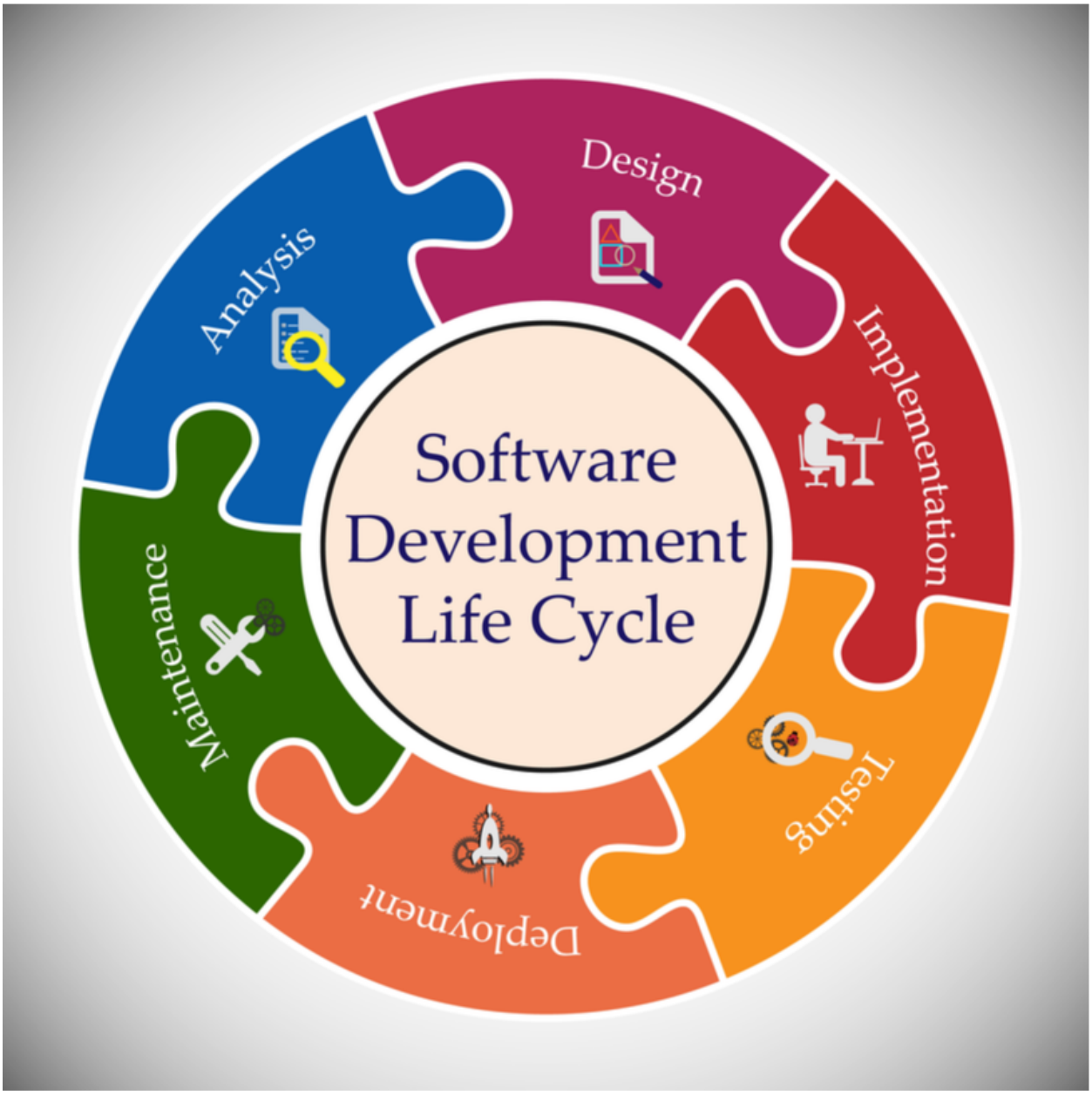
AZURE WEEK 1 ASSIGNMENT

1. What is SDLC? and why it is important?

The software development life cycle (SDLC) is the process of planning, writing, modifying, and maintaining software. Developers use the methodology as they design and write modern software for computers, cloud deployment, mobile phones, video games, and more.



