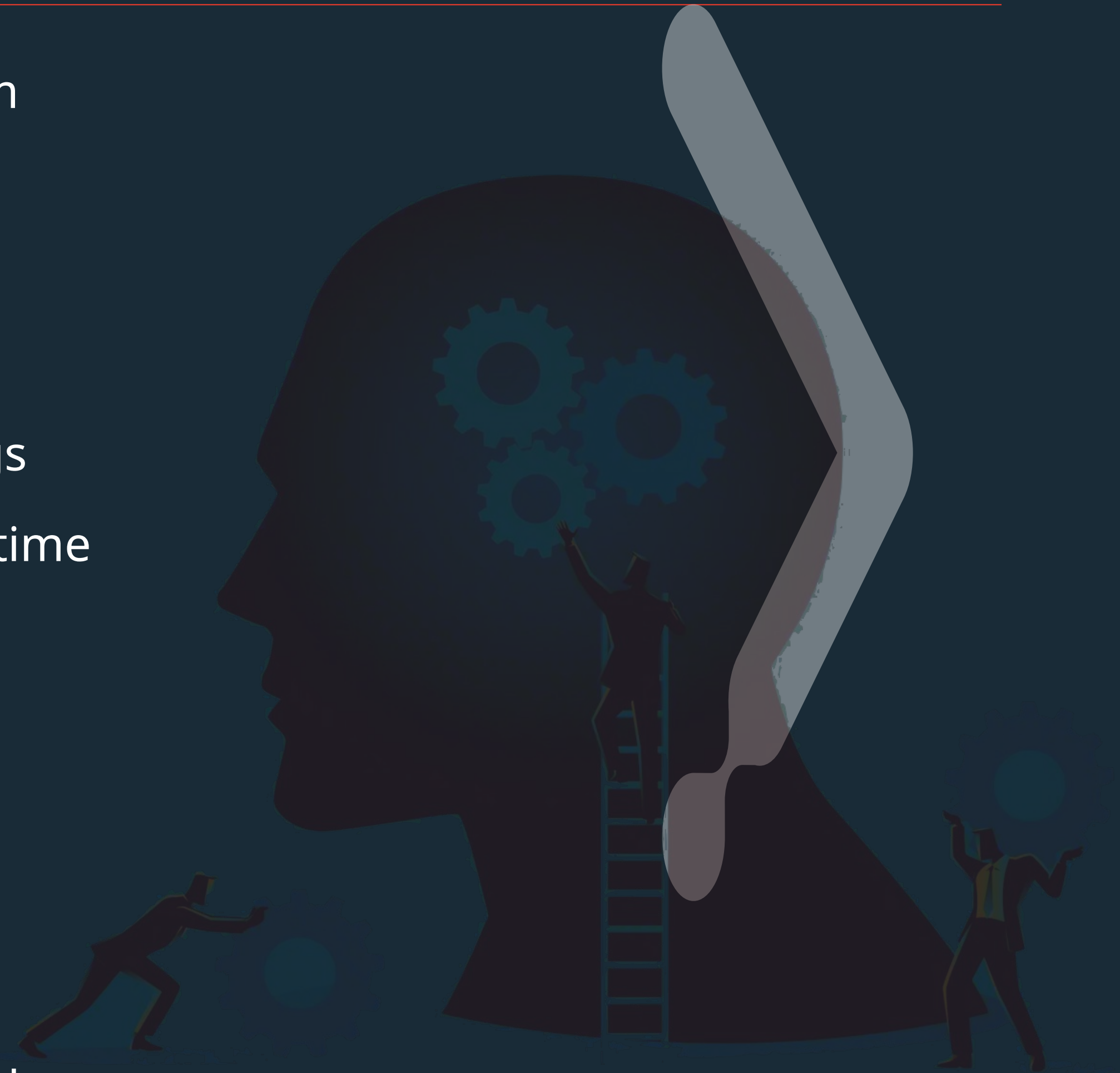
# DevOps Toolset





# •06 DevOps Mindset

- **Collaboration over silos** – devs, ops, QA, and security = one team
- **Automate everything** – manual work is fragile and slow
- **Fail fast, recover faster** – embrace failure, build for resilience
- **Continuous improvement** – always look for ways to optimize
- **Measure what matters** – metrics drive decisions, not gut feelings
- **Customer-focused** – the end goal is delivering value, not just uptime
- **Own it end-to-end** – from code to prod, you're responsible
- **Security is everyone's job** – bake it in from the start
- **Keep it simple** – complexity kills maintainability
- **Learn & adapt** – tech moves fast, stay curious and humble
- **Feedback loops** – short cycles for code, infra, and processes
- **Documentation is part of the product** – don't gatekeep knowledge





Q&A





Thank you



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