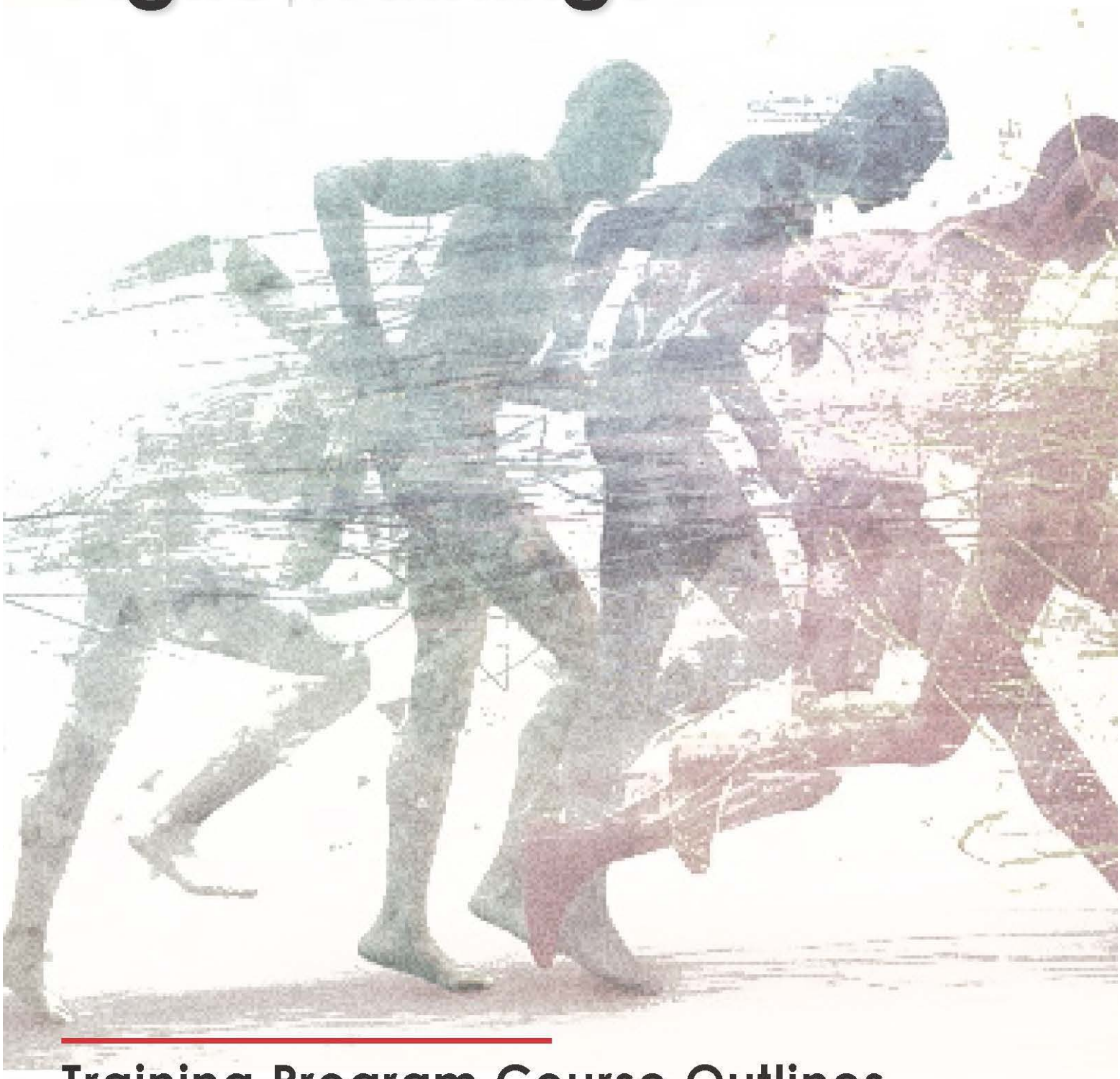
A Repository of **Agile Trainings**



Training Program Course Outlines

QAI·AGILE
centre of excellence

QUALITY ASSURANCE INSTITUTE WORLDWIDE

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Scrum Certifications

Certification Training Programs

Certified Scrum Master (CSM)

Certified ScrumMaster® (CSM®) is a designation offered by Scrum Alliance to practitioners who have successfully completed a CSM® course and demonstrate their understanding through the CSM® test. A CSM® performs the following functions:

- Aids project teams in using Scrum effectively
- Provides expertise above that of a typical Project Manager
- Acts as a 'servant leader' and helps the team work together and learn framework
- Protects the team from internal and external distractions
- QAI Global Institute offers CSM Classroom training.

Course Content

General Knowledge

- Agile Manifesto
- Scrum Foundations
- Sprints
- Scrum compared to Waterfall
- Scrum Values and where can you best use Scrum

Scrum Roles

- Overview of Scrum Roles
- ScrumMaster: Responsibilities & Authority
- Product Owner: Responsibilities, Authority, Constraints…etc.
- The Team: Responsibilities, Authority, Teamwork & Characteristics.
- Impact on Traditional Roles.

Scrum Meetings

- Sprint Planning Meeting
- Daily Scrum Meeting
- Sprint Review Meeting
- Sprint Retrospective Meeting
- Release Planning Meeting

Scrum Artifacts

- Product Backlog
- Product Increment and the Definition of Done
- Sprint Backlog
- Burndown Charts & Taskboards

Putting it all Together

- ScrumMaster Responsibilities and Skills
- Scrum Simulation
- Class Celebration & Retrospective

Course Outline

2 Day Classroom Training

- Highly experienced & certified Scrum trainer (CST). Limited batch size – assured focus and quality.

2 CSM Practitioner Practice Tests

- Work out 2 full-length CSM simulation tests for extensive practice.