The SDLC is important because it helps ensure that the right people are involved in the right activities at the right times. Using a structured approach to developing software helps ensure that your project will be successful. Some of the SDLC's benefits are:

- Understanding your requirements and the goal of the software
- Identify risks at an early stage

- Plan how you will deliver your solution in stages, such as building prototypes or writing functional specifications
- Measure your progress relative to your goals and ensure everything is on track

2. What are the phases of SDLC and what is the importance of each phase?

- **Requirement analysis : The requirement is the first stage in the SDLC process. It is conducted by the senior team members with inputs from all the stakeholders and domain experts in the industry. This stage gives a clearer picture of the scope of the entire project and the anticipated issues, opportunities**
- **Planning : This phase is when you evaluate the feasibility of creating the product, revenue potential, the cost of production, the needs of the end-users, etc.**
- **Architectural/software design : In this third phase, the system and software design documents are prepared as per the requirement specification document. This helps define overall system architecture. This design phase serves as input for the next phase of the model.**

  There are two kinds of design documents developed in this phase:

  High-Level Design (HLD)

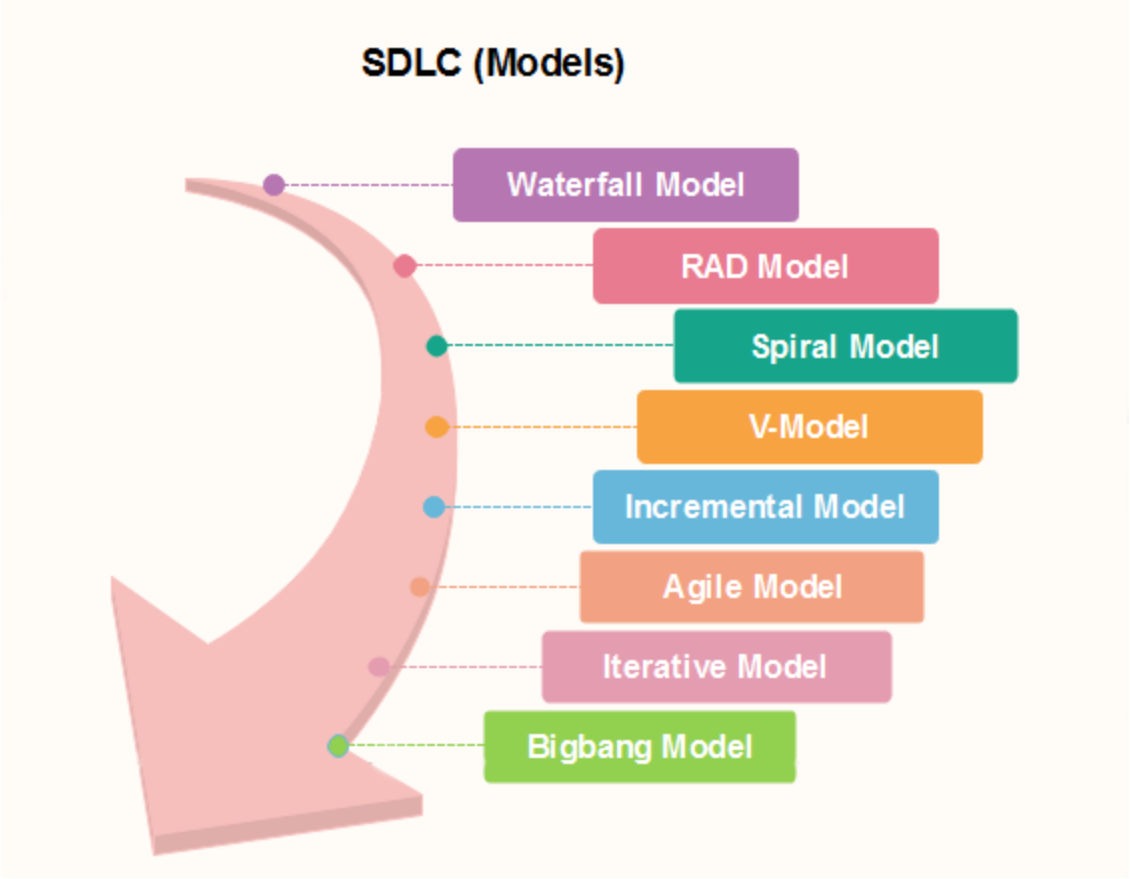
  Low-Level Design (LLD)
- **Software Development : Once the system design phase is over, the next phase is coding. In this phase, developers start build the entire system by writing code using the chosen programming language. In the coding phase, tasks are divided into units or modules and assigned to the various developers. It is the longest phase of the Software Development Life Cycle process.**
- **Testing : Once the software is complete, and it is deployed in the testing environment. The testing team starts testing the functionality of the entire**

