

Thank you for joining

**We will begin shortly in few
minutes ...**

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Build your First Application using DevOps

This webinar series is brought to you by





Content and Application Developer for the
IBM Digital – Nation program.

My areas of interest are Cybersecurity,
DevOps and IoT.

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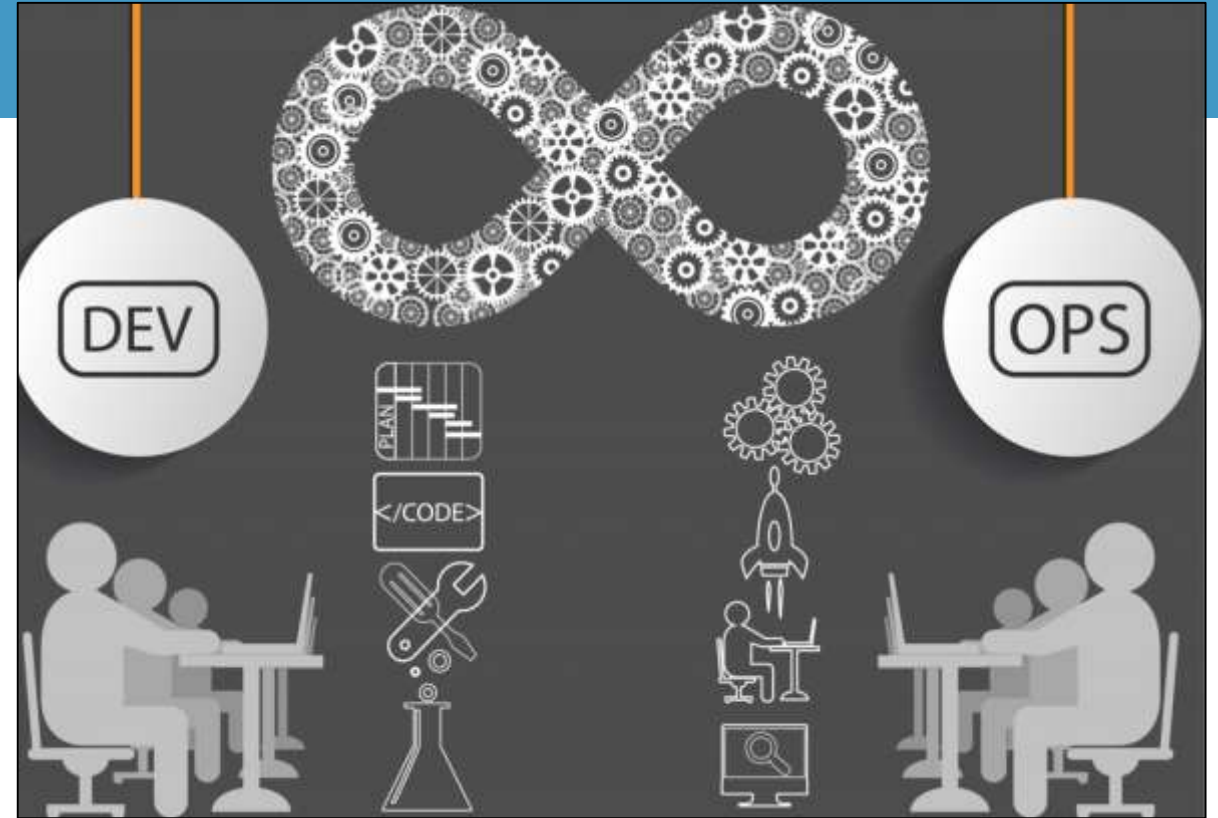


What is
DevOps?

What is DevOp?

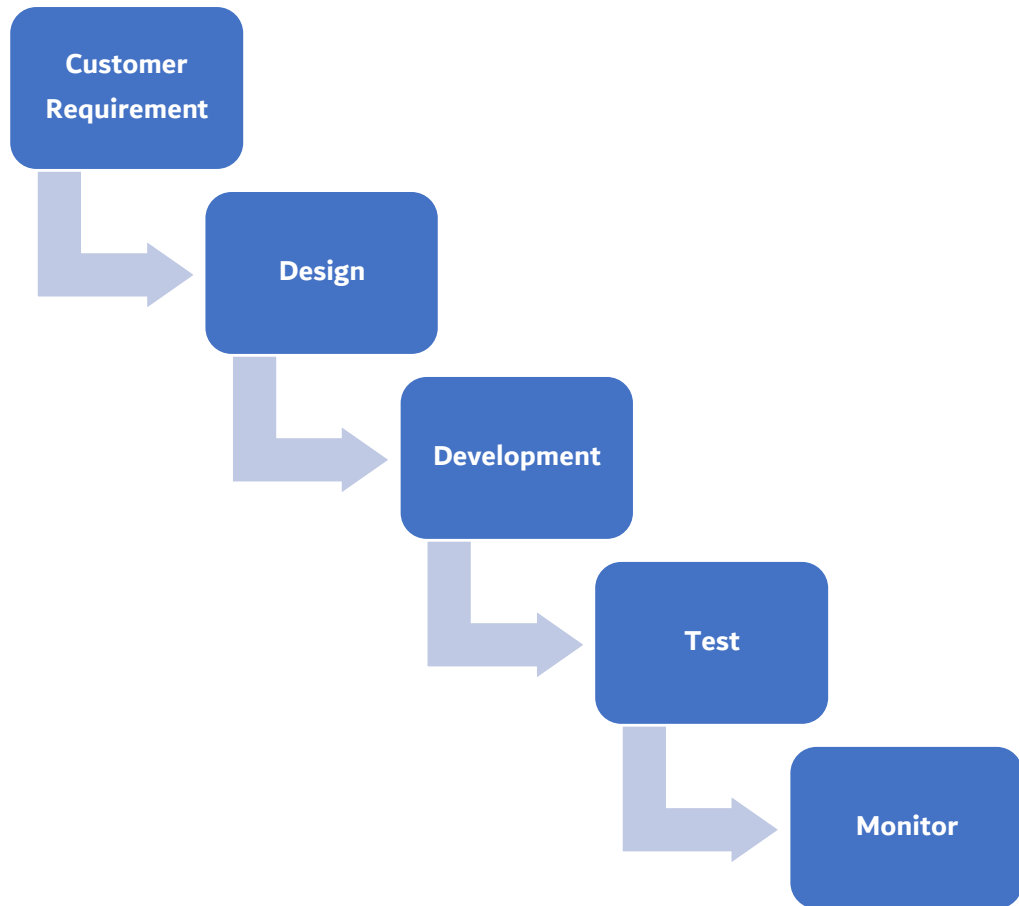
- ✓ A approach
- ✓ A set of practices
- ✗ Not a technology
- ✗ Not a tool