CSM Exam

- Take CSM exam and become CSM certified

Eligibility

There are no eligibility criteria set for the ScrumMaster certification. Any professional looking to further his career in management can attend the course and attempt the test.

Certified Scrum Product Owner (CSPO)

Scrum is an agile project management method that focuses upon short, focused work periods called "Sprints." As a Product Owner it is very important to learn how to work with your team & stakeholders to identify the business benefits to prioritize, understand customers & end-users and creating the product backlog which further leads to managing the backlog efficiently.

As it is wisely formulated by user experience expert Jeff Patton:

- It's about the product
- It's about understanding product benefits
- It's about customer experience
- It's about design thinking
- It's about collaboration

That's where the CSPO course comes in. Our trainers will teach you what you need to know to fill the role of Product Owner. This course focuses on the basics of the Scrum framework, including team roles, activities, and artifacts, so that you can be an effective member of a Scrum team.

This course is a mix of theoretical, problem exploration & practical discussions and this 2 days course will equip attendees to best possible Product Owner for their Scrum projects.

Course Outline

This training is aimed at instilling the core beliefs of Agile and Scrum and creating a transparent and collaborative environment where the team succeeds as a single entity. SCRUM is an Agile Project Management method that focuses on short, focused work periods called "SPRINTS".

During this 2-day course, participants will learn to apply the Scrum framework to build new products. They will get trained as Product Owners and learn what it feels like to be on a Scrum team – experiencing many of the challenges they're likely to face – while being coached by a Certified Scrum Trainer who has been involved with the application of Scrum at many organizations.

Scrum Basics

- Understanding Scrum framework
- Scrum Rules & Properties
- Software Development Principles
- Empirical Process Control
- Work Culture

Roles & Responsibilities

- Product Owner (in Detail)
- Scrum Master (Overview)
- Development Team (Overview)
- Impact on traditional roles

Product Vision

- Importance of Product Vision
- Create effective Product Vision
- Desired qualities of the vision
- How the vision can be shaped?
- Importance of just-enough prep work
- Relationship between vision & product roadmap

Estimating

- Understand different estimation levels in Scrum
- Accuracy Vs Precision
- Size & Duration estimation
- Product Owner's expectation from team
- Difference between Estimation & Committing

The Product Backlog

- Understand Product Backlog
- Product Backlog Grooming

Prioritizing

- Understand the importance of prioritizing in Product Backlog
- Implications of making everything mandatory
- Who inputs into prioritization?
- Multiple factors affecting prioritization
- Formal approach to prioritizing
- Team's role in adjusting sequence of work

Release Management

- Goal of release management
- Adaptive, Iterative & collaborative planning
- Different levels of Planning
- Quality of shippable product
- Technical Debt
- Release early & frequently
- Understanding & measuring Velocity
- Release Burndown Chart
- Forecast future

Sprints

- Product Owner's role
- Collaboration between Product Owner & Development team
- Team commitment
- Sprints – Time-boxed & protected
- Sustainable pace concept

Takeaways

On completion of the course and passing the online exam, attendees will receive official designation as "Certified Scrum Product Owner" by the Scrum Alliance. This certification includes a two–year membership of the Scrum Alliance.

This course earns you 14 PDUs (category A) within the PMI. It earns 14 SEUs (category B) within the scrum alliance. PDUs and SEUs can be used toward PMP, PMI-ACP, CSP and other certifications.

You will also get a physical copy of the presentation and some more exciting materials.

Eligibility

- Are you a product owner who is struggling to understand your role in a Scrum or agile process?
- Are you facing challenge in meeting stakeholder & team's expectations?
- Are you finding challenge in creating backlog and correctly prioritizing them to meet the product vision?
- Are you finding it difficult in getting visibility on team's progress?
- Or you have this passion to be a Product Owner because you think this is what you want and you are capable of, and want to learn what it takes to be one?

Certified Scrum Developer (CSD)

A Certified Scrum Developer (CSD) is someone who has demonstrated through a combination of formal training and a technical skills assessment that he or she has a working understanding of Scrum principles and has learned specialized Agile engineering skills.

The Certified Scrum Developer® (CSD) coursework is 5 days course (a combination of a 3 day CSD technical skills course and two days of the study of Scrum through either a two-day Certified ScrumMaster® course OR attending a one-day technical Scrum elective course and a one-day introduction to Scrum course).

Course Outline

Architecture and Design

- Principles of architecture in an Agile environment
- Design practices on an Agile team
- Principles that enable testability and ease refactoring
- Emergent Architecture

Collaboration

- Working together as one team
- Including the customer in the process
- Pair programming

Test Driven Development

- Test driven development (TDD) as a design approach
- Red-green-refactor cycle
- Unit testing principles and practices
- What makes good tests/measuring test effectiveness
- Test Doubles

Continuous Integration

- Single command build
- Creating builds that are automated, self-testing, and fast
- The importance of a single source repository
- Increasing visibility & automating deployment

Refactoring

- When to refactor
- Refactoring for maintainability
- Refactoring to patterns
- Refactoring legacy code

Automated Testing

- Automated unit/integration testing
- Refactoring for maintainability
- Automated acceptance testing
- Acceptance Test Driven Development (ATDD)

Agile methodology in Indian IT Context

- Distributed Development
- Customer participation in the team

Eligibility

This training is for all team members of the scrum team. This workshop will benefit

- Architects
- Designers and developers;
- User Experience Engineers
- Development and Product managers
- Software engineers/Programmers
- Testers and QA engineers
- Business and Technical analysts
- Technical Writers
- Systems/IT Engineers
- Basically everyone who is part of the Scrum Team

Preferred: Participants familiarity with Java, .net and Object-Oriented (OO) concepts and terminology.

“Planning is everything,
plans are nothing.”