system. This is done to verify that the entire application works according to the customer requirement.

During this phase, QA and testing team may find some bugs/defects which they communicate to developers. The development team fixes the bug and send back to QA for a re-test. This process continues until the software is bug-free, stable, and working according to the business needs of that system.

- **Deployment : Once the software testing phase is over and no bugs or errors left in the system then the final deployment process starts. Based on the feedback given by the project manager, the final software is released and checked for deployment issues if any.**
- **Maintenance : Once the system is deployed, and customers start using the developed system, following 3 activities occur**
- **Bug fixing – bugs are reported because of some scenarios which are not tested at all**
- **Upgrade – Upgrading the application to the newer versions of the Software**
- **Enhancement – Adding some new features into the existing software**

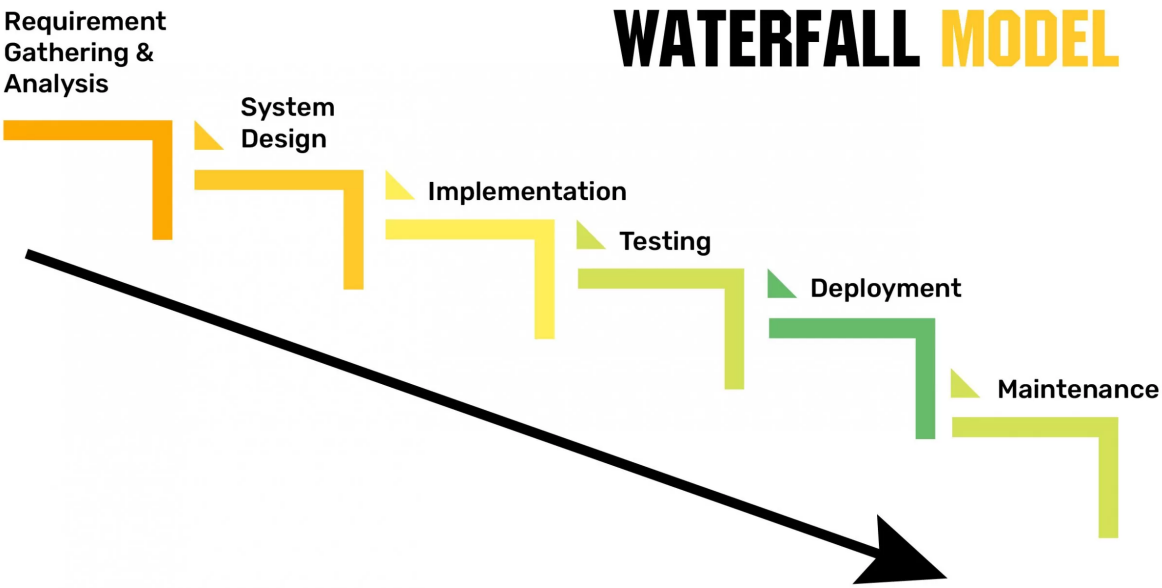
3. what are the different models in SDLC and Famous among them?