DevOps is an increasingly common approach to software delivery where development and operations teams collaborate to build, test, deploy and monitor applications with speed, quality and control.



Waterfall methodology

- **Waterfall methodology** is the progress of software development that is headed in largely one direction like a waterfall through the different phases and software's lifecycle.
- It captures the initial requirements from customers and then build a series of stages on top of them.

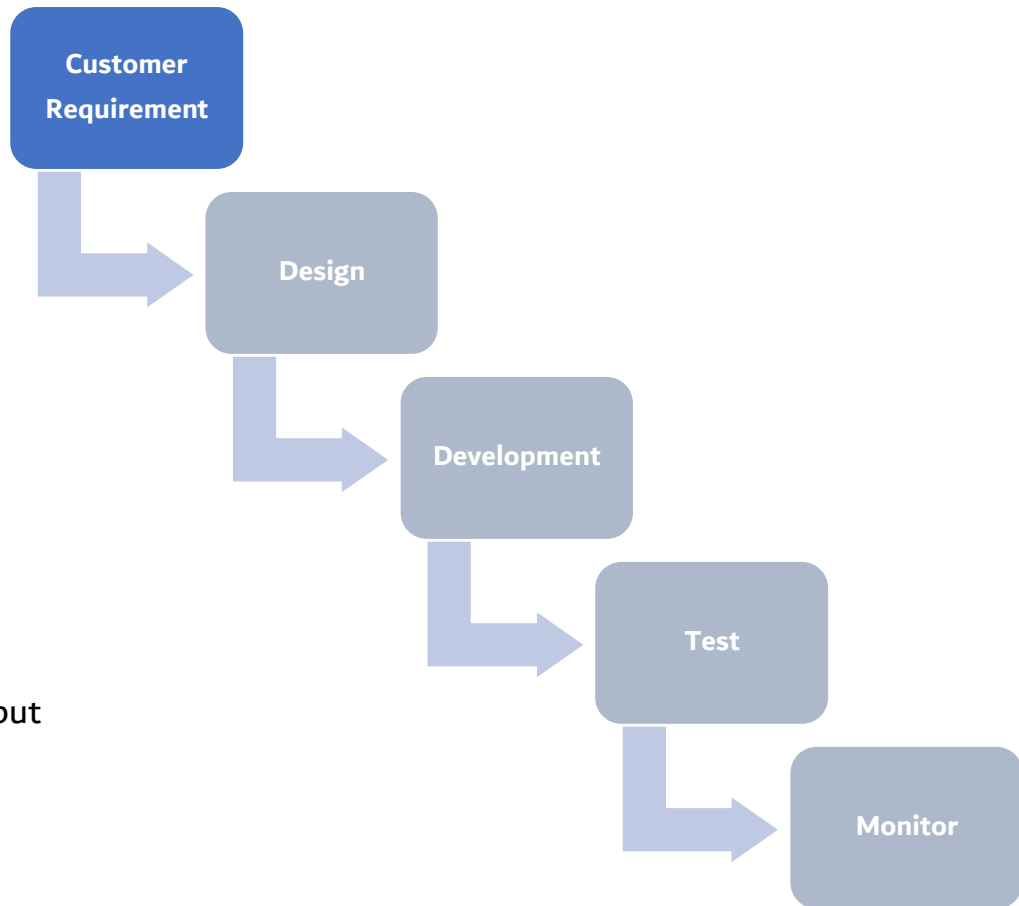


Waterfall methodology



The Developer sits with the customer to understand their requirements

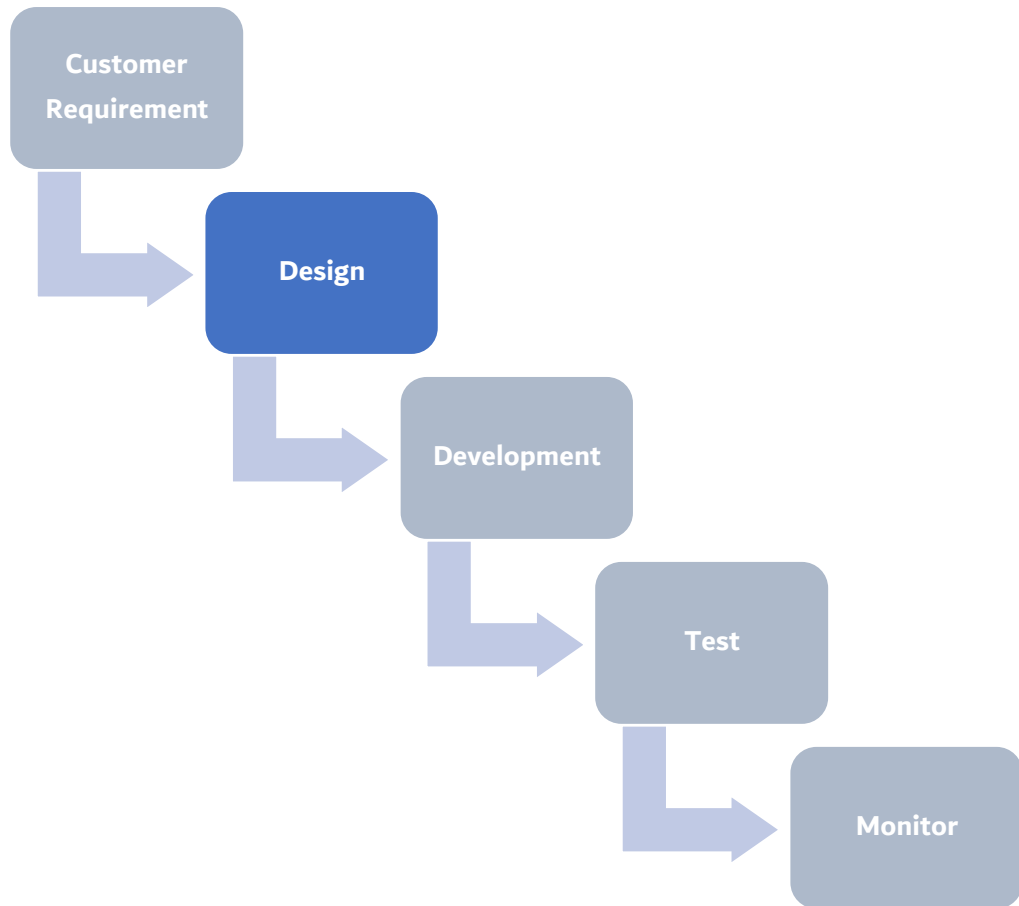
- Note that the developers don't usually talk directly to the customers, but this example is used to simplify the concept and presentation content.



Waterfall methodology



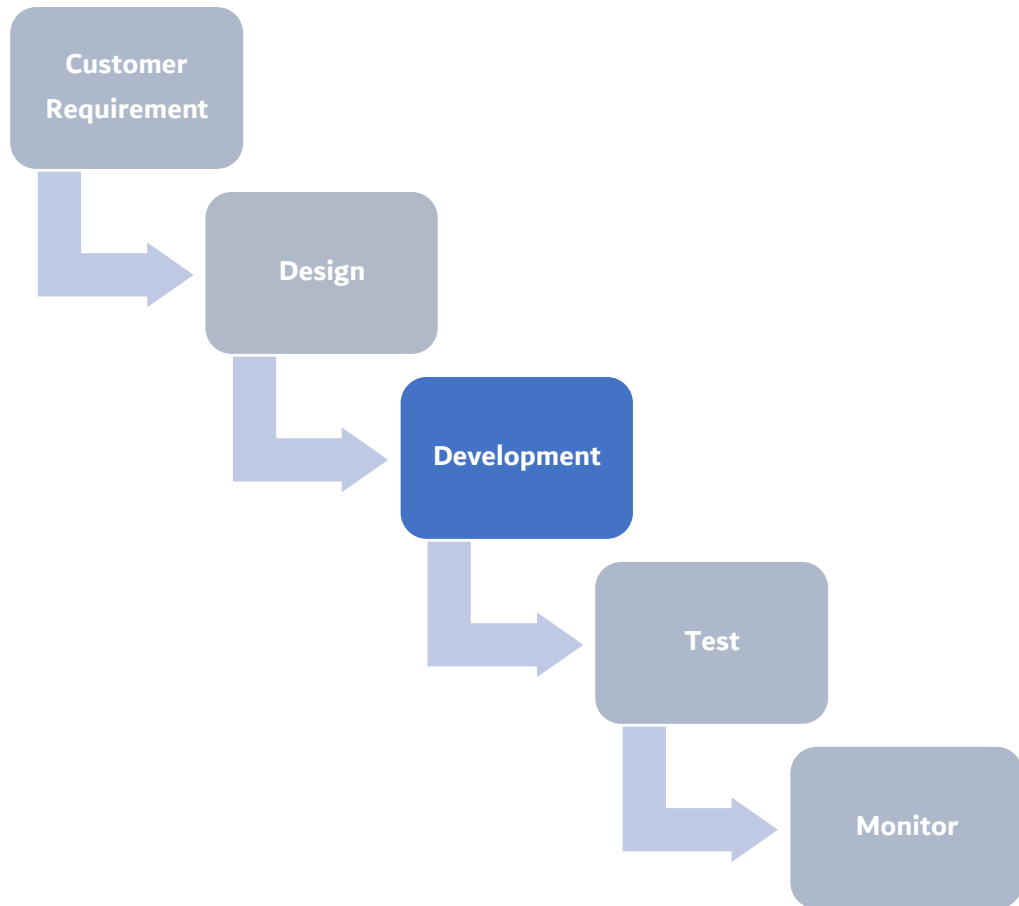
The development team start building a project plan on how to deliver the software for their customer.