.. Field Marshal Helmuth von Moltke

PMI Agile Certified Practitioner (PMI-ACP) Training Program

The PMI ACP® certification is a new credential offered by PMI for people working in Agile project management environments. Individuals obtaining this certification can demonstrate their level of skills in Agile practices. The process of earning this credential involves satisfying PMI's eligibility criterion and passing a exam. The PMI ACP® certification from PMI carries a high level of professional standing and credibility as it requires a combination of agile education, experience on Agile practices and examination on Agile practices.

The PMI ACP® certification is for anyone involved in any product development efforts that have a large amount of complexity and uncertainty. Obtaining the credential recognizes an individual's skills in using Agile tools and techniques to successfully navigate complex projects towards satisfactory outcomes

This two-day program fulfills the PMI® requirement of 21 contact hours which a PMI ACP® aspirant needs to have before applying for the PMI ACP® Certification examination. The Program also aims to train the participants to be effective Project Managers using Agile methodologies.

Workshop Benefits

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

- Understand the processes of Agile Project management.
- Learn about the Agile Project phases, Agile life cycle and Stakeholders, Key Agile Management skills and the social-economic-environmental influences.
- Learn about the key Agile Project management processes of Product Backlog, Sprint Planning, Sprint Reviews and Retrospectives, Along with other factors such as Prioritizations using different techniques
- Learn about the Professional Responsibilities concerning Agile Project Management.
- Learn how to use the recommended books by the Project Management Institute to prepare for the PMI ACP® Examination.
- Get guidelines on filling up the PMI ACP® Application form

Ascertain their level of readiness for taking the PMI ACP® Examination

Course Outline

- **Introduction (Module 1)**
  - Getting to know the participants
  - Introduction to PMI®
  - PMI ACP® Certification – advantages
  - PMI ACP® Certification – process and fees related information
  - PMI ACP® Application procedures – instructions on how to fill in the form
  - PMI ACP® Examination – information on the split of questions, question pattern
  - PMI ACP® Examination – Tips on how to prepare and take the examination (this theme will be reiterated throughout the course)
  - PMI ACP® – Fulfilling the CCR requirements
  - Familiarization with course outline
  - Familiarization with the protocols and timings
  - Expectation setting and clarifications
  - PMI Code of Ethics and Professional Conduct
  - Introductory Quiz – to assess the current level of familiarization of the participants with Agile Methodologies, Concepts and assess the gaps.

- **Introduction to Agile Methodologies (Module 2)**
  - What is Agile?
  - Agile vs. Traditional Project Management
  - Why Agile?
  - Agile Manifesto Values and Principles
  - Usage and Applicability of Agile Methods
  - High Level Roles in Agile
  - Variants in Agile (Scrum, XP, TDD, FDD)
  - Quiz – Introduction to Agile Methods

- **Agile Project Management Context (Module 3)**
  - The concept of Agile Project Lifecycle and its characteristics
  - Phases defining the Agile Project Lifecycle
  - Elements of Project Charter for Agile Projects
  - Agile Project Stakeholders – how to identify and manage Stakeholders?
  - Agile Analysis and Design
  - Product Roadmap
  - Product Backlog
  - User Stories
  - Story Maps
  - Progressive Elaboration
  - Wireframes
  - Chartering
  - Personas
  - Agile Modelling
  - Quiz – Agile Project Management context

- **Agile User Stories (Module 4)**
  - Business Case Development
  - Value Based Prioritization
  - ROI
  - NPV
  - IRR
  - Compliance
  - Customer Valued Prioritization
  - Minimal Marketable Feature
  - What is a User Story?
  - Discussing Requirements Management in Traditional Project Vs. Agile
  - INVEST Concept in User Stories
  - Methods of handling Large Stories
  - Release Backlog
  - Product Backlog
  - MOSCOW Principle in Prioritization
  - Sprint Backlog
  - Brain Storming Techniques
  - Re-Prioritization of Requirements / User Stories across Iteration
  - Stakeholder Management
  - Quiz-Agile User Stories

- **Agile Estimation, Planning, Monitoring and Adapting (Module 5)**
  - Historical Estimations
  - Relative Sizing
  - Story Points Concepts
  - Planning Poker
  - Affinity Estimation
  - Ideal days / Time based Estimation
  - Incremental Delivery
  - Sprint Planning Meeting
  - Sprint Burn Down Chart
  - Product Burn Down Chart
  - Release Burn Down Chart
  - Release Burn Up Chart
  - Sprint Reviews
  - Sprint Retrospectives
  - Continuous Improvement Process
  - Quiz – Agile Estimations

- **Agile Communications & Soft Skills (Module 6)**
  - Information Radiators
  - Team Space
  - Osmotic Communication
  - Co-located Teams
  - Distributed Teams
  - Daily Stand Ups
  - Scrum of Scrums
  - Remote Product Owner and Its Management
  - Building High Performance Teams
  - Building Empowerment Teams
  - Coaching and Mentoring with Teams
  - Active Listening
  - Team Motivation
  - Emotional Intelligence
  - Collaboration
  - Adaptive Leadership
  - Negotiation
  - Facilitation Methods
  - Conflict Resolution Management
  - Servant Leadership
  - Quiz – Agile Communications & Soft Skills
- **Agile – Product Quality (Module 7)**
  - Test Driven Development
  - Test me First Concept
  - Definition of “Done”
  - Continuous Integration
  - Feedback Techniques for Product
  - Prototyping
  - Simulations
  - Demonstrations
  - Evaluations
  - Problem Solving Strategies, Tools and Techniques
  - Project and Quality Standards for Agile Projects
  - Quiz – Agile Product Quality
- **Agile Risk Management (Module 8)**
  - Risk Management
  - Risk Adjusted Backlog
  - Risk Burn Down Graphs
  - Risk Based Spikes
  - Quiz – Agile Risk Management
- **Agile Metrics Management and Value Stream Mapping (Module 9)**
  - Velocity
  - Cycle Time
  - EVM in Agile
  - Escaped Defects
  - Variance and Trend Analysis
  - Variation in Agile Methods and Approaches
  - Value Stream Mapping
  - Quiz – Agile Metrics Management & Value Stream Mapping
- **PMI ACP® MOCK test (200 questions) — QAI proprietary (Module 10)**
- **Feedbacks (Module 10)**
- **Workshop Valedictory (Module 10)**

Eligibility

The target audience for the program is a mix of professionals across hierarchies involved in project management, product management, system and solution architecting. The target audience for the program is professionals interested in pursuing the PMI ACP® certification examination conducted by Project Management Institute.

