



Applied!

Computer Networks

Behnam Amiri

acn.dailysec.ir

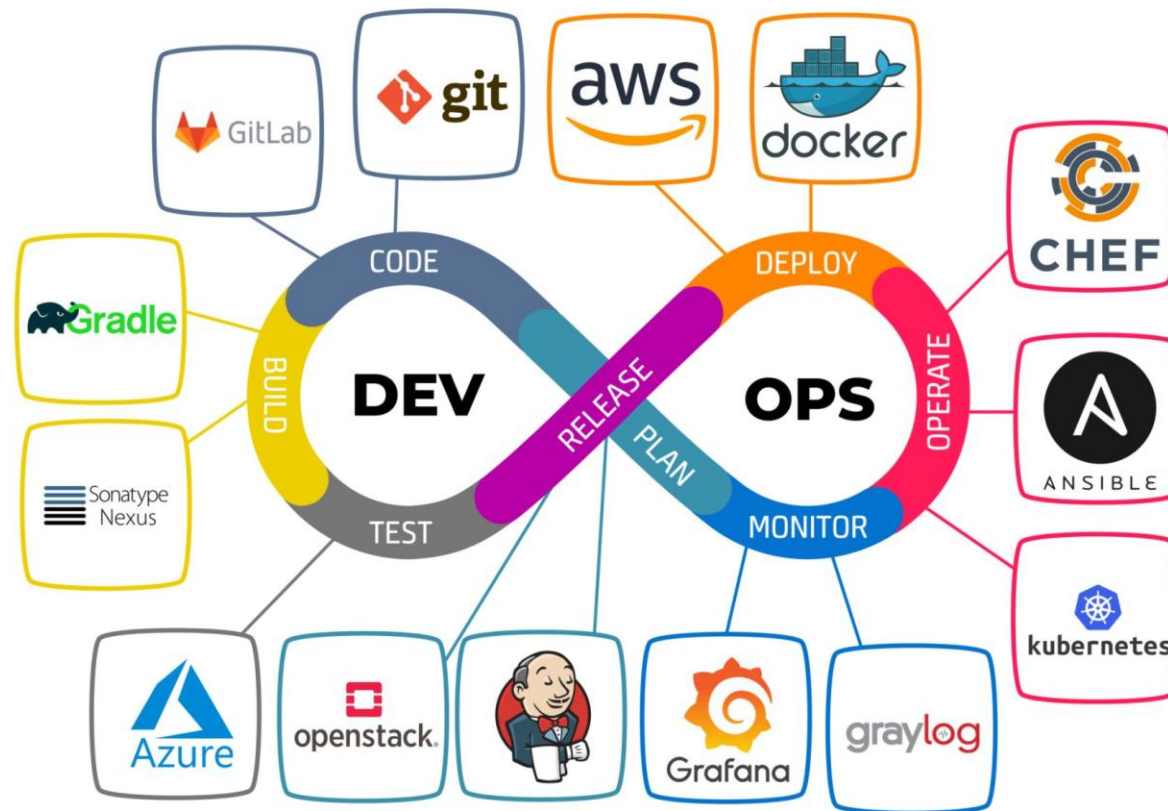
[aComputerNetworks.github.io](https://github.com/aComputerNetworks)