Waterfall methodology



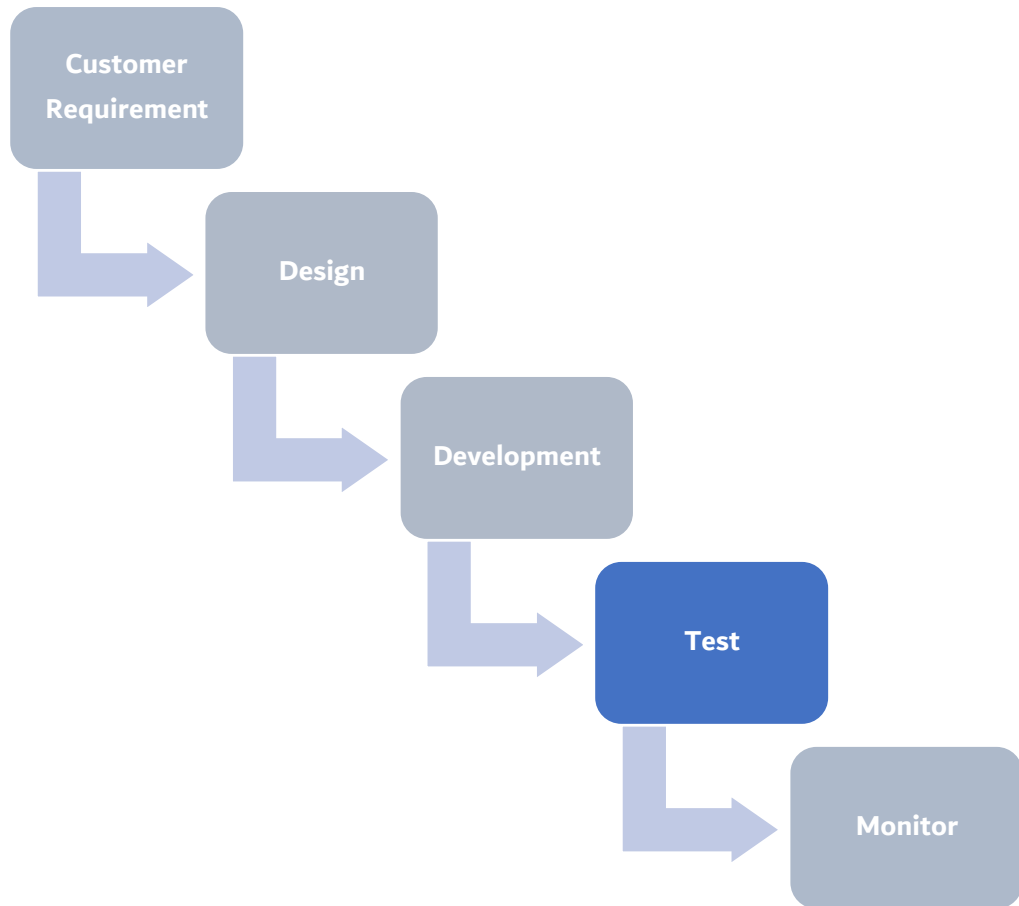
The Developer starts coding to deliver the application according to the project plan



Waterfall methodology



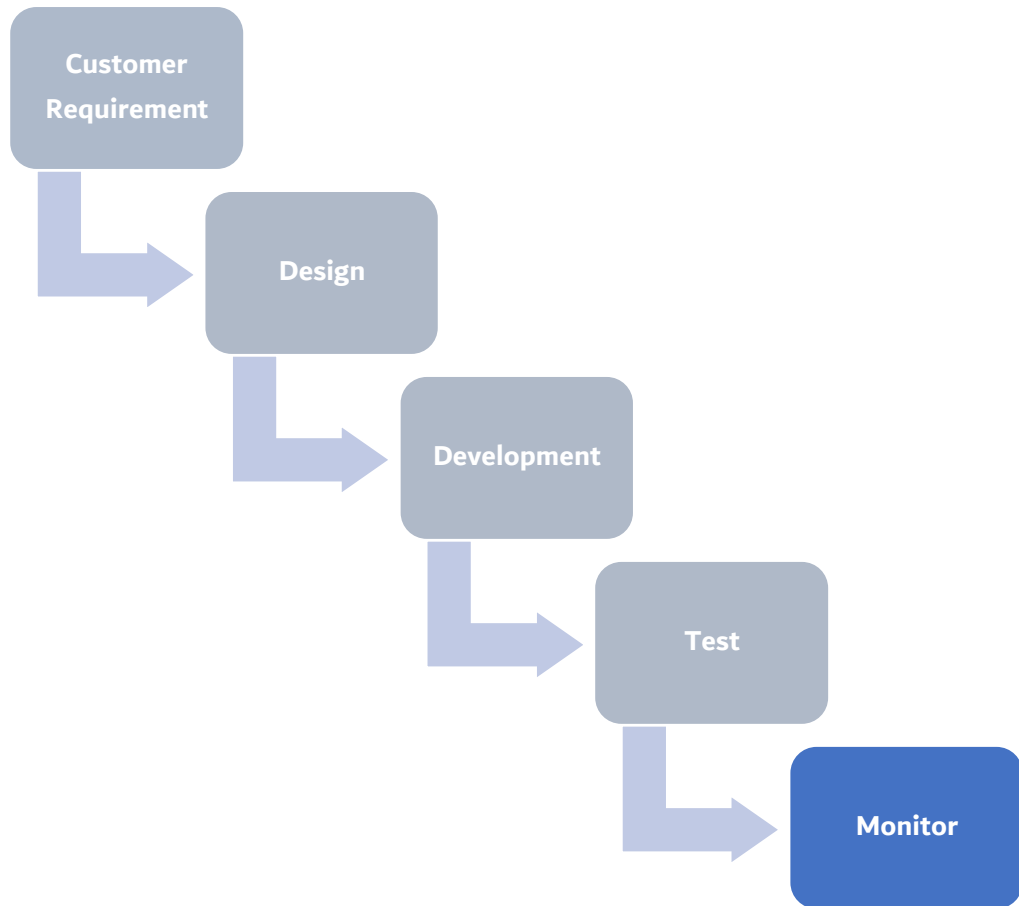
Once the development is done, the application is tested.