- Agile Project Managers
- Product Owners
- Scrum Masters
- Scrum Team Members
- Project Sponsors
- Project Planners
- Quality Staff (Testing and Quality Assurance)
- Agile Developers / Programmers
- Designers
- Testers
- Project Controller (PMO Office)

Prior experience of using any variant of Agile would be an added advantage.

Professional Scrum Master (PSM)

The Professional Scrum Master (PSM) course is a 2-day course that covers the principles and (empirical) process theory underpinning the mechanics, rules and roles of the Scrum framework. Advanced tools for servant-leadership are provided to increase a Scrum Master's effectiveness. These tools relate to behavioural shifts, working with people and teams, coaching and facilitation techniques, and addressing the organization.

Attendees learn through instruction and team-based exercises, and are challenged to think in terms of the Scrum principles to better understand what to do when returning to the workplace.

Professional Scrum Master is THE cutting-edge course for effective Scrum Masters and anyone supporting a software development team's efficiency and effectiveness.

Professional Scrum Master Certification

The Professional Scrum Master course has two associated assessments and certification: Professional Scrum Master level I (PSM I) and Professional Scrum Master level II (PSM II).
All participants completing the Professional Scrum Master course receive a password to take the PSM I assessment and are entitled to a discount on the PSM II assessment.

These industry-recognized certifications require a minimum passing score on the associated rigorous assessment. Scrum.org maintains public lists of all PSM I certificate holders and PSM II certificate holders. Microsoft® uses the PSM I assessment to validate knowledge as part of its Silver and Gold Application Lifecycle Management (ALM) competencies.

Professional Development Units (PDUs) and Scrum Education Units (SEUs)

- Attendees of Scrum.org courses are able to claim Project Management Institute (PMI) PDU credit: 14 PDUs after attending a two-day Professional Scrum Foundations (PSF), Professional Scrum Master (PSM), Professional Scrum Product Owner (PSPO), or Scaled Professional Scrum (SPS) course and 21 PDUs after attending a three-day Professional Scrum Developer (PSD) course.
- PMI PDUs are earned for course attendance and not for passing a Scrum.org assessment. Attendees can claim PDUs under PMI's "Education courses provided by other third party providers" category. You can claim your PDUs online at https://ccrs.pmi.org.

Course Prerequisites

Attendees make the most of the class if they:

- Have studied the Scrum Guide (required).
- Passed the Scrum Open assessment.
- Have a solid understanding of Scrum either through working on a Scrum Team, or through taking part in a Professional Scrum Foundations or similar course.
- Have been on or are closely involved in building or enhancing a software product or application.
- Have read one of the Scrum books.

Eligibility

The Professional Scrum Master course is targeted to Scrum Masters and anyone else responsible for the successful use and/or rollout of Scrum.

Professional Scrum Product Owner™ (PSPO)

The Professional Scrum Product Owner (PSPO) course is a 2-day course on how to maximize the value of software products and systems. Product Ownership in Scrum today requires more than knowledge of how to write requirements or manage a Product Backlog. Professional Scrum Product Owners need to have a concrete understanding of everything that drives value from their products.

Attendees develop and solidify this understanding through instruction and team-based exercises. The breadth of the role's responsibilities in delivering a successful product becomes clear from an Agile perspective on product management. Metrics are identified to track the creation of value and the successful delivery of it to the marketplace. This defines the perspective from which the role of the Product Owner in the Scrum framework is taught.

Professional Scrum Product Owner is THE cutting-edge course for Product Owners, Agile product managers and anyone responsible for a software product's success in turbulent markets.

Professional Scrum Product Owner Certification

The Professional Scrum Product Owner course has two associated assessments and certification: Professional Scrum Product Owner level I (PSPO I) and Professional Scrum Product Owner level II (PSPO II).

All participants completing the Professional Scrum Product Owner course receive a password to take the PSPO I assessment and are entitled to a discount on the PSPO II assessment.

These industry-recognized certifications require a minimum passing score on the associated rigorous assessment. Scrum.org maintains public lists of all PSPO I certificate holders and PSPO II certificate holders.

Professional Development Units (PDUs) and Scrum Education Units (SEUs)

- Attendees of Scrum.org courses are able to claim Project Management Institute (PMI) PDU credit: 14 PDUs after attending a two-day Professional Scrum Foundations (PSF), Professional Scrum Master (PSM), Professional Scrum Product Owner (PSPO), or Scaled Professional Scrum (SPS) course and 21 PDUs after attending a three-day Professional Scrum Developer (PSD) course.
- PMI PDUs are earned for course attendance and not for passing a Scrum.org assessment. Attendees can claim PDUs under PMI's "Education courses provided by other third party providers" category. You can claim your PDUs online at https://ccrs.pmi.org.

Course Prerequisites

Attendees make the most of the class if they:

- Have studied the Scrum Guide (required).
- Passed the Scrum Open assessment.
- Passed the Product Owner Open assessment.
- Have a solid understanding of Scrum either through working on a Scrum Team, or through taking part in a Professional Scrum Foundations or similar course.
- Have been on or are closely involved with the product management aspects of a software product or application.