The two best-known methodologies within the SDLC are *Waterfall* and *Agile*

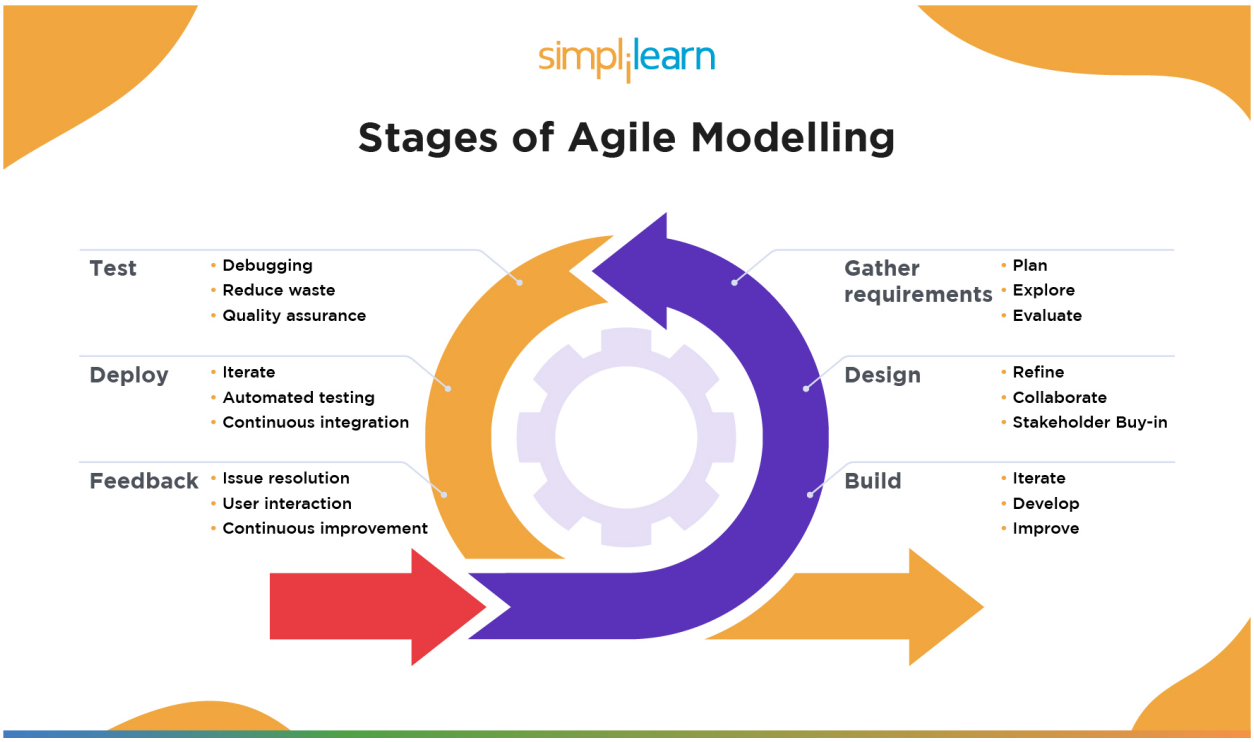
4. What is Waterfall and Agile Model

1. **Waterfall model :** Waterfall methodology begins with long planning and design phases. Once developed, the software then goes through phases of testing, and is finally deployed for use. Waterfall is considered by many to be too rigid to adapt to changing requirements. It doesn't support feedback throughout the process, leading to the implementation of requirements that may have changed during the development effort. This weakness in Waterfall led to the development of more flexible methodologies, such as Agile.



2.**Agile model :** Agile methods break tasks into smaller iterations, or parts do not directly involve long term planning. The project scope and requirements are laid down at the beginning of the development process. Plans regarding the number of iterations, the duration and the scope of each iteration are clearly defined in advance.

