DAY 1

1. Explain SDLC at a high level

Software Development Life Cycle (SDLC) is a process used by the software industry to design, develop and test high quality softwares. The SDLC aims to produce a high-quality software that meets or exceeds customer expectations, reaches completion within the time and cost estimates. There are seven phases in SDLC. They are: Formation, Requirement planning, Design, Construct, Test, Phase and product release, Post implementation.

1. What is waterfall and why it is still relevant

Waterfall model is a linear (sequential) development life cycle model that describes development as a chain of successive steps. No phase can be started before or simultaneously with the previous or current one. Planning resources for Waterfall is generally easier as you know exactly when everything will start and end. Clients who prefer specific start and end dates will appreciate Waterfall as this model allows them to know the exact date when they will have their product in their hands.

1. Explain Agile Model with a use case and the role of SCRUM in that.

Agile SDLC model is a combination of iterative and incremental process models with focus on process adaptability and customer satisfaction by rapid delivery of working software product. Agile methods break the product into small incremental builds. These builds are provided in iterations. Scrum is a framework that helps teams work together. Scrum encourages teams to learn through experiences, self-organize while working on a problem, and reflect on their wins and losses to continuously improve. This aspect of SCRUM is used in agile methodology.

1. Who is Scrum Master

The Scrum Maste**r** is accountable for the Scrum Team's effectiveness. They do this by enabling the Scrum Team to improve its practices, within the Scrum framework.

Scrum Masters are true leaders who serve the Scrum Team and the larger organization. Scrum master is responsible for implementing the principles of Scrum methodology and enhance the whole team being a facilitator and helps the team face any blockages during the development cycle.

1. Differentiate between Product/Sprint Backlog

A product backlog is a prioritized list of work for the development team that is derived from the roadmap and its requirements. The most important items are shown at the top of the product backlog so the team knows what to deliver first.

A sprint backlog is the set of items that a cross-functional product team selects from its product backlog to work on during the upcoming sprint. Typically the team will agree on these items during its sprint planning session.

1. What is Epic and Story

An epic is a large body of work that can be broken down into a number of smaller stories. An Epic can be defined as a big chunk of work that has one common objective.

Stories, also called “user stories,” are short requirements or requests written from the perspective of an end user. Epics are large bodies of work that can be broken down into a number of smaller tasks (called stories).

1. What is called Velocity in SCRUM

Velocity is a measure of the amount of work a Team can tackle during a single Sprint and is the key metric in Scrum.

1. Explain the SCRUM ceremonies

The SCRUM events or ceremonies are:

1. Organize backlog: This is an ongoing process in which the Product Owner and the Development Team collaborate on the details of Product Backlog items. This is more like a backlog refinement.
2. Sprint planning: Sprint planning is an event in the Scrum framework where the team determines the product backlog items they will work on during that sprint and discusses their initial plan for completing those product backlog items.
3. Sprints: Here sprints are formed after planning and stories are assigned to each sprint.
4. Sprint Execution: Sprint execution is the work the Scrum team performs during each sprint to meet the sprint goal. This chapter focuses on the principles and techniques that guide how the Scrum team plans, manages, performs, and communicates during sprint execution.
5. Daily Scrum/ Stand up: The Daily Scrum is a 15-minute event for the Developers of the Scrum Team.
6. Sprint review: This is the actual product development review. The Sprint Review is a working session and the Scrum Team should avoid limiting it to a presentation.
7. Sprint retrospective: The sprint retrospective is a meeting facilitated by the Scrum Master at which the team discusses the just-concluded sprint and determines what could change that might make the next sprint more productive.
8. What is grooming

Grooming (or refinement) is a meeting of the Scrum team in which the product backlog items are discussed and the next sprint planning is prepared. [Product grooming is critical in product management](https://hygger.io/blog/what-is-product-backlog-grooming-in-product-management/) because it means keeping the backlog up to date and getting backlog items ready for upcoming sprints.

1. How Jira board is effective in SCRUM

Jira Software is an agile project management tool that supports any agile methodology like Scrum. From agile boards to reports, you can plan, track, and manage all your agile software development projects from a single tool. It also promotes incremental delivery. It raises issues and keeps a remainder of every issues by sending mails to the owner.

1. Differentiate between Scrum and waterfall

**Waterfall**: The waterfall development model or traditional software development life cycle. Its working approach is linear and sequential, it completes one activity before starting the other activity. Waterfall’s working style break up the work into the requirement, analysis, design, coding and testing, and term that phases. There is a complete cycle and no interventions are possible.

**Scrum:** This is a member of the agile family. Scrum puts the focus on the management and development of the project. The scrum process is used to manage, develop, and deliver the project on time. Scrum works best for complex projects and innovative solutions are delivered. There are multiple waterfall events with rapid consumer interactions.

1. Explain the responsibilities of Product Owner

The [Scrum](https://www.mountaingoatsoftware.com/agile/scrum) product owner is typically a project's key stakeholder. Part of the product owner responsibilities is to have a vision of what he or she wishes to build, and convey that vision to the scrum team. This is key to successfully starting any agile software development project. The agile product owner does this in part through the product backlog, which is a prioritized features list for the product. The product owner is commonly a lead user of the system or someone from marketing, product management or anyone with a solid understanding of users, the market place, the competition and of future trends for the domain or type of system being developed. This, of course, varies tremendously based on whether the team is developing commercial software, software for internal use, hardware or some other type of product. The key is that the person in the product owner role needs to have a vision for what is to be built.

DAY 2

1. Tell us about the features of client/server.

A system that provides services to other systems in its network is called a server. Server is a robot-type programs that constantly run and exchange information with remote users.

Client is a system that uses remote services from a server. Programs that access and exchange information with servers.

1. What is a Web server in a client server environment

A web server is software and hardware that uses [HTTP](https://whatis.techtarget.com/definition/HTTP-Hypertext-Transfer-Protocol) (Hypertext Transfer Protocol) and other protocols to respond to [client](https://searchenterprisedesktop.techtarget.com/definition/client) requests made over the World Wide Web. The main job of a web server is to display website content through storing, processing and delivering webpages to users.

1. What is the role of the presentation layer

Presentation layer receives input and displays output. It displays information related to such services such as browsing merchandise, purchasing, and shopping cart contents, and it communicates with other tiers by outputting results to the browser/client tier and all other tiers in the network.

1. They say this architecture is secure, how is it done in your opinion?

The most confidential data is not aligned with the front end which makes it more secure from data hackers. The firewall is so secure that there is no complete opening to the RDBMS and can only have its access in the database tier with particular restrictions to access.

1. What is a Database Server in a client server environment?

Database servers are networked computers on a network dedicated to database storage and data retrieval from the database. The database server is a key component in a client/server computing environment. It holds the database management system (DBMS) and the databases.

1. What are Super servers in client server environments?

A super-server starts other servers when needed, normally with access to them checked by a TCP wrapper. It uses very few resources when in idle state.

1. Explain 2-Tier and 3-Tier architecture

Two-tier architecture consists of two layers : Client Tier and Database (Data Tier). A two-tier architecture is a database architecture which contains presentation layer that runs on a client (PC, Mobile, Tablet, etc) and data that is stored on a Server. It is like the client and server over the internet.

A three-tier architecture is a client-server architecture in which the functional process logic, data access, computer data storage and user interface are developed and maintained as independent modules on separate platforms. Three-tier architecture is a software design pattern and a well-established software architecture. Three-tier architecture allows any one of the three tiers to be upgraded or replaced independently. It consist of the database layer for connecting data, application layer for processing the underlying data and the presentation layer that interacts with the user. Its advantages include reusability, easy maintenance, platform independent, availability, reliability and scalability.

1. What is a File server?

As the name implies, a file server is a server that provides access to files. It acts as a central file storage location that can be accessed by multiple systems.