

# Waterfall Model Challenges

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## Developers



Huge waiting time for code deployment

Pressure of work on old and pending code



# Waterfall Model Challenges

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## Operations



Difficult to maintain uptime of the production environment

Tools to automate infrastructure management are not effective



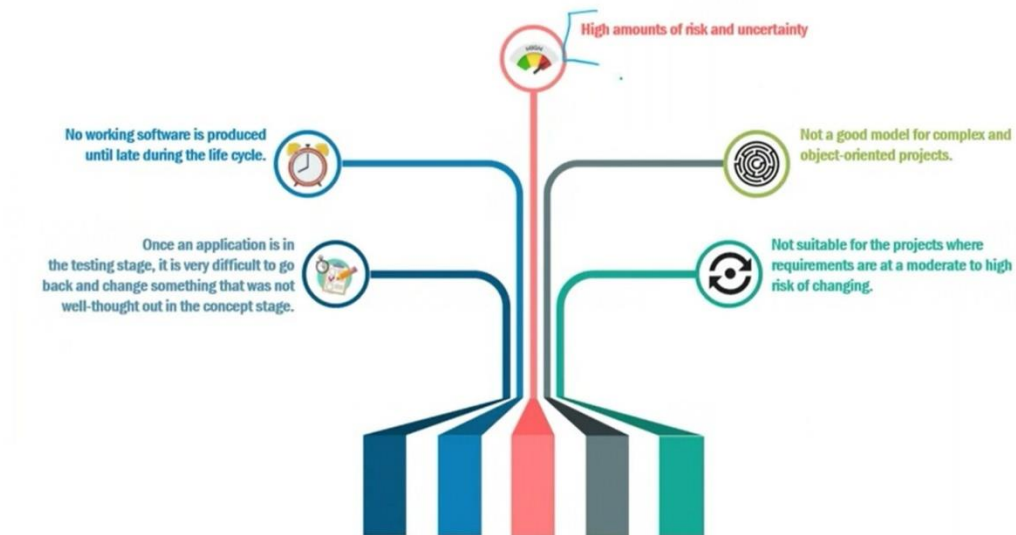
Difficult to diagnose and provide feedback on the product

No. of servers to be monitored increases



# Limitations of Waterfall Model

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## Waterfall Model

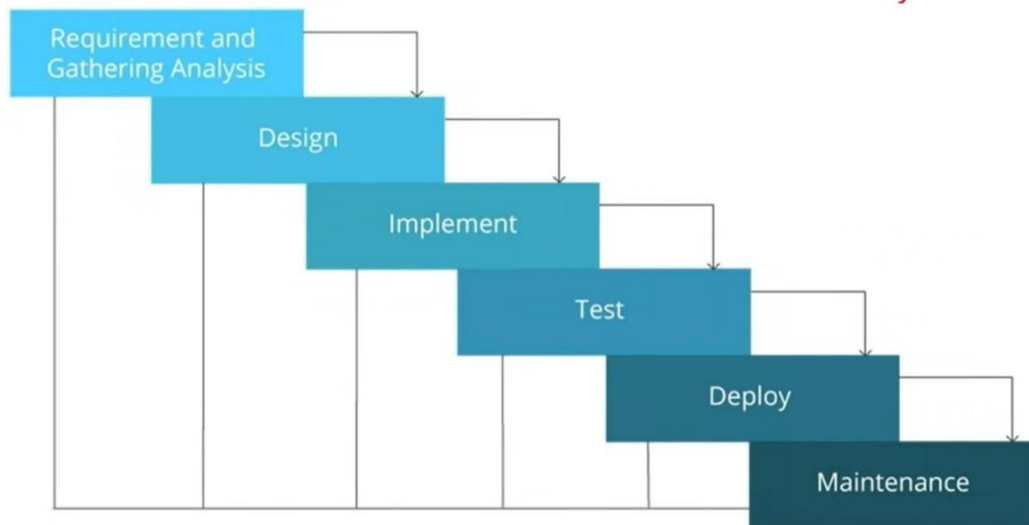
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It has distinct goals for each phase of development. Imagine a waterfall on the cliff of a steep mountain. Once the water has flowed over the edge of the cliff, it cannot turn back.



# Traditional Waterfall Model

SDLC  
methodology



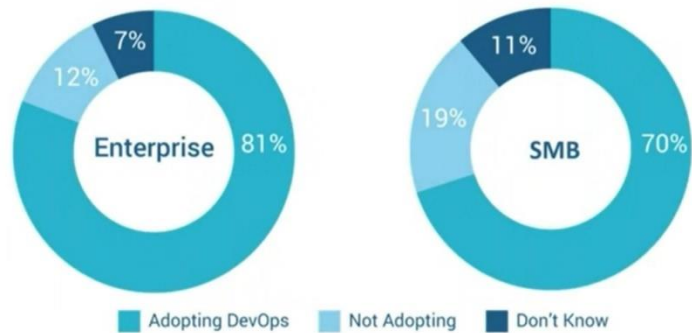
## Skills Of A DevOps Engineer

| Skills            | Description   |
|-------------------|---|
| Tools             | <ul style="list-style-type: none"><li>• Version Control - GIT</li><li>• Continuous Integration - Jenkins</li><li>• Virtualization/ Containerization – Docker/Kubernetes</li><li>• Configuration Management – Puppet/Ansible</li><li>• Monitoring – Nagios</li></ul> |
| Networking Skills | <ul style="list-style-type: none"><li>• General networking skills – Establishing connection between the containers/Port Forwarding/ Container Orchestration</li></ul>   |
| Other Skills      | <ul style="list-style-type: none"><li>• People Skills</li><li>• Process Skill</li><li>• Customer Skill and Empathy</li><li>• Cloud Awareness</li></ul>  |