Waterfall methodology



After the application gets delivered to the customer, you make sure it is working with no errors and it meets the security requirements.



Can you tell me ..

What are the disadvantages of this model?



Waterfall methodology

The disadvantages of the waterfall methodology:

- Once the customer decides to add a new requirement to the application, the whole process needs to be restarted.
- It can be very expensive to make changes at the end of the project.
- Time and energy consuming!



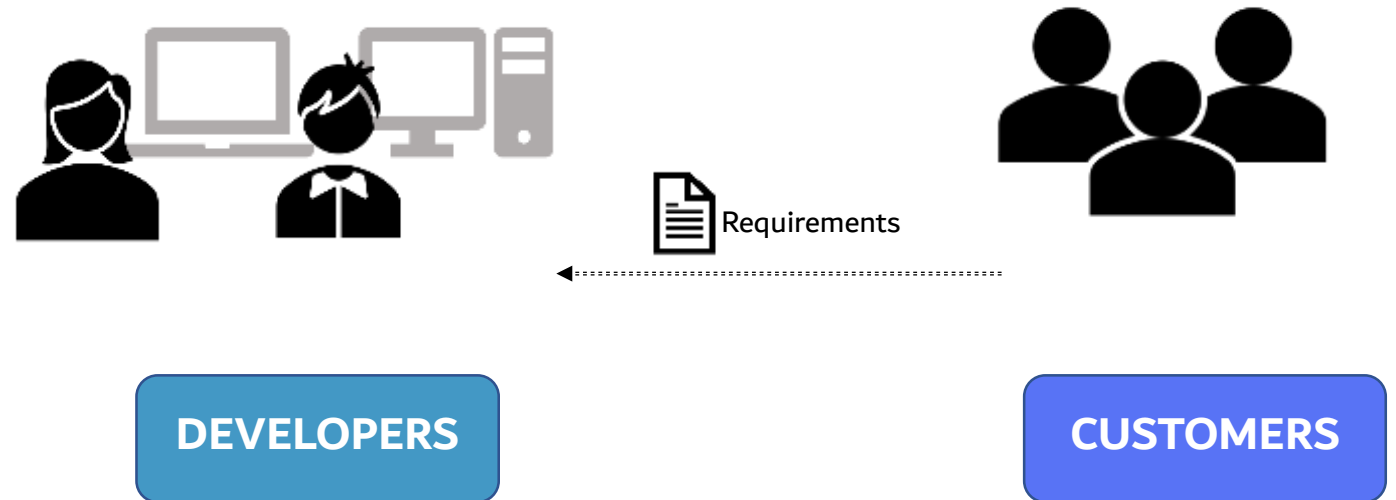


TRADITIONAL
METHODOLOGY

AGILE
METHODOLOGY

Agile methodology

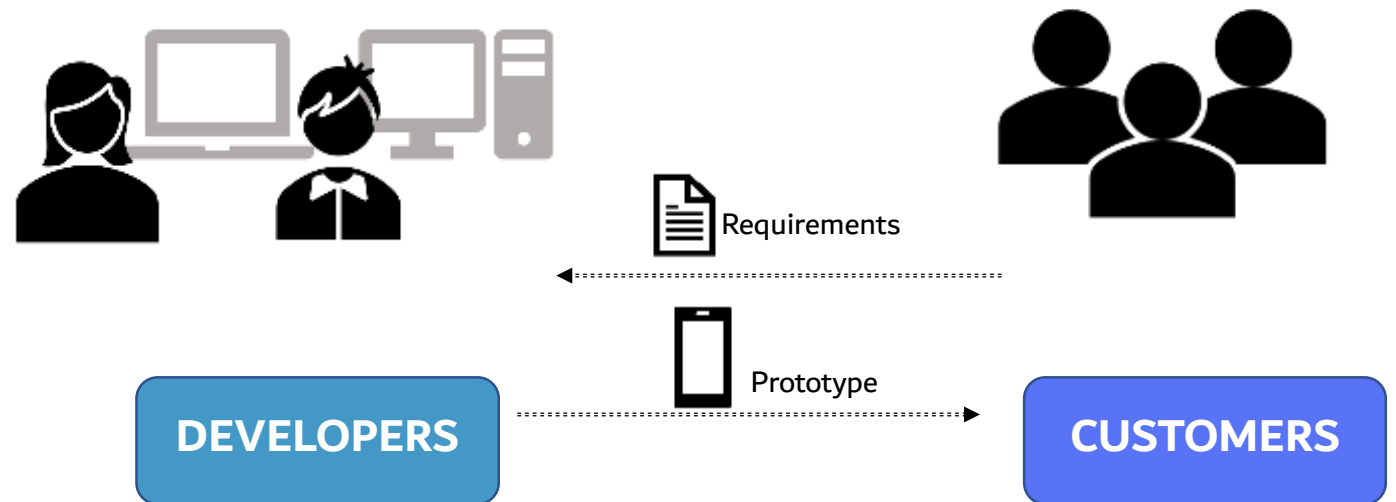
Agile methodology releasing code as each feature that is defined by a customer becomes available in a tighter feedback loop.