Spring 2025

DevOPS

DevOPS

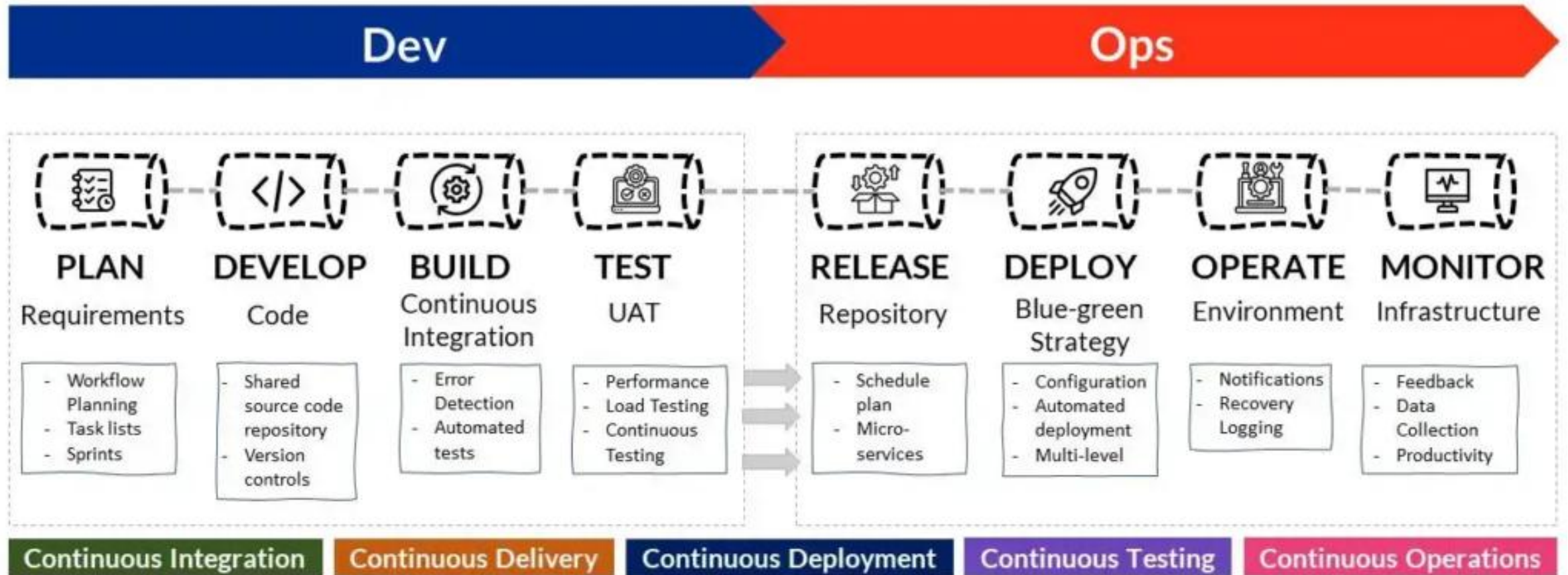
- DevOps is a set of practices that combines software development (**Dev**) and IT operations (**Ops**) to reduce the system development life cycle and deliver high-quality software continuously.



Traditional Development

- Traditional Development steps
 - Write code
 - Compile
 - Test
 - Upload to production
- It was slow and manual

DevOPS



www.polestarllp.com

Key Principles of DevOps

- **Collaboration:** DevOps encourages close collaboration between development and operations teams to ensure that the software development process is smooth and efficient.
- **Automation:** Automating repetitive tasks such as testing, deployment, and monitoring helps in reducing errors and increasing efficiency.
- **Continuous Integration (CI):** Developers frequently integrate their code into a shared repository, where automated builds and tests are run.
- **Continuous Delivery (CD):** Ensures that the software can be reliably released at any time, often through automated deployment pipelines.
- **Infrastructure as Code (IaC):** Managing and provisioning infrastructure through code, which allows for version control, testing, and automation.
- **Monitoring and Logging:** Continuous monitoring and logging of applications and infrastructure to quickly identify and resolve issues.
- **Feedback Loops:** Incorporating feedback from users and stakeholders to continuously improve the software and processes.