## DevOps Current Scenario

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“Considering the changing pace of IT landscape, almost all the companies require fast paced development environment”



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## Adoption Of Tools

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- The Dev and Ops teams have separate toolsets and metrics.
- It is necessary to integrate all the tools properly to make testing, deployment, and building all work together in a continuous manner.



# Automate Everything

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- Most of the legacy tools and systems used by organizations may not be conducive to automation and collaboration.
- Automation is essential since continuous testing and development are necessary for smooth deployment.



## Cultural Transformation

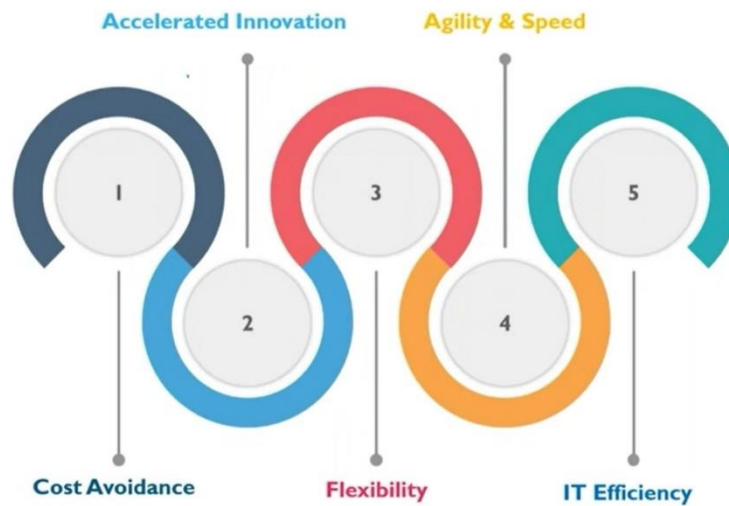
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- The workplace culture undergoes a major transformation while implementing cultural changes with DevOps.
- It is a long-term process that requires patience and endurance to maintain a positive and transparent atmosphere in the workplace with the changes being implemented.



## Benefits of DevOps

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## What Does DevOps Do?

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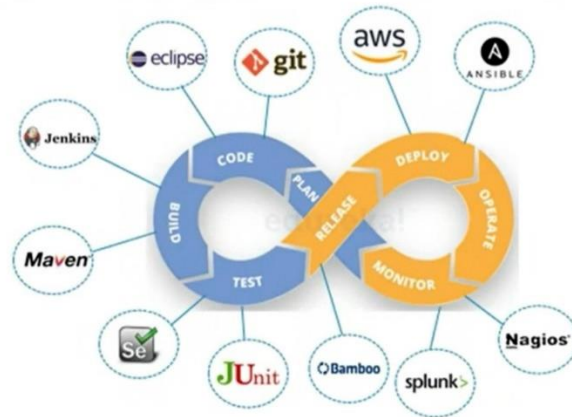
- Integrates developers and operations teams
- Improves collaboration and productivity by:
  - ✓ Automating infrastructure
  - ✓ Automating workflows
  - ✓ Continuously measuring application performance





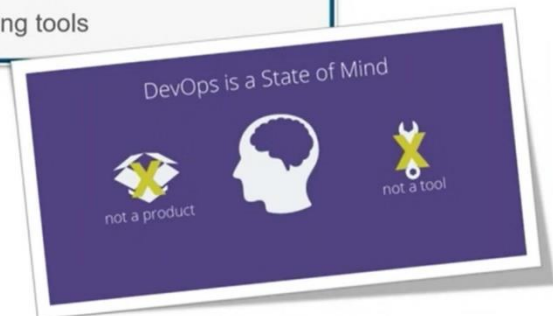
# What Is DevOps?

DevOps is a practice that allows a single team to manage the entire application development life cycle, that is, development, testing, deployment, and monitoring



## DevOps: What DevOps Is NOT!!

- DevOps is not a role, person or organization
- DevOps is not a separate team
- DevOps is not a product or a tool
- DevOps is not about just writing scripts or implementing tools



# Traditional Development Model Challenges

Consider developing software in a traditional way using a [Waterfall](#)

model

**Waterfall Model Challenge:** New phase in the development process begins only if the previous phase is complete



## Development Without DevOps Culture



Release and Deploy Mismatch



Unpredictable Issues



Blame Game



Lack of monitoring and Feedback



## Development With DevOps Culture



Streamlined Deliveries



Team Work in Collaboration



Continuous Monitoring and Feedback

## What is Agile Methodology?

In the Agile Methodology each project is broken up into several 'Iterations'

All Iterations should be of the same time duration (between 2 to 8 weeks)

At the end of each iteration, a working product should be delivered

