INTRODUCTION TO SDLC

Software Development Life Cycle

What is SDLC?

- The Software Development Life Cycle (SDLC) is a step-by-step process used to create software.
- In simple terms, SDLC is a guide to developing software in an organized and efficient way.

Key phases in SDLC are –

- ❑ Planning
- ❑ Requirements Gathering and Analysis
- ❑ Design
- ❑ Implementation
- ❑ Testing
- ❑ Deployment
- ❑ Maintenance

Types Of Models

1. **Waterfall Model–**

   The Waterfall model is one of the earliest methodologies used in software development. It follows a linear and sequential approach, where each phase must be completed before moving to the next.
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   Drawbacks and Challenges–

- Late Testing
- Hard to change or Inflexibility
- Limited Customer Involvement
- Slow Delivery

2. Iterative Model –

The Iterative model works by breaking down the development process into multiple cycles or iterations.

Each iteration produces a working version of the software, which is then improved upon in subsequent iterations.

Drawbacks –

- Complex Management
- Integration Issues
- Repeated Changes

3. Spiral Model –

The Spiral Model is designed to control risk. It repeats the steps of a project, starting with modest goals and expanding outward in ever wider spirals (called rounds).

A risk analysis is performed at each round.

Drawbacks –

- Complexity
- Excessive Documentation
- Not suitable for small projects
- High Ambiguity

4. V-Model–

On the left side, you have stages for planning and designing the software. On the right side, you have stages for testing and verifying the software.

So, it's a visual representation of how development and testing activities are aligned.

Drawbacks -

- Rigid
- Less Adaptable
- Not Ideal for Complex Projects
- Assumes Requirements are Stable