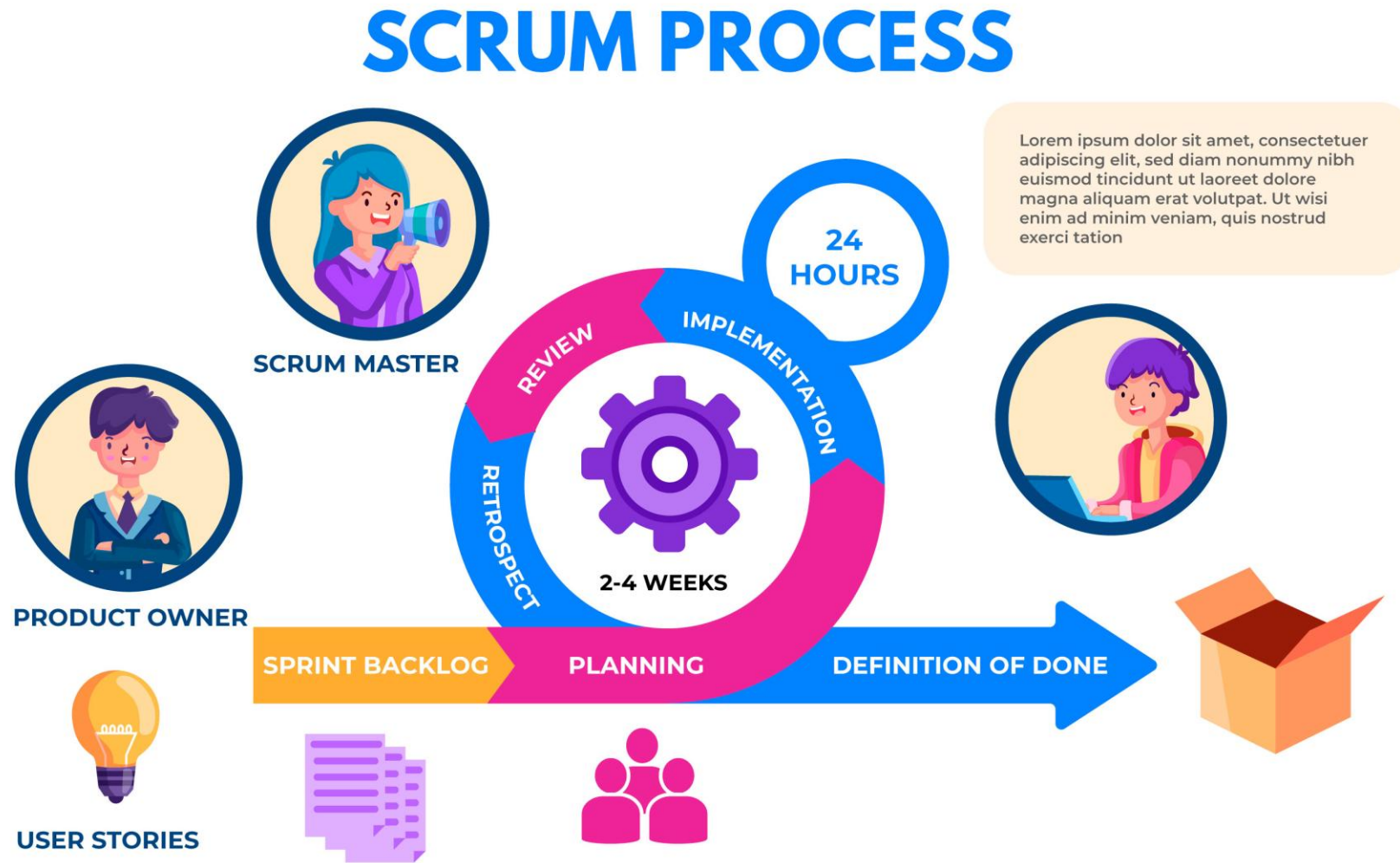
Tools and Technologies

- **Version Control Systems:** Git, SVN
- **CI/CD Tools:** Jenkins, GitLab CI, CircleCI, Travis CI
- **Configuration Management:** Ansible, Puppet, Chef
- **Containerization:** Docker, Kubernetes
- **Infrastructure as Code:** Terraform, CloudFormation
- **Monitoring and Logging:** Prometheus, Grafana, ELK Stack (Elasticsearch, Logstash, Kibana), Splunk
- **Cloud Platforms:** AWS, Azure, Google Cloud