Agile methodology

Agile methodology releasing code as each feature that is defined by a customer becomes available.

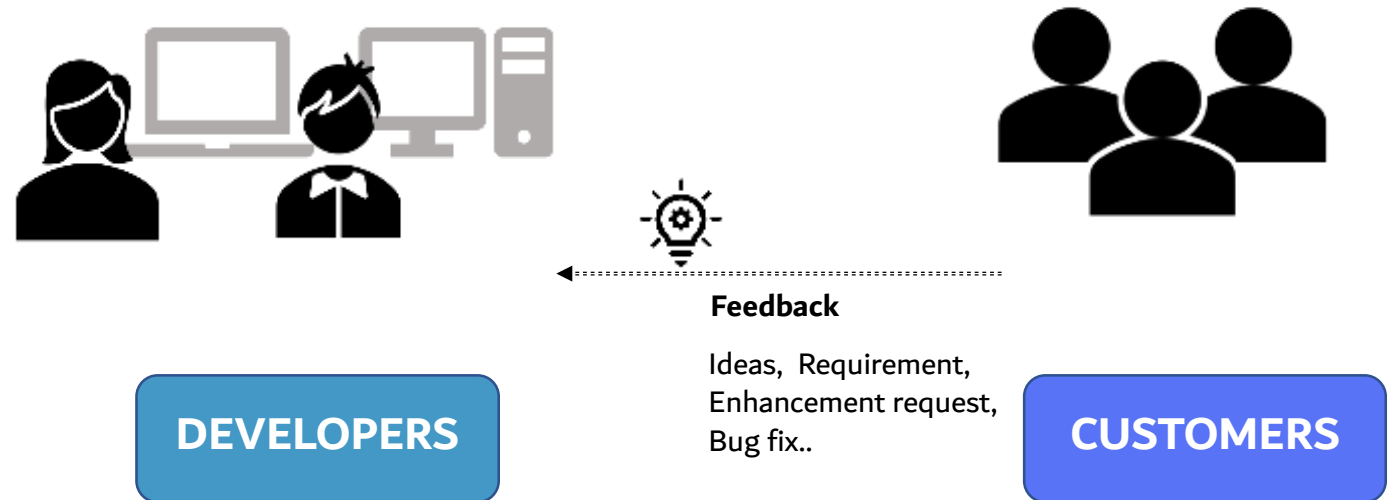
- The Developer can build a prototype or an MVP “Minimal Viable Product” instead of the full application.



Agile methodology

Agile methodology releasing code as each feature that is defined by a customer becomes available.

- The Developer can build a prototype or an MVP “Minimal Viable Product” instead of the full application.
- Then the customers can send their feedback and what needs to be changes in the provided prototype of the solution.
- **A much faster approach than the Waterfall methodology!**



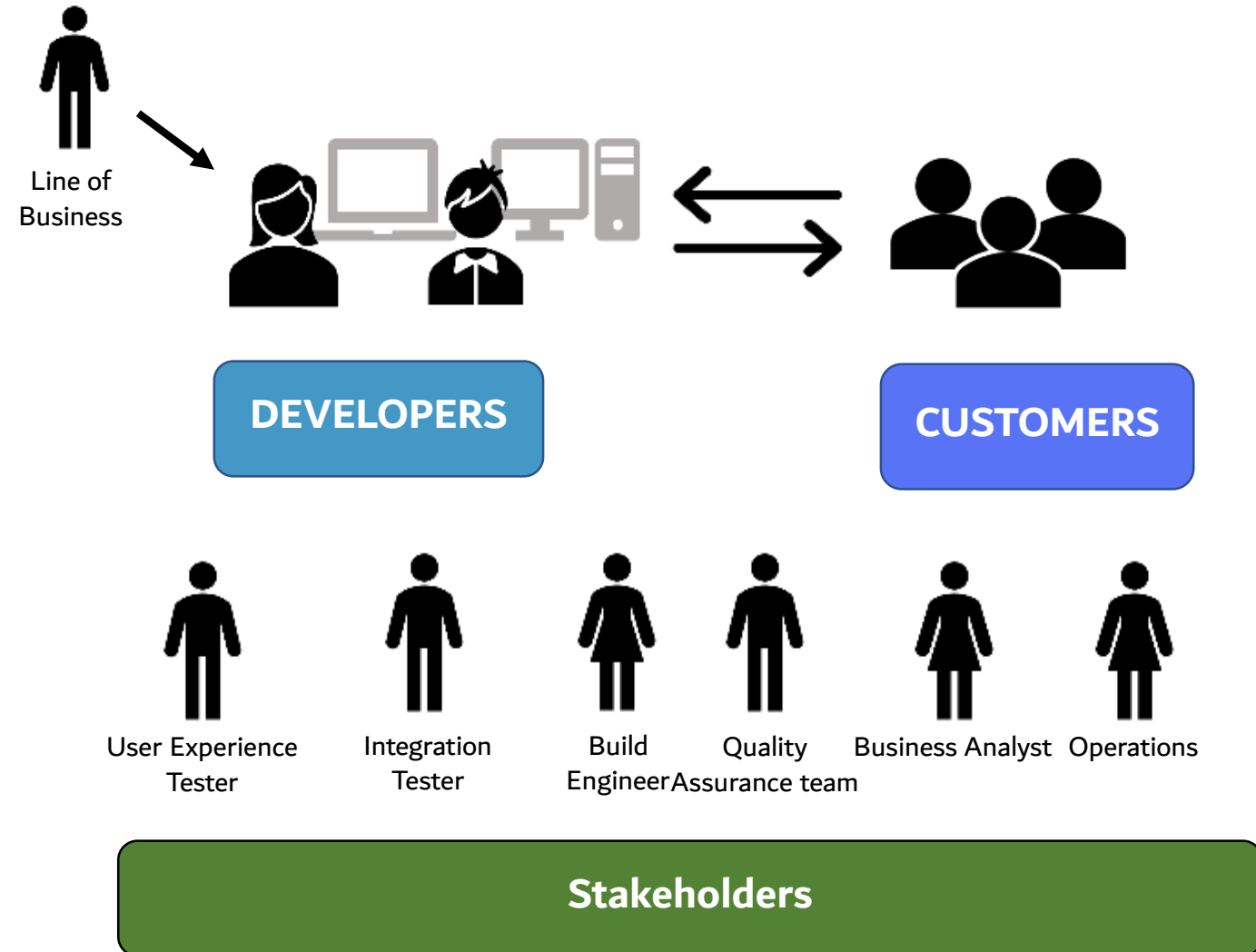
Agile methodology vs. Waterfall methodology

