



UTT

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TEMA:

Introduccion a DevOps

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What Is DevOps Lifecycle?

DevOps lifecycle is a combination of different phases of continuous software development, integration, testing, deployment, and monitoring. A competent DevOps lifecycle is necessary to leverage the full benefits of the DevOps methodology.

The DevOps approach embraces continuous innovation, agility, and scalability to build, test, consume, and evolve software products. It promotes a culture of experimentation, feedback, and constant learning to reinvent products, services, and processes. However, to implement DevOps, a proper understanding of different phases of the DevOps lifecycle is crucial.

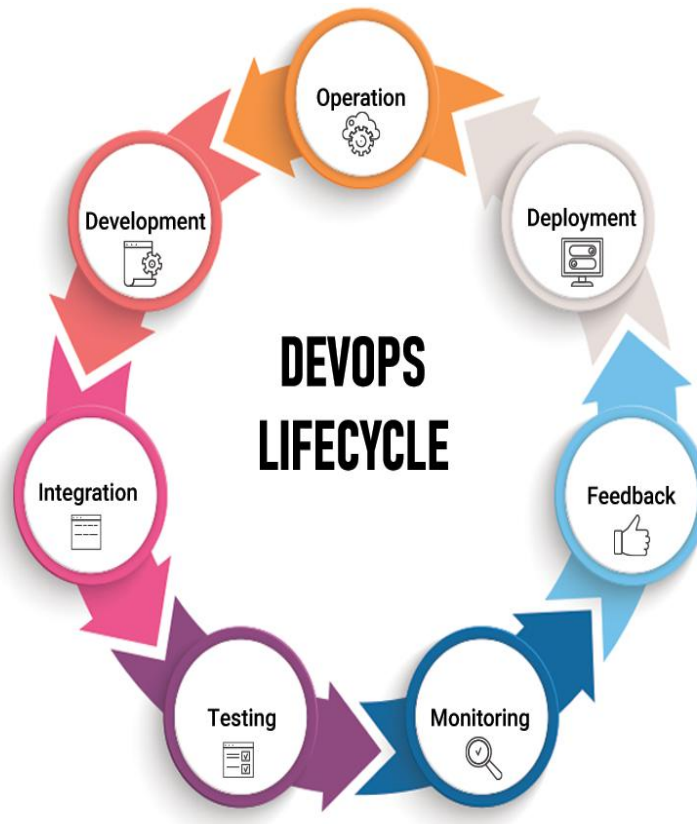
To deliver faster results, developers must be fully aware of all the different phases of the DevOps lifecycle. If they aren't, the entire development process can become complex and time-consuming. Here is a complete breakdown and analysis of each component of the DevOps lifecycle.

Core DevOps principles

1. **Automation of the software development lifecycle.** This includes automating testing, builds, releases, the provisioning of development environments, and other manual tasks that can slow down or introduce human error into the software delivery process.
2. **Collaboration and communication.** A good DevOps team has automation, but a great DevOps team also has effective collaboration and communication.
3. **Continuous improvement and minimization of waste.** From automating repetitive tasks to watching performance metrics for ways to reduce release times or mean-time-to-recovery, high performing DevOps teams are regularly looking for areas that could be improved.
4. **Hyperfocus on user needs with short feedback loops.** Through automation, improved communication and collaboration, and continuous improvement, DevOps teams can take a moment and focus on what real users really want, and how to give it to them.

DevOps Lifecycle: Key Components

The DevOps lifecycle optimizes development processes from start to end and engages the organization in continuous development, resulting in faster delivery times. This Process mainly consists of the following seven stages.



DevOps Lifecycle

1. Continuous development

Continuous development involves planning and coding the software. Here, the entire development process gets broken down into smaller development cycles. This process makes it easier for the DevOps team to accelerate the overall software development process. This phase is instrumental in mapping the vision for the entire development cycle, enabling developers to fully understand project expectations.

2. Continuous integration

Continuous integration (CI) includes different steps related to the execution of the test process. Along with this, clients also provide information to be incorporated for adding new features to the application. Most changes happen in the source code during this phase. CI becomes the hub for resolving these frequent changes on a daily or monthly basis. Building code is a combination of unit and integration testing, code review, and packaging. Since developers make frequent changes, they can quickly spot problems (if any) and resolve them at an early stage.

This phase experiences continuous integration of new code functionalities with the existing source code.

3. Continuous testing

Next in the DevOps lifecycle is the testing phase, wherein the developed code is tested for bugs and errors that may have made their way into the code. This is where quality analysis (QA) plays a major role in checking the usability of the developed software. Successful completion of the QA process is crucial in determining whether the software meets the client's specifications.

4. Continuous deployment

Continuous deployment (CD) ensures hassle-free product deployment without affecting the application's performance. It is necessary to ensure that the code is deployed precisely on all available servers during this phase. This process eliminates the need for scheduled releases and accelerates the feedback mechanism, allowing developers to address issues more quickly and with greater accuracy.

5. Continuous monitoring

Monitoring the performance of a software product is essential to determine the overall efficacy of the product output. This phase processes important information about the developed app. Through continuous monitoring, developers can identify general patterns and gray areas in the app where more effort is required.

6. Continuous feedback

Continuous feedback is essential to ascertain and analyze the outcome of the application. It sets the tone for improving the current version and releasing a new version based on stakeholder feedback.

7. Continuous operations

The last stage in the DevOps lifecycle is the shortest and easiest to grasp. Continuity is at the heart of all DevOps operations that help automate release processes, allow developers to detect issues quickly, and build better versions of software products.

Conclusion

Continuity is the most important factor when it comes to the DevOps lifecycle. Skipping stages of the DevOps lifecycle will create a distraction in the development system.

Discontinuity will lead to untimely detection of bugs, hampering the overall performance of the software.

The DevOps methodology has been designed to make software products more efficient. To achieve this, business organizations need to follow the best practices of the DevOps lifecycle to achieve success and stay ahead of the curve.

References

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