Demo

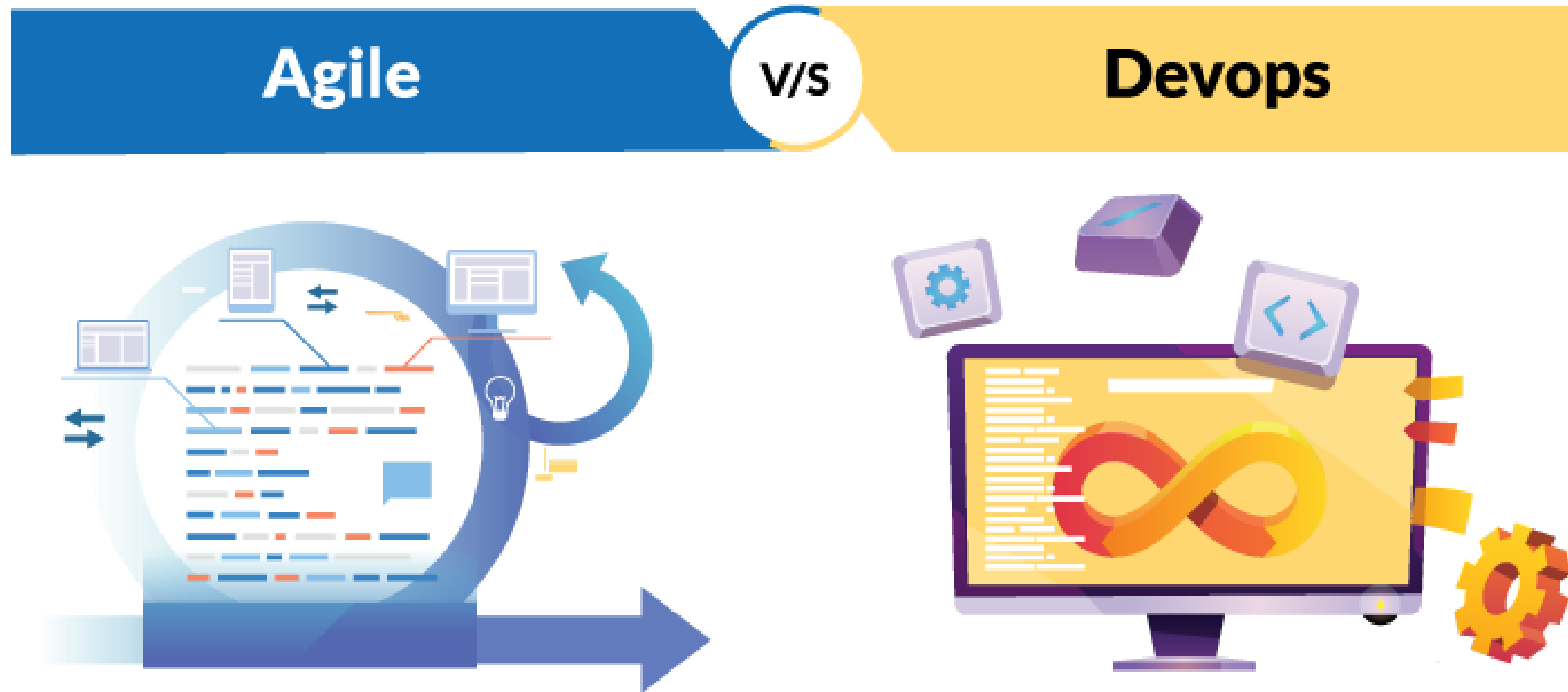


Scrum Process

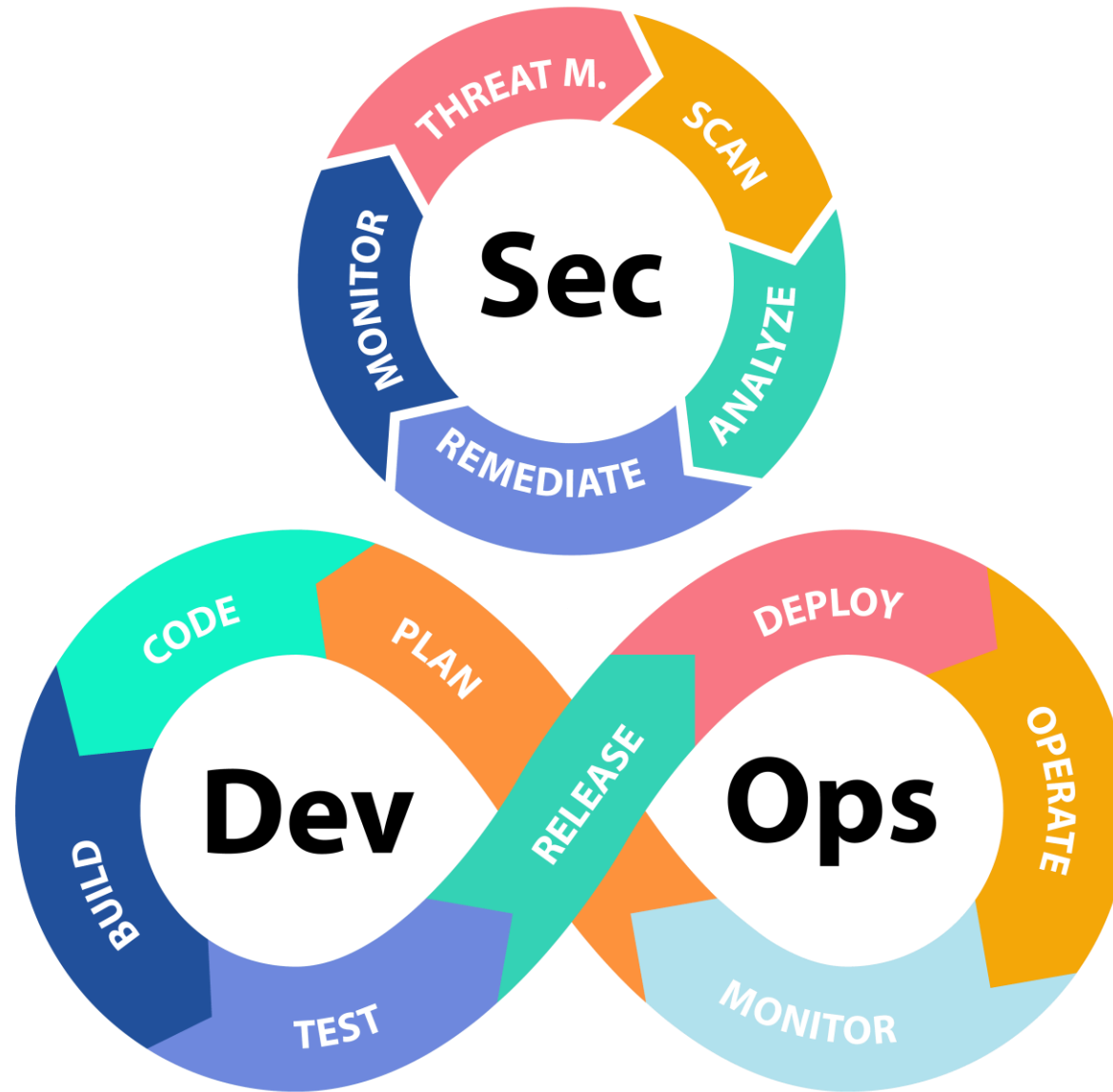


DevOPS and Agile

- They can complete each other.



DevSecOps



DevSecOps