Each iteration is considered as a short time "frame" in the Agile process model, which typically lasts from one to four weeks. The division of the entire project into smaller parts helps to minimize the project risk and to reduce the overall project delivery time requirements.



5. What is Agile and Devops

Agile :

An agile methodology is an iterative approach to software development. Each iteration of agile methodology takes a short time interval of 1 to 4 weeks. The agile development process is aligned to deliver the changing business requirement. It distributes the software with faster and fewer changes.

The single-phase software development takes 6 to 18 months. In single-phase development, all the requirement gathering and risks management factors are predicted initially.

The agile software development process frequently takes the feedback of workable product. The workable product is delivered within 1 to 4 weeks of iteration.

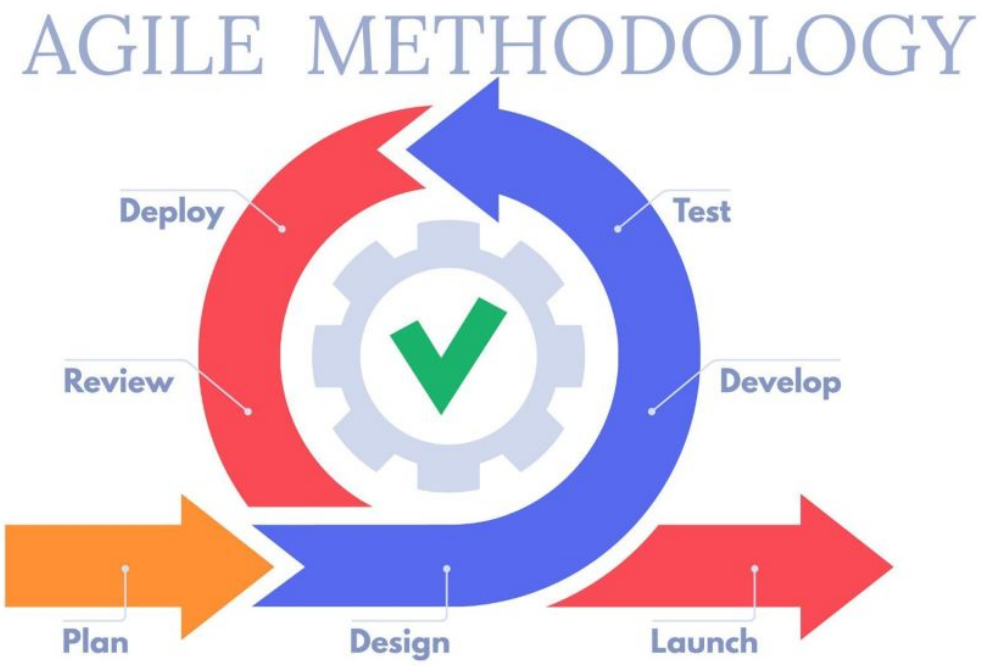
There are two different roles in a Agile methodology. These are the Scrum Master and Product Owner.

1. Scrum Master

The Scrum Master is a team leader and facility provider who helps the team member to follow agile practices, so that the team member meets their commitments and customers requirements.