Eligibility

The Professional Scrum Product Owner course is targeted to Product Owners and anyone else accountable for maximizing the value delivered by software products and services.
Scrum Masters benefit from this course as their role often includes coaching Product Owners.

Professional Scrum Developer™ (PSD)

The Professional Scrum Developer (PSD) course is a 3-day course that teaches how to create great software using the Scrum framework. Working in a series of Sprints, teams of students collaborate, apply modern engineering practices, and use the Scrum framework to cope with changes. They learn how to develop increments of potentially releasable functionality from a realistic Product Backlog.

Attendees concurrently do requirements engineering, design, development, testing, integration, and deployment within a single iteration. The course teaches how Agile engineering practices and supportive ALM tools improve a team's capabilities even more.

The course is available in .NET and Java specific technologies along with a generic technology course for developers using other technology stacks. The .NET version was developed in partnership with Microsoft® and is the official training solution for Microsoft Visual Studio.

Professional Scrum Product Owner Certification

All participants completing the Professional Scrum Developer course receive a password to take the Professional Scrum Developer level I assessment (PSD I).
The industry-recognized PSD I certification requires a minimum passing score on this rigorous assessment.

Professional Development Units (PDUs) and Scrum Education Units (SEUs)

- Attendees of Scrum.org courses are able to claim Project Management Institute (PMI) PDU credit: 14 PDUs after attending a two-day Professional Scrum Foundations (PSF), Professional Scrum Master (PSM), Professional Scrum Product Owner (PSPO), or Scaled Professional Scrum (SPS) course and 21 PDUs after attending a three-day Professional Scrum Developer (PSD) course.
- PMI PDUs are earned for course attendance and not for passing a Scrum.org assessment. Students can claim PDUs under PMI's "Education courses provided by other third party providers" category. You can claim your PDUs online at https://ccrs.pmi.org.

Course Prerequisites

Attendees make the most of the class if they:

- Have studied the Scrum Guide (required).
- Passed the Scrum Open assessment.
- Passed the Developer Open assessment.
- Have a solid understanding of Scrum either through working on a Scrum Team, or through taking part in a Professional Scrum Foundations or similar course.
- Have experience with the technologies listed below:

.NET Courses

- Visual Studio 2013
- C#, .NET & ASP.NET experience (discuss exact technologies with instructor)

Java Courses

- Eclipse for Java or similar IDE
- Java, JUnit, Subversion or Git (discuss exact technologies with instructor)
- Jenkins, and Sonar experience is beneficial

Eligibility

The Professional Scrum Developer course is suitable for any member of a Development Team, including architects, programmers, database developers, testers, and others with some technical knowledge. The class focuses much on technology and requires pair programming.

Scaled Professional Scrum (SPS)

In this two-day Scaled Professional Scrum (SPS) Workshop, you will simulate a large software development project using the Nexus Framework. Through this hands-on case study, you will learn over 50 practices to reduce complexity and dependencies at scale. You will leave with the knowledge and tools necessary to scale Scrum to deliver an Integrated Increment every Sprint.

This experience will help you understand the techniques, philosophies, and challenges that Ken Schwaber and Scrum.org have learned through years of formulating and coaching Scrum projects in enterprises.

Workshop Objectives

- The new roles, artifacts and events of the Nexus Framework
- How to organize several teams working on the same product so productivity is optimized
- Practices that will help teams efficiently build an integrated software product
- Techniques to detect irregularities and how to address them appropriately
- Challenges in large-scale development initiatives and how to get back on track

SPS Certification

All participants who complete the Scaled Professional Scrum workshop receive a password to attempt the Scaled Professional Scrum assessment (SPS).
The industry-recognized SPS certification requires a minimum passing score on this rigorous assessment.

Professional Development Units (PDUs) and Scrum Education Units (SEUs)

- Attendees of Scrum.org courses are able to claim Project Management Institute (PMI) PDU credit: 14 PDUs after attending a two-day Professional Scrum Foundations (PSF), Professional Scrum Master (PSM), Professional Scrum Product Owner (PSPO), or Scaled Professional Scrum (SPS) course and 21 PDUs after attending a three-day Professional Scrum Developer (PSD) course.
- PMI PDUs are earned for course attendance and not for passing a Scrum.org assessment. Attendees can claim PDUs under PMI's "Education courses provided by other third party providers" category. You can claim your PDUs online at https://ccrs.pmi.org.

Course Prerequisites

Attendees make the most of the class if they:

- Have studied the Nexus Guide (required).
- Have a solid understanding of Scrum either through working with a Scrum Team or through taking a Professional Scrum Master class or similar course.
- Have an understanding of development techniques, tools, and practices needed to sustain large scale development.
- Passed the Nexus Open assessment.

Eligibility

SPS is targeted at development leads and managers and anyone else involved in formulating, participating or managing scaled Scrum product development. Organizations are encouraged to send a team of people that will be (or already are) running large Scrum initiatives.
It is especially oriented to those who:

- Already are effectively running small Scrum projects
- Want to apply multiple Scrum teams to develop a large system or product
- Managing scaled projects
- Struggling with scaled projects

Certification Training Programs

Scaled Agile Certifications

SAFe® Agilist (SA) Certification

In this two-day course, you will gain the knowledge necessary to lead an enterprise agile transformation by leveraging the Scaled Agile Framework, with its underlying principles of lean thinking, and product development flow. You will leave with an understanding of how the principles and practices of the framework support Lean Thinking, Agile Development, SAFe ScrumXP, Agile Release Train, Agile Portfolio Management, Agile Architecture, and Scaling Leadership.

