Essential Scalable Agile Architecture™ - Enterprise Architect™ edit

Course Summary

Description

This introductory Scalable Agile Architecture workshop provides students with a solid foundation for applying architecture-centric Agile Modeling and Lean IT methods with Agile development methods, such as Scrum and XP. The workshop teaches students how to solve practical problems using Agile Modeling techniques using AgileML, a Lean subset of UML 2 with optional model libraries. Learning modules are punctuated with frequent Q&A sessions and hands-on practice exercises.

This workshop edition is customized to integrate basic modeling tool training with Sparx Enterprise Architect, an award-winning modeling tool.

Objectives

At the end of this course, students will be able to:

- Understand what is *Scalable Agile Architecture* and how do Agile Modeling and Lean IT methods enable it?
- Understand AgileML = a small, pragmatic, extended subset of UML 2 that supports the full Agile System Development Life Cycle (SDLC) — Requirements through Testing and Deployment
- UnderstandScrum++ = a superset of the Scrum Agile development method that incorporates Scalable Agile+Lean architecture work products
- Understand requirements-driven traceability across the full Agile SDLC
- Understand lightweight Service-Oriented Analysis & Design techniques that will identify wicked software problems earlier in your Agile SDLC and facilitate creative solutions
- Understand how to Reverse Engineer models from software code to facilitate pair/peer code reviews and code refactoring
- Understand how to reuse Service-Oriented Design Sequence diagrams for Test Cases
- Understand how to specify distributed network architectures for Service Oriented Architectures (SOA)
- Understand practical guidelines for specifying correct, complete, clear, concise, and consistent models
- Understand how to draw essential AgileML diagrams, simulate/execute AgileML diagrams, and generate reports using a selected visual modeling tool: Sparx Enterprise Architect
- Understand how to organize your Agile Architecture process using the Scalable Architecture Framework (SAFe) process framework [Optional]
- Understand how to plan your transition to a Scalable Agile Architecture approach
- Understand how to learn more about Agile Architecture, Agile Modeling, and Lean IT

Topics

- Overview
- Requirements Management
- Service-Oriented Analysis & Design
- Data Modeling
- Service-Oriented Architectures
- Network Architectures
- Testing
- Basic Modeling Tool: Enterprise Architect
- Project Practicum

Audience

This course is designed for software architects/engineers/developers, business analysts, system engineers, project managers, and others who want to learn how *Scalable Agile Architecture* can improve how they architect, analyze, design, and manage complex systems will benefit from this workshop.

Prerequisites

Students should have software engineering, business analysis, or systems engineering experience in building large and/or complex systems. No other experience or prior training is required.

Duration

Three to five days

ProTech
protechtraining.com

"Charting the Course ...

... to Your Success!"

Essential Scalable Agile Architecture™ - Enterprise Architect™ edit

Course Outline

I. Agile Architecture – Overview
- A. Introduction to Scalable Agile Architecture
  1. Basic Concepts
  2. Principles and best practices
  3. Quick Tours: Architecture-centric Agile Modeling & Lean IT
  4. Aligning Agile Architecture with Agile Lifecycle
- B. Overviews
  1. Agile Architecture: Requirements Management
  2. Agile Architecture: Service-Oriented Analysis & Design
  3. Agile Architecture: Data Modeling
  4. Agile Architecture: Service-Oriented Architectures
  5. Agile Architecture: Network & Cybersecurity Architectures
  6. Agile Architecture: Testing

II. Agile Architecture– Requirements Management
- A. Intro to Agile Architecture Requirements Management
  1. Functional vs. Non-Functional requirements
  2. Requirements traceability and reuse
  3. Alignment with Agile Lifecycle
- B. Extending User Stories and Wireframes
  1. Scalable Use Case diagrams
  2. Scalable Requirement diagrams
- C. Reusing Agile Architecture Requirements for Test Cases
  1. Reusing Use Cases for Test Cases
  2. Reusing Requirement diagrams for Test Cases

III. Agile Architecture – Service-Oriented Analysis & Design
- A. Intro to Service-Oriented Analysis & Design
  1. Basic Concepts
  2. Principles and best practices
  3. Alignment with Agile Lifecycle
- B. Service-Oriented Analysis
  1. Realizing Requirements with an Service-Oriented Domain Model
  2. Define structural Service-Oriented Domain Model with Classes/Interfaces
  3. Define behavioral Service-Oriented Domain Model with Activity or Sequence diagrams
  4. Ensure full traceability of Service-Oriented Domain Model View to Requirements
- C. Service-Oriented Design
  1. Refactoring and refining the Service-Oriented Domain Model
  2. Extending the Design View to include
  3. User Experience (UX) Classes/Interfaces
  4. Persistent Data Classes/Interfaces
  5. Web Service Proxy Classes/Interfaces
  6. Legacy System Wrapper Classes/Interfaces
  7. Specifying and applying Design Patterns
  8. Ensure full traceability of Service-Oriented Design View to Requirements

IV. Agile Architecture – Data Modeling
- A. Intro to Agile Architecture Data Modeling
  1. Basic Concepts
  2. Principles and best practices
  3. Aligning work products with Agile Lifecycle
- B. Data Modeling Abstractions
  1. Conceptual Data Models
  2. Logical Data Models
  3. Physical Data Models (Schema)
- C. Relational (SQL) Data Modeling
  1. Object-relational data mapping
- D. Big Data (Non-SQL) Data Modeling
  1. Big Schema
  2. Big Data integration with relational data

V. Agile Architecture – Service-Oriented Architectures

VI. Agile Architecture – Network Architectures

VII. Agile Architecture – Testing
- A. Intro to Network & Cybersecurity Architectures
  1. Basic Concepts
  2. Principles and best practices
  3. Reinforcing Agile with Network & Cybersecurity Architectures
- B. Specifying Network Architectures
  1. Network topologies
  2. Network nodes and communication paths
  3. Network communication paths
- C. Specifying Cybersecurity Defenses
  1. Cybersecurity perimeter defenses
  2. Cybersecurity "crown jewel" (corporate IP) defenses

VIII. Agile Architecture – Basic Modeling Tool: Enterprise Architect

IX. Agile Architecture – Project Practicum