2. Product Owner

The Product Owner is one who runs the product from a business perspective



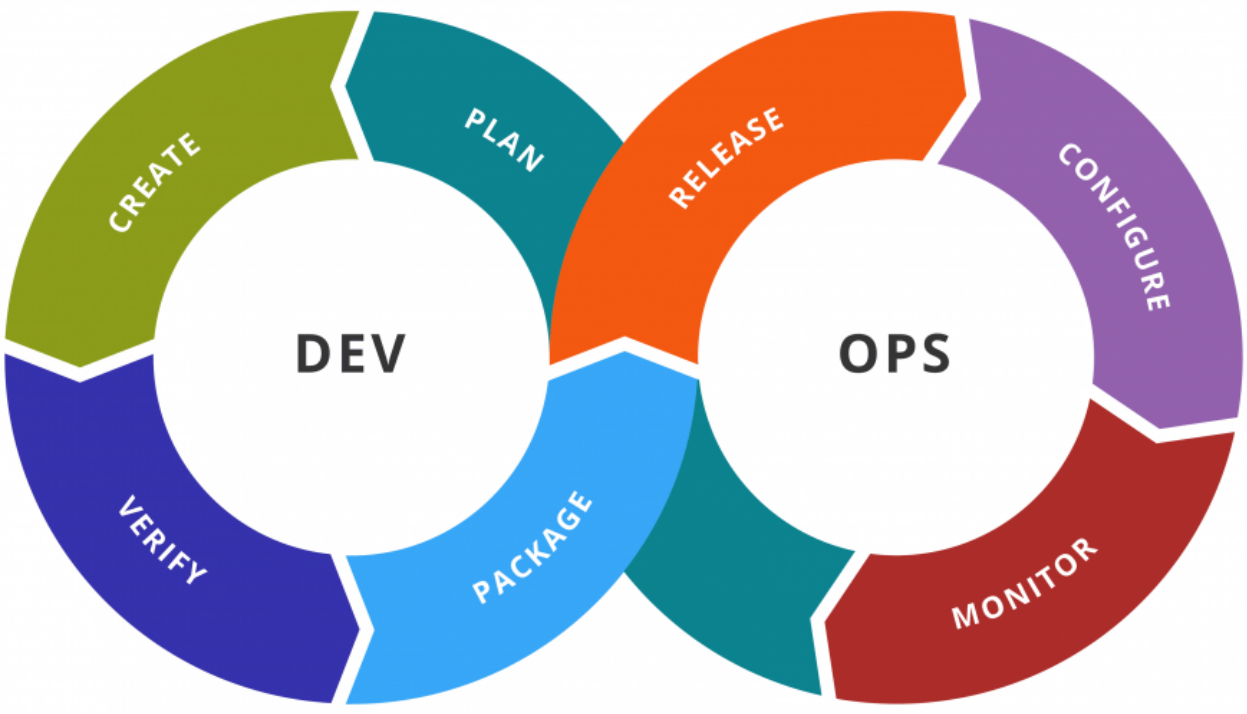
Devops :

The DevOps is a combination of two words, one is software Development, and second is Operations. This allows a single team to handle the entire application lifecycle, from development to **testing, deployment**, and **operations**. DevOps helps you to reduce the disconnection between software developers, quality assurance (QA) engineers, and system administrators.

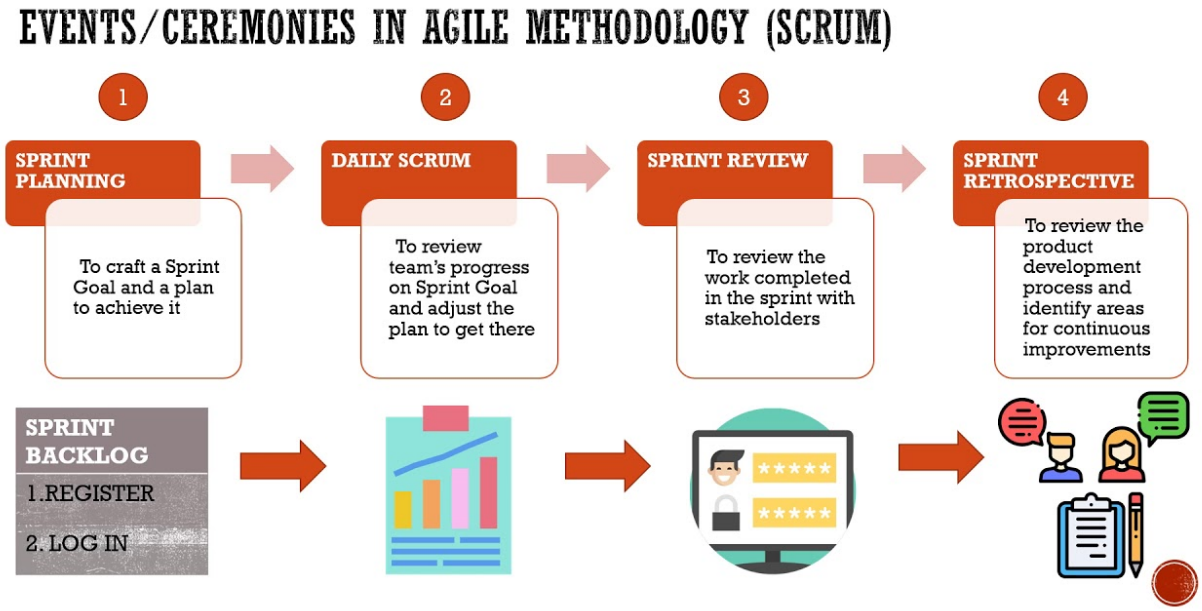
DevOps has become one of the most valuable business disciplines for enterprises or organizations. With the help of DevOps, **quality**, and **speed** of the application delivery

