Process models – The Waterfall Model

SDLC Cycle/Software process Model

SDLC Cycle represents the process of developing software. SDLC framework includes the following steps:

The stages of SDLC are as follows:

Stage1: Planning and requirement analysis

- ✓ Requirement Analysis is the most important and necessary stage in SDLC.
- ✓ The senior members of the team perform it with inputs from all the stakeholders and domain experts or SMEs in the industry.
- ✓ Planning for the quality assurance requirements and identifications of the risks associated with the projects is also done at this stage.
- ✓ Business analyst and Project organizer set up a meeting with the client to gather all the data like what the customer wants to build, who will be the end user, what is the objective of the product. Before creating a product, a core understanding or knowledge of the product is very necessary.

For Example, A client wants to have an application which concerns money transactions. In this method, the requirement has to be precise like what kind of operations will be done, how it will be done, in which currency it will be done, etc.

Once the required function is done, an analysis is complete with auditing the feasibility of the growth of a product. In case of any ambiguity, a signal is set up for further discussion.

Once the requirement is understood, the SRS (Software Requirement Specification) document is created. The developers should thoroughly follow this document and also should be reviewed by the customer for future reference.

Stage2: Defining Requirements

- ✓ Once the requirement analysis is done, the next stage is to certainly represent and document the software requirements and get them accepted from the project stakeholders.
- ✓ This is accomplished through "SRS"- Software Requirement Specification document which contains all the product requirements to be constructed and developed during the project life cycle.

Stage3: Designing the Software

- ✓ The next phase is about to bring down all the knowledge of requirements, analysis, and design of the software project. This phase is the product of the last two, like inputs from the customer and requirement gathering.

Stage4: Developing the project

- ✓ In this phase of SDLC, the actual development begins, and the programming is built. The implementation of design begins concerning writing code. Developers have to follow the coding guidelines described by their management and programming tools like compilers, interpreters, debuggers, etc. are used to develop and implement the code.

Stage5: Testing

- ✓ After the code is generated, it is tested against the requirements to make sure that the products are solving the needs addressed and gathered during the requirements stage.
- ✓ During this stage, unit testing, integration testing, system testing, acceptance testing are done.

Stage6: Deployment

- ✓ Once the software is certified, and no bugs or errors are stated, then it is deployed.
- ✓ Then based on the assessment, the software may be released as it is or with suggested enhancement in the object segment.
- ✓ After the software is deployed, then its maintenance begins.

Stage7: Maintenance

- ✓ Once when the client starts using the developed systems, then the real issues come up and requirements to be solved from time to time.
- ✓ This procedure where the care is taken for the developed product is known as maintenance.

SDLC Models

Software Development life cycle (SDLC) is a spiritual model used in project management that defines the stages include in an information system development project, from an initial feasibility study to the maintenance of the completed application.

There are different software development life cycle models specify and design, which are followed during the software development phase. These models are also called "Software Development Process Models." Each process model follows a series of phase unique to its type to ensure success in the step of software development.

Here, are some important phases of SDLC life cycle:

The waterfall is a universally accepted SDLC model. In this method, the whole process of software development is divided into various phases.
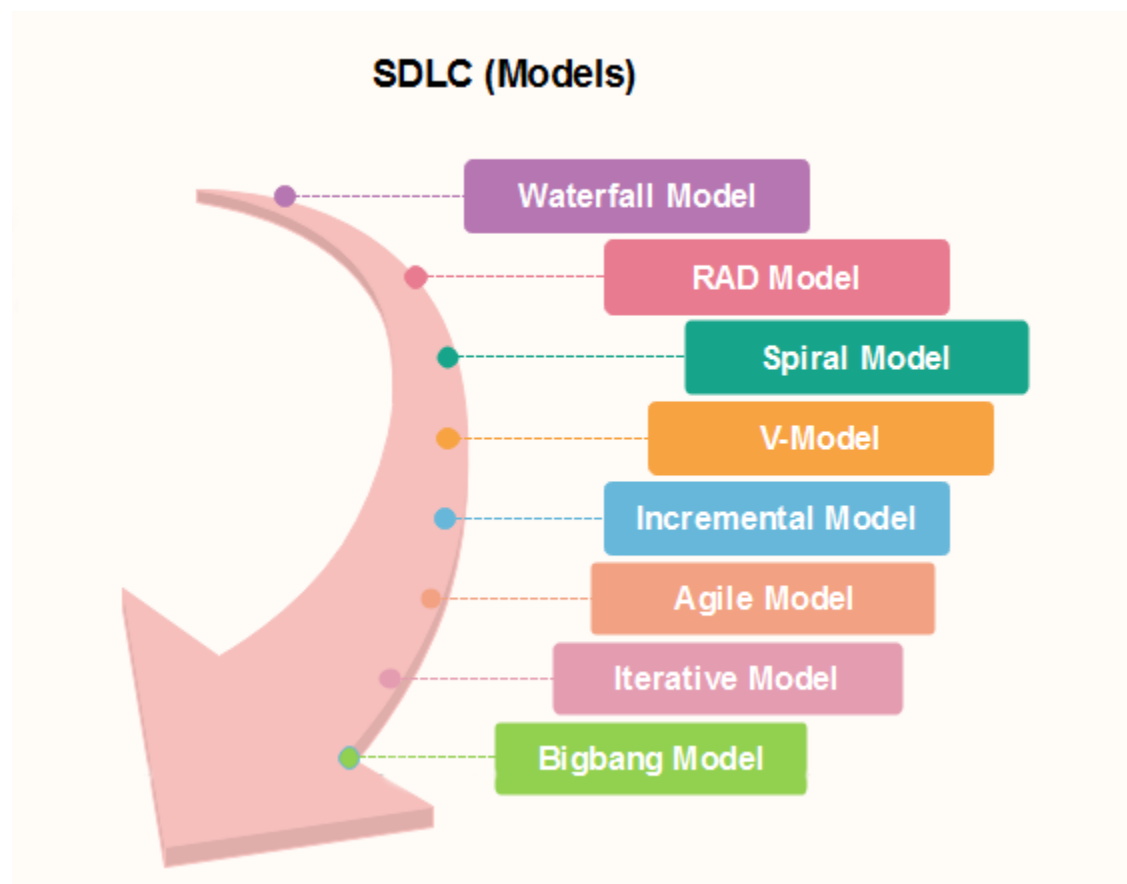
Waterfall Model:

The waterfall is a universally accepted SDLC model. In this method, the whole process of software development is divided into various phases.

The waterfall model is a continuous software development model in which development is seen as flowing steadily downwards (like a waterfall) through the steps of requirements analysis, design, implementation, testing (validation), integration, and maintenance.

Linear ordering of activities has some significant consequences. First, to identify the end of a phase and the beginning of the next, some certification techniques have to be employed at the end of each step. Some verification and validation usually do this mean that will ensure that the output of the stage is consistent with its input (which is the output of the previous step), and that the output of the stage is consistent with the overall requirements of the system.