

What is SDLC?

SDLC (Software Development Life Cycle) is a structured process used by software companies to plan, develop, test, and deploy software.

It defines **phases** that ensure:

- Timely delivery
- Quality software
- Reduced risks and cost overruns

Phases of SDLC

1. Requirement Gathering & Analysis

- Stakeholders define what the system should do
- Business analysts document requirements (BRD, SRS)
- Output: **SRS (Software Requirement Specification)**

2. System Design

- Architects & developers decide how the software will work
- Includes: system architecture, DB design, tech stack
- Output: **HLD (High-Level Design), LLD (Low-Level Design)**

3. Implementation (Coding)

- Actual development begins
- Follow coding standards, version control
- Languages/tools chosen in design phase

4. Testing

- QA team tests for bugs, performance, and security
- Testing Types: Unit, Integration, System, UAT
- Output: **Test cases, Bug reports**

5. Deployment

- Application is made live in production
- May happen in phases (pilot launch, full rollout)

6. Maintenance

- Fixing issues post-launch
- Adding new features
- Monitoring performance and usage



Common SDLC Models

Model	Description	Use Case
Waterfall	Linear, phase-by-phase	Stable, simple projects
Agile	Iterative, fast feedback cycles (sprints)	Changing requirements, startups
Spiral	Risk-focused + iterative	High-risk, complex systems
V-Model	Testing is planned in parallel to dev	Safety-critical (e.g., aviation)
Big Bang	No planning; coding starts immediately	Very small, academic projects

Real-Life Example

Project: Online Food Ordering App

SDLC Flow:

1. Requirements → "Users should order food, make payments, track delivery"
2. Design → Decide screens, payment gateway, map API
3. Coding → Use Java + Spring Boot + React
4. Testing → Test login, cart, checkout, delivery alerts
5. Deployment → Host on AWS, release app
6. Maintenance → Fix bugs, add "favorites" feature

Common SDLC Questions in Interviews

Question	Sample Answer Hint
What is SDLC?	A process to develop quality software
Which SDLC model do you prefer?	Agile – it's iterative and flexible
What is SRS?	Software Requirements Specification document
What happens in the design phase?	Architecture and technical blueprint is created
How is testing integrated in SDLC?	Done after coding or in parallel (Agile/V-Model)

Quick Revision: SDLC Keywords

- BRD → Business Requirement Document
- SRS → Software Requirement Specification
- HLD / LLD → Design Documents
- UAT → User Acceptance Testing
- CI/CD → Continuous Integration/Deployment
- Sprint → Agile development cycle
- Git → Used for version control during implementation