has improved to a great extent.

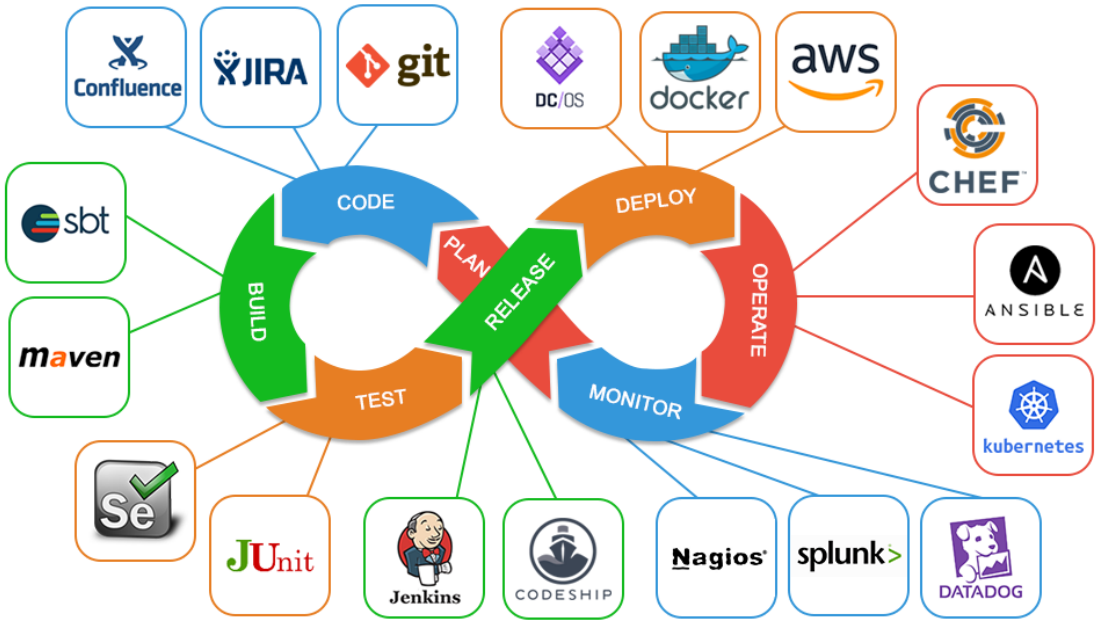
DevOps is nothing but a practice or methodology of making "**Developers**" and "**Operations**" folks work together. DevOps represents a change in the IT culture with a complete focus on rapid IT service delivery through the adoption of agile practices in the context of a system-oriented approach.



6. What are agile ceremonies?



7. What are the different tools used in Devops as per SDLC?



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DevOps Lifecycle is the set of phases that includes **DevOps** for taking part in **Development** and Operation group duties for quicker software program delivery. DevOps follows positive techniques that consist of **code, building, testing, releasing, deploying, operating, displaying, and planning.**