Waterfall Methodology	Agile Methodology
Customers' requirements and feedback can't be easily understood one time at the end of the software delivery process	Client requirements are better understood and considered
It's very expensive to reset the whole process according to the new changes and requirements	Less resources needed and less work done to make changes on the software
More time spent and needed to deliver the software to customers	A much faster and effective approach than the Waterfall methodology!

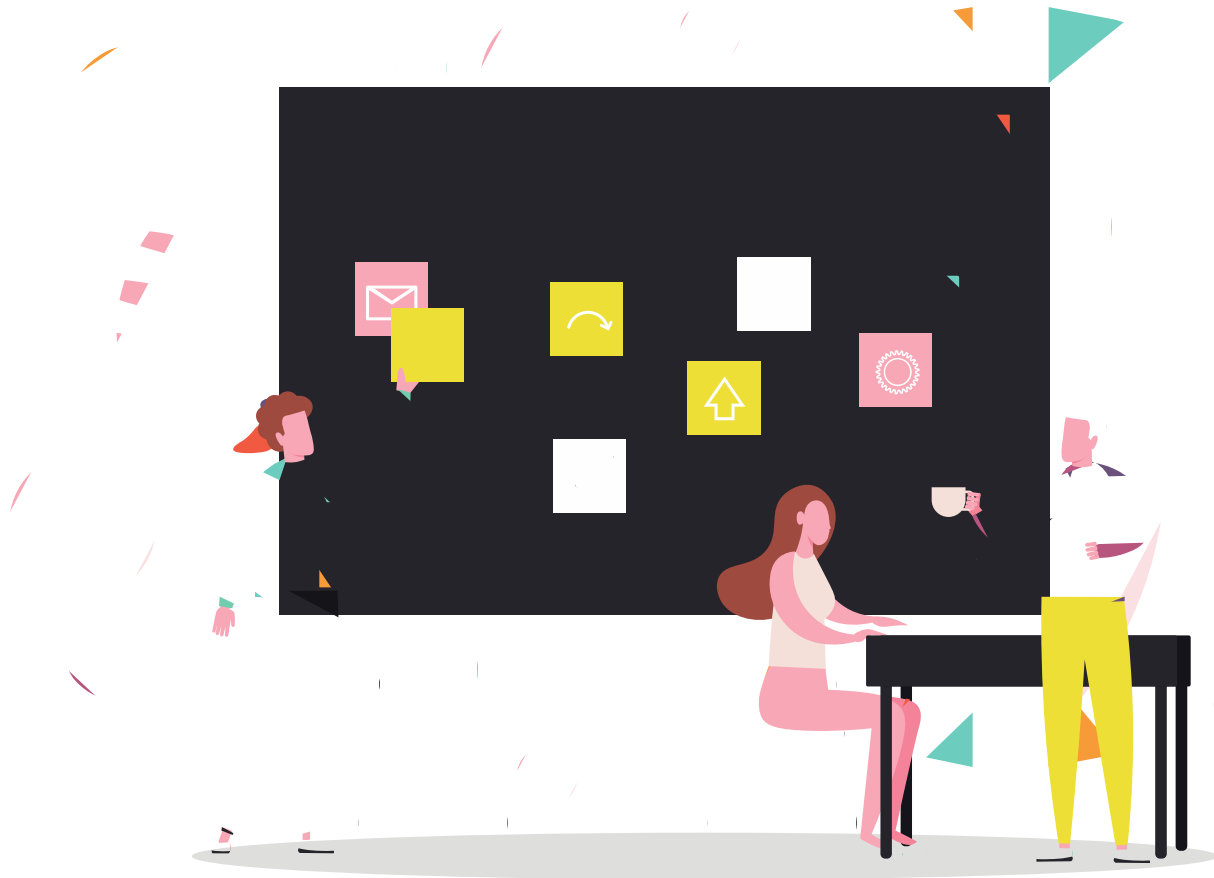
The process of **delivering a software** is not about writing code and give it to the customer...



- The **software delivery process** is not just a **physical aspect of deploying software from one environment to the next one!**
- **A very important part of the process is the success of the communication and collaboration** between developers, and stakeholders involved in the process all the way to the customers.
- **This collaboration and building of trust, communication** between these stakeholders, **making sure they have access to the same assets and the same data** is a very critical part of the software delivery process.
- **DevOps removes the silos between the different teams working on delivering the software and helps in reducing the time, cost and rework.**



The importance of DevOps



- **Continuous innovation**
- **Fast time-to-market**
- **Reduce development and operational costs**
- **Fast time-to-feedback by delivering new features continuously.**
- **Ensure quality by enabling automated testing on a production-like environment**

What tools does IBM Cloud have for DevOps?

- **Continuous Delivery Toolchains:** integrated set of tools that you can use to develop, build, deploy, test, and manage applications and make operations repeatable and easier to manage.
Toolchains can include open source tools, IBM Cloud services and third-party tools, such as IBM Cloud DevOps Insights, GitHub, IBM Cloud Delivery Pipeline, Eclipse Orion Web IDE and Slack.
- **Delivery Pipelines:** The software delivery lifecycle that a software goes through before being delivered to the customers.



What tools does IBM Cloud have for DevOps?

- **Edit and push your code** from anywhere by using the web-based IDE. Create, edit, run, and debug, and complete source-control tasks in GitHub. Seamlessly move from editing your code to deploying it to production.
- **Collaborate with your team** and manage your source code with a Git Repository that is hosted by IBM and built on GitLab Community Edition.





Demo

1. Log in to IBM Cloud

Open DevOps tools

Create the Toolchain

1. Modify your code

*1. Add a Test stage to
the pipeline*

DevOps Learning Path



DevOps



**Deploy your First
Application using DevOps**



**Monitor your app availability
and understand its usage**



**Continuously deploy your
Angular Application**

Innovator Courses

Sample Badge Earned

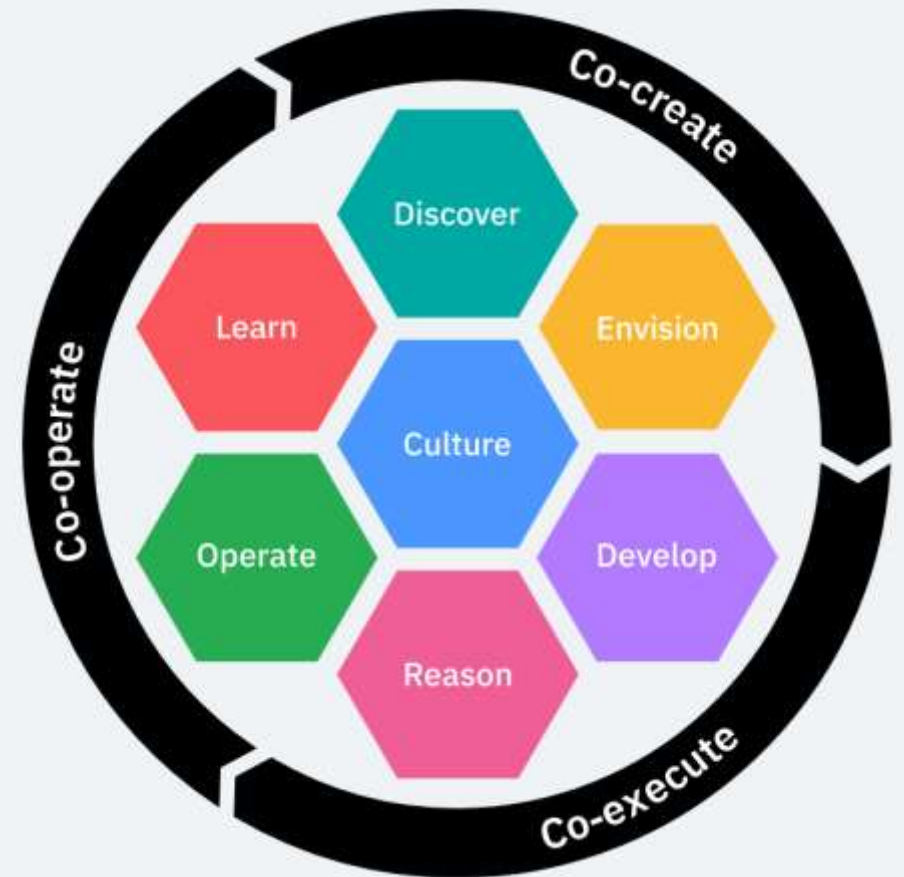


This badge is a cross-industry digital recognition of technical skills which can be shared on your social and professional networking sites.

IBM Garage Methodology

IBM integrates best practices grounded in experience—from implementation at global scale through culture change—into a single, seamless end-to-end approach, the IBM Garage Methodology. This methodology drives **Enterprise Design Thinking** at scale, is built on **Agile principles** for co-located and distributed teams, leverages **DevOps tools and techniques** for continued delivery and operations, fosters digital talent and culture change, and enables Site Reliability Engineering.

- **Culture**: Create a high-performance culture
- **Discover**: Understand and prepare what you need for success
- **Envision**: Innovate by design, not by accident
- **Develop**: Create quality code through collaboration and automation
- **Reason**: Apply AI techniques in order to make better decisions
- **Operate**: Prepare for problems before they happen
- **Learn**: Learn from your customers and make better decisions





QUESTIONS



RESOURCES

- Navigate to this link : <https://developer.ibm.com/africa/skills/innovator-deploy-your-first-app-using-devops/> to walk through the webinar demo material on Digital Nation Platform, and catch up on the detailed steps, do the quiz associated to it and earn a badge!
- Get started with agile development and continuous delivery by taking this course: https://www.ibm.com/cloud/garage/content/course/get_started_agile_cd/0
- Transform your teams with the IBM Garage Method for Cloud, by taking this course : <https://www.ibm.com/cloud/garage/content/course/explore-garage-method-for-cloud/0>
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Thank you!

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