Fundamentals of SDLC

Code: 217

3 days

Course Overview

Managing a modern systems development life cycle (SDLC) project requires a thorough understanding of the various roles that must come together in order to create a successful application. This understanding begins by recognizing the need to work within a multidisciplinary environment. Business analysts, project managers, and software testers each have multiple implementation options (such as Waterfall or Agile) available to them. Knowing which tool or technique to use in any particular situation is the key to success. This course will give you the knowledge you need to help you choose between these methods, tools, and artifacts so that you can quickly and efficiently take your SDLC project from concept to working implementation.

Expand Critical SDLC Competencies

Software development is a team sport. No one person makes or breaks a project. Success can only be achieved when each person understands his or her role, performs it well and coordinates effectively with the other key roles. This course focuses on these three key roles:

- **Project manager:** The role that is responsible for planning, managing, oversight and corrective action on the project.
- **Business analyst:** The role that is liaison between the customers and the development team, ensuring the customer’s needs are understood and are met in the most effective way possible.
- **Software tester:** The role that evaluates the software that is built to ensure that it satisfies the stated requirements and will be reliable in the live environment.

Whether these roles are played by different people, or not, this course will help the responsible people to play these roles effectively.

Who Needs To Attend

This course is designed for participants who plan, manage, and execute software/systems development life cycle and projects (SDLC). It would be beneficial for:

- Managers of software development organizations
- Project managers
- Team leads
- Business analysis managers
- Business analysts
- Testing managers
- Systems testers
Product owners
Program managers
Systems architects
QA professionals
Anyone wanting to enhance their business analysis or project management skills

Course Details

Topics Include

- Identify, evaluate and document the many stakeholders of a project
- Distinguish between the different types and levels of software testing
- Various artifacts and the key features of each
- Write effective user stories that can be used to identify requirements in an Agile project
- Learn how the differing life cycle models combine to create an SDLC implementation
- Select proper project-management methodology for your project based upon its own unique characteristics
- Significance of different estimating methods and how they should be utilized for time and cost estimation
- Significance of the Agile Manifesto and its relationship to the 12 principles of Agile
- Use earned value project management to assess budget and schedule compliance
- Use the triple constraints triangle as a tool to help others understand the relationship of time, cost, and scope in any project
- Tools and techniques of business analysis at each stage of a project
- Significance of risk management to the proper management of an SDLC project
- Create the three major baselines (scope, schedule, and cost) necessary to properly control a project
- How requirements are tracked and validated using a requirements traceability matrix
- Determine the critical path through a network of activities
- Assign relative estimate values using planning poker
- Decompose work packages into activities that are sized for proper managerial overview
- Create an iteration (sprint) backlog from a prioritized product backlog
- Key features of your project's test plan
- Track and apply the concept of velocity to your release and iteration plans

Course Outline

1. Introduction-What is a Project?

   - Projects as Opposed to Operational Management
   - Projects as Part of Strategic Management
   - Projects as Integral to Program Management

2. The Project Life Cycle

   - Generic Project Life Cycle
   - The Project Management Life Cycle
   - The Process Groups
3. Project Management Concepts and Methodologies

- Waterfall
- Agile
- Iterative

4. Project Initiation-The BA Role

- Stakeholder Analysis and the Stakeholder Register
- Initial Business Analysis Artifacts
- Documenting Requirements within a Requirements Gathering Approach
- Types and Sources of Requirements

5. Initiation-The PM Role: Baselines

- Develop Project Charter
- Collect Requirements
- Project Scope Statement
- Work Breakdown Structure
- Scope Baseline
- Define Activities
- Project Schedule Network Diagram (Dependency Network)
- Estimate Activity Resources
- Effort vs. Duration and Compensation
- Develop the Project Schedule
- Critical Path Method
- Schedule Compression

6. Initiation-Important Subsidiary Management Plans

- Test Plan
  - Test Planning and Development Considerations
  - Test Budgeting Methods and Test Plan Content
- Human Resource Plan
  - Organizational Charts
  - RAM Charts, RACI, and Roles and Responsibilities
- Communications Management Plan
- Risk Management Plan
  - Risk Planning and Identification
  - Qualitative Risk Analysis
  - Risk Register

7. Performing the Work-Project Execution

- Cost Control
- Earned Value Management, CPI, SPI
- Scope Control
- Requirements Communication
- Solution Assessment and Validation
• Requirements Traceability Matrix
• Software Testing
• Levels of Testing

8. Closing the Project

• Project Closure-Product Acceptance
• Closing the Project-Things That Must Be Accomplished

9. Agile Overview

• What is Agile All About? The Agile Manifesto and Principles
• The Levels of Agile Planning
• Release Planning-The Product Backlog, Sprint Backlog
• Story Points and Velocity
• Iteration Planning
• Daily Scrums, Sprint Reviews, Demos, and Retrospectives

Hands-On Exercises:

Exercise 1: Stakeholder Analysis

• Assess stakeholders for their interests, importance and influence on a project
• Classify them by means of a four-quadrant ranking system
• Enter the information in a typical stakeholder register template

Exercise 2: Capturing High-Level Requirements

• Utilize a top-down or bottom-up methodology to capture project requirement early in the SDLC timeline
• Evaluate different tools for brainstorming requirements such as vision statements and in/out diagrams

Exercise 3: Create a Work Breakdown Structure (WBS)

• Use a sticky note decomposition method to capture necessary deliverables
• Apply the 100% rule to the construction of the hierarchical WBS diagram
• Create work packages as necessary for each deliverable

Exercise 4: Decompose Work Packages to Activities

• Utilizing one of several presented methods, decompose work packages to activities that can be managed by a project manager
• Discuss management issues such as 'micromanaging' and how proper sizing of activities can be used to prevent them

Exercise 5: Develop a Dependency Network

• Establish the proper dependency relationships of a set of activities in precedence diagramming