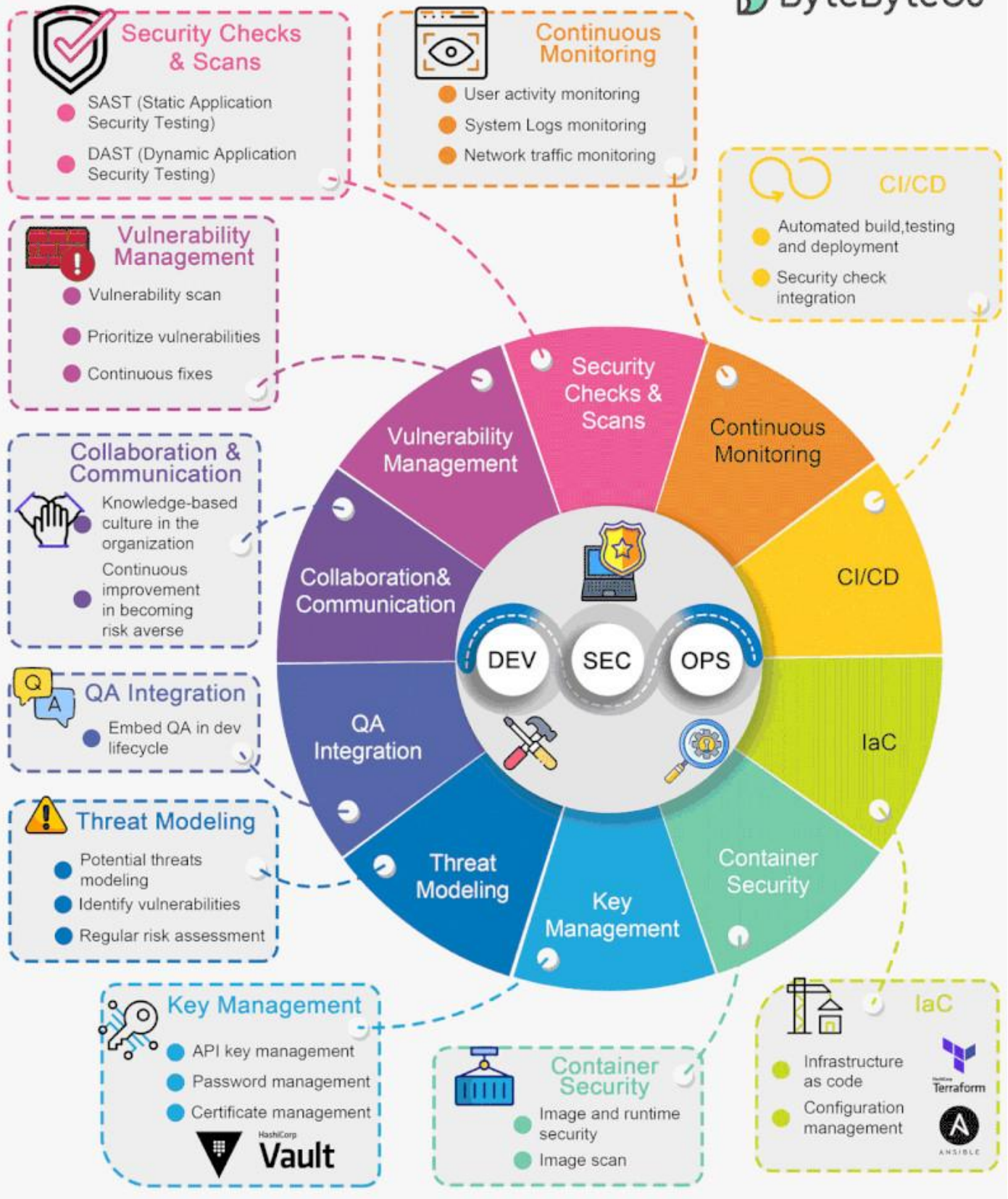


Fundamentals

What is DevSecOps ?



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[DevOps](#) is an essential practice in modern software development, emphasizing collaboration, automation, and continuous improvement.

By dissecting the attached visual, we can highlight six critical components that form the backbone of an effective DevOps environment:

1. **Automated Build and Test Pipelines:** This element ensures that code changes are automatically built, tested, and prepared for a release to production, fostering a faster and more reliable delivery process.
2. **Configuration Management and Infrastructure as Code (IaC):** Central to DevOps, this system maintains computer systems, servers, and software in a desired, consistent state. It's the nerve center that enables scalable and manageable technology landscapes.
3. **Continuous Integration and Deployment (CI/CD):** This process merges development work with the main branch as often as possible, validating each integration with an automated build and test. It's all about keeping the codebase stable and accelerating the development cycle.
4. **Monitoring and Alerting:** Proactive monitoring tools like Nagios keep tabs on system health and performance, triggering automated checks to ensure everything is running smoothly and efficiently.
5. **Infrastructure as Code (IaC) (e.g., Terraform):** This paradigm uses machine-readable [definition files](#), rather than manual processes, to manage and provision the IT infrastructure. It ensures the environment is replicable, transparent, and consistent.
6. **CI/CD Pipelines:** The combination of Continuous Integration (CI) with Continuous Delivery (CD) automates the delivery of applications to various environments, streamlining and speeding up the release process.

Together, these components interlink to create a robust ecosystem that supports the DevOps methodology's goals: accelerating deployments, enhancing reliability, and building a culture of continuous improvement.

⚙️ **Tools/Services:**

- Jenkins: jenkins.io
- Travis CI: <https://docs.travis-ci.com/>
- CircleCI: circleci.com
- GitLab CI/CD: docs.gitlab.com/ee/ci

☸️ **Container Orchestration:**

- Kubernetes Documentation: kubernetes.io/docs/home
- Kubernetes the Hard Way: https://lnkd.in/edWs7_FW
- CNCF Curriculum: cncf.io