Workshop Objectives

By the end of this course, attendees will be able to:

- Apply lean, agile and product development flow principles to improve productivity, employee engagement, time to market, and quality
- Apply the Scaled Agile Framework based on lecture, real-world examples, and insights by Scaled Agile experts
- Understand the skills necessary for an enterprise transformation based on the information and examples presented, and additional recommended readings and resources
- Gain the insights into the leadership skills most effective in unlocking the intrinsic motivation of software development knowledge workers, and begin applying them in your context

Course Outline

- Intro to SAFe
  - Introduction to the Scaled Agile Framework™
- Lean Thinking
  - An overview of Lean Software Development and Product Development Flow
- Agile Development
  - Application of Agile development in the enterprise context. Business Benefits.
  - SAFe ScrumXP
  - An experiential walkthrough of “SAFe ScrumXP”, focusing on scalable technical, project management and economic prioritization practices that enable scaling to the program and portfolio level
- Agile Release Train
  - Identification, implementation and execution of Agile Release Trains – long-lived programs whereby teams-of-agile-teams optimize quality and velocity delivery for the enterprises larger value streams
- Agile Portfolio Management
  - Agile transformational patterns for Strategy and Investment Funding, Program Management, and Governance
  - Agile Architecture
  - Principles of Agile Architecture, role of System and Enterprise Architects, and Architecting with Flow
- Scaling Leadership
  - Scaling Enterprise Lean|Agile leadership

Eligibility

- Executives, managers and Agile change agents responsible for leading a Lean | Agile change initiative in the larger software enterprise.
- This course is a requirement for those seeking certification as a Scaled Agile Framework Agilist (SA)

SAFe® Practitioner (SP) Certification

This two-day course teaches teams who are part of an Agile Release Train (ART) how to work in an Agile environment using Scrum, Kanban, and XP. The teams will learn how to become Agile Teams, build their backlog, and plan and execute iterations. Agile teams learn about their ART and their role in it, planning, executing, and improving with other teams. This class prepares teams to run a Program Increment (PI), including all meetings at the Team and Program level with a specific focus on the upcoming PI planning.

Attending the class prepares participants to take the exam and become a certified SAFe® Practitioner (SP).

Learning Goals

After this course, you should be able to:

- Apply SAFe to scale Lean and Agile development in your enterprise
- Know your team and its role on the Agile Release Train
- Know all other teams on the train, their roles and the dependencies between the teams
- Plan iterations
- Execute iterations, demo value, and improve your process
- Plan Program Increments
- Integrate and work with other teams on the train

SAFe Practitioner (SP) Certification

SAFe® Certification Kit

Attendees who pass the exam will receive:

- A SAFe Practitioner certificate
- One-year certified membership as a SAFe Practitioner

Professional Development Units (PDUs) and Scrum Education Units (SEUs)

- Attendees may be eligible to apply for 16 Continuing Education – Strategic PDUs toward their continuing education requirements with the Project Management Institute (PMI) for PMP and PMI-ACP certifications.
- Attendees may be eligible to apply for SEUs under category C, toward earning or renewing their CSP through Scrum Alliance.

Course Outline

- Introducing the Scaled Agile Framework® (SAFe®)
- Building an Agile Team
- Planning the Iteration
- Executing the Iteration
- Executing the Program Increment

Takeaways

The class registration includes:

- Attendee workbooks
- Eligibility for attendees to take the SAFe® Practitioner (SP) exam with certification exam administration and scoring

Eligibility

The following individuals will benefit from this course:

- All stakeholders of an Agile Release Train at the beginning of its SAFe journey

SAFe® Product Manager Product Owner (SPMPO) Certification

In this two-day course, you will learn how the roles of Product Manager, Product Owner, Solution Manager, and Epic Owner drive the delivery of value in the SAFe enterprise. You'll get an overview of the Scaled Agile Framework® (SAFe®), the Lean-Agile mindset, and an understanding of how the Product Manager and Product Owner roles operate in the enterprise to drive the delivery of value. Finally, you will get an in-depth understanding of the specific activities, tools, and mechanics used to effectively deliver value to the enterprise.

By the end of this course, you should be able to write Epics, Capabilities, Features, and User Stories within the context of SAFe, and have a solid foundation for managing backlogs and programs in a Lean-Agile enterprise.

Learning Goals

After this course, you should be able to:

- Identify the major components of the Scaled Agile Framework
- Connect the Scaled Agile Framework to core Lean-Agile principles and values
- Identify key roles and responsibilities within a SAFe implementation
- Contribute to Portfolio content using epics and the Portfolio kanban
- Apply Value Stream strategies to define and manage solution value
- Engage in Product Manager strategies
- Operate as a SAFe Product Owner
- Develop a stakeholder engagement plan
- Build and grow communities of practice

Course Prerequisites

One or more of the following prerequisites are recommended for students planning to attend this course and take the PMPO certification exam:

- Leading SAFe® 4.0
- Leading SAFe® Live Lessons 4.0
- SAFe experience

SAFe® Certification

- Attending the class prepares you to take the exam and become a certified SAFe® PM/PO (PMPO).
- SAFe® Certification Kit

Attendees who pass the exam will receive:

- A SAFe PM/PO certificate
- One-year certified membership as a SAFe PM/PO
- A SAFe PM/PO branding kit with the PMPO certification mark

Course Outline

- SAFe 4.0 PM/PO Introduction
- Embracing the Lean-Agile mindset
- Exploring Product Manger and Product Owner roles
- Contributing to Portfolio content
- Defining and managing solution value
- Being an effective SAFe Product Manager
- Being an effective SAFe Product Owner
- Engaging stakeholders
- Building your Communities of Practice

Professional Development Units (PDUs) and Scrum Education Units (SEUs)

- Attendees may be eligible to apply for 16 Continuing Education – Strategic PDUs toward their continuing education requirements with the Project Management Institute (PMI) for PMP and PMI-ACP certifications
- Attendees may be eligible to apply for SEUs under category C, toward earning or renewing their CSP through Scrum Alliance

Takeaways

The class registration includes:

- Attendee workbooks
- Eligibility to take the SAFe PM/PO exam
- One-year membership to Scaled Agile, with access to members-only resources such as webinars, workbooks, guidance presentations, and advance notice of upcoming SAFe products
- SAFe PM/PO (PMPO) attendance certificate upon request

Eligibility

The following individuals will benefit from this course:

- Product Managers, Product Line Managers, Product Owners, Business Owners, and Business Analysts
- Solution Managers, Portfolio Managers, Program Managers, PMO personnel, and Process Leads
- Enterprise, Solution, and System Architects

SAFe® Advanced Scrum Master (SASM) Certification

This two-day course prepares current Scrum Masters for their leadership role in facilitating Agile team, program, and enterprise success in a SAFe® implementation. The course covers facilitation of cross-team interactions in support of the program execution and relentless improvement. It enhances the Scrum paradigm with an introduction to scalable engineering and DevOps practices; the application of Kanban to facilitate the flow of value; and supporting interactions with architects, product management, and other critical stakeholders in the larger program and enterprise contexts. The course offers actionable tools for building high-performing teams and explores practical ways of addressing Agile and Scrum anti-patterns in the enterprise. Attending the class prepares you to take the exam and become a certified SAFe® Advanced Scrum Master (SASM).

Learning Goals

After this course, you should be able to:

- Apply SAFe® principles to facilitation, enablement, and coaching in the multi-team environment
- Build a high-performing team and foster relentless improvement at the team and program levels
- Address Agile and Scrum anti-patterns
- Support the adoption of engineering practices, DevOps, and Agile architecture
- Apply Kanban and flow to optimize the team's work
- Facilitate program planning, execution, and delivery of end-to-end systems value
- Support learning through participation in Communities of Practice and innovation cycles
- Learning Objectives

Course Prerequisites

Attendees of the SAFe® SASM course, are strongly suggested to have one of the following certificates:

- Certified ScrumMaster (CSM), Professional Scrum Master (PSM), and alternatively, SAFe
- Practitioners (SPs) who have attended the SAFe Scrum Master Orientation

SAFe® Certification

- SAFe® Advanced Scrum Master (SASM) certification
- SAFe® Certification Kit

Professional Development Units (PDUs) and Scrum Education Units (SEUs)

- Attendees may be eligible to apply for 16 Continuing Education – Strategic PDUs toward their continuing education requirements with the Project Management Institute (PMI) for PMP and PMI-ACP certifications
- Attendees may be eligible to apply for SEUs under category C, toward earning or renewing their CSP through Scrum Alliance

Course Outline

- SAFe® framework, values, and Lean-Agile principles
- Agile and Scrum anti-patterns
- Program increment planning, execution, and Inspect and Adapt workshops
- Quality engineering, Agile architecture, and DevOps practices

- Kanban for facilitating team and program flow of work
- Building high-performing teams
- Interaction with the system team, deployment, UX, architects, product owners, product management, and business owners
- Learning and Communities of Practice

Takeaways

The class registration includes:

- Attendee workbooks
- Online course feedback survey
- Eligibility to take the SAFe® Advanced Scrum Master exam with certification exam administration and scoring
- SAFe® Advanced Scrum Master (SASM) attendance certificate upon request

Eligibility

The following individuals will benefit from this course:

- Existing Scrum Masters
- Team leaders, project managers, and others who have assumed the role of an Agile team facilitator in a SAFe® or enterprise Agile context
- Engineering and development managers who will be responsible for Agile execution and for coaching teams and teams of teams
- Agile coaches
- Agile program managers and prospective Release Train Engineers

Attendees who pass the exam will receive:

- A SAFe® Advanced Scrum Master certificate
- A one-year certified membership as a SAFe® Advanced Scrum Master
- A SAFe® Advanced Scrum Master branding kit with the SASM certification mark

SAFe® Program Consultant (SPC) Certification

This four-day course will prepare you to lead an enterprise Agile transformation by leveraging the Scaled Agile Framework® (SAFe®). You will learn how to effectively apply the principles and practices of SAFe, including training with SAFe courseware, and coaching teams, launching Agile Release Trains, and building and managing an Agile portfolio. The first two days of the course— Leading SAFe—will provide you with the basis to teach SAFe to others, and if certified you'll be eligible to teach the Leading SAFe course. The next two days focus exclusively on implementing SAFe.

Certification is optional to attendees. Those who achieve SPC certification are authorized to license SAFe training materials.

Learning Objectives

After this course, you should be able to:

- Lead an enterprise Lean-Agile transformation
- Implement the Scaled Agile Framework (SAFe)
- Implement and manage a Lean-Agile portfolio
- Align the organization to a common language and way of working
- Perform value stream analysis and identify value streams
- Launch and support Agile Release Trains and coordinate value streams
- Build and execute the implementation rollout strategy
- Configure the Framework for a specific enterprise context
- Train managers and executives in Leading SAFe and act as a SAFe Agilist (SA) certifying agent (SPCs only)
- Train teams in SAFe for Teams (S4T) and act as a SAFe Practitioner (SP) certifying agent (SPCs only)

Course Prerequisites

All stakeholders in a Lean-Agile transformation are welcome to attend the course, regardless of experience. However, the following prerequisites are highly recommended for those who intend to take the SPC4 certification exam and operate in the field as a SAFe Program Consultant:

- 5+ years of experience in software development, testing, business analysis, product or project management
- 3+ years of experience in Agile
- One or more relevant Agile certifications

SAFe® Certification

Attending the class prepares you to take the SAFe Program Consultant (SPC) exam. Those who attain their SPC certification will receive:

- Access to license the course materials needed to train aspiring SAFe Agilists, SAFe Practitioners, and SAFePM/POs
- Access to no-cost license materials, videos, and artifacts that support launching Agile Release Trains
- Inclusion in the SPC directory listing (optional)
- Access to the private SPC LinkedIn Group

Attendees who pass the exam will receive:

- An SPC4 certificate
- Access to license the course materials needed to train SAFe Agilists, SAFe Practitioners, and SAFe PM/POs
- One-year certified membership as an SPC4

SPC4 branding kit with the SPC certification mark

Course Outline

Leading SAFe 4.0

- Introducing the Scaled Agile Framework
- Embracing a Lean-Agile Mindset
- Understanding SAFe Principles
- Implementing an Agile Release Train
- Experiencing PI Planning
- Executing and Releasing Value
- Building an Agile Portfolio
- Building Really Big Systems
- Leading the Lean-Agile Enterprise

Implementing SAFe 4.0

- Reaching the SAFe Tipping Point
- Designing the Implementation
- Launching an ART
- Facilitating ART Execution
- Extending to the Portfolio
- Understanding the SPC Exam
- Applying your SPC Certification
- Participating in Open Space

Professional Development Units (PDUs) and Scrum Education Units (SEUs)

- Attendees may be eligible to apply for 30 PDUs toward continuing education requirements with the Project Management Institute (PMI) for PMP or PMI-ACP certifications
- Attendees may be eligible to apply SEUs under category C, toward earning or renewing their CSP through Scrum Alliance

Takeaways

The class registration includes:

- Attendee workbooks
- One-year membership to Scaled Agile
- Eligibility to take the SPC4 exam
- Class attendance certificate upon request

Eligibility

The course is intended for those who will be materially and directly involved in a SAFe adoption. This includes enterprise leaders, practitioners, change agents, and consultants responsible for implementing Agile programs and portfolios as part of an enterprise Lean-Agile change initiative.

Attendees typically include:

- Professional Services Consultants
- Business and Technology Executives and Leaders, Managers, Directors
- Portfolio Managers and Fiduciaries, Project/Program Management Office (PMO) personnel
- Development, QA and IT management
- Program and Project Managers
- Product and Product Line Managers
- Process Leads and Lifecycle Governance Personnel
- Enterprise, System and Solution Architects
- Internal Change Agents, Lean-Agile Center for Excellence, Agile Working Group

“Agility is the ability to adapt and respond to change... agile organizations view change as an opportunity, not as a threat.”

.. Jim Highsmith

DevOps Certifications

Certification Training Programs

DevOps Foundation®

This sixteen (16) hour course provides an introduction to DevOps – the cultural and professional movement that stresses communication, collaboration, integration and automation in order to improve the flow of work between software developers and IT operations professionals. Improved workflows will result in an improved ability to design, develop, deploy and operate software and services faster.

Course Objective

The learning objectives for DevOps Foundation include an understanding of:

- DevOps objectives and vocabulary
- Benefits to the business
- Concepts and practices — including its relationship to Agile, Lean and IT Service Management (ITSM)
- Improved workflows
- Improved communication and feedback loops
- Reliance on automation
- Applying DevOps in an enterprise environment
- Critical success factors and key performance indicators
- Real-life examples and results

Course / Student Materials

Sixteen (16) hours of instructor-led training program and exercise facilitation

- DevOps – The Basics (pre-class resource)
- Learner Manual (excellent post-class reference)
- Participation in unique exercises designed to apply concepts
- Sample documents, templates, tools and techniques
- Access to additional sources of information and communities

Certification

Successfully passing (65%) the 60 minute exam, consisting of 40 multiple-choice questions, leads to the DevOps Foundation Certificate. The certification is governed, administered and maintained by the DevOps Institute. The DevOps Foundation Certificate will be the pre-requisite for future DevOps certification courses.

Pre Requisites

- Completion of pre-class assignment
- Familiarity with IT and IT service management is recommended

Eligibility

- Individuals and organizations seeking a foundational understanding of DevOps
- Employees and managers responsible for designing, reengineering or improving process
- Consultants guiding their clients through process improvement initiatives
- Internal and external suppliers
- Process stakeholders

Certified Agile Service Manager (CASM)® Certification

This sixteen (16) hour course provides an introduction to Agile Service Management – the application and integration of agile thinking into service management processes and process design projects.

Agile thinking improves IT's effectiveness and efficiency and enables IT to continue to deliver value in the face of changing requirements. A Certified Agile Service Manager (CASM) is the operational counterpart to a Certified Scrum Master (CSM). Working together, ScrumMasters and Agile Service Managers can instill agile thinking into the entire IT organization as the basis of a DevOps culture.

Course Objective

The learning objectives for Certified Agile Service Manager (CASM) include an understanding of:

- What it means to "be agile"
- The Agile Manifesto, it's core values and principles
- Agile concepts and practices including ITSM, Kanban, Lean and DevOps
- Scrum roles, artifacts and events as it applies to both products and processes
- The two aspects of Agile Service Management
  - Agile Process Improvement —ensuring processes are lean and deliver "just enough"
  - Agile Process Design—applying Agile practices to process design projects

Course / Student Materials:

Sixteen (16) hours of instructor-led training program and exercise facilitation

- The Agile Service Management Guide and Scrum Guide (pre-class resources)
- Learner Manual (excellent post-class reference)
- Participation in unique hands-on exercises designed to apply concepts
- Sample documents, templates, tools and techniques

Access to additional sources of information and communities

Certification

Successfully passing (65%) the 60 minute exam, consisting of 40 multiple-choice questions, leads to the candidate's designation as a Certified Agile Service Manager. The certification is governed, administered and maintained by the DevOps Institute.

Prerequisites

- Completion of pre-class assignment
- Familiarity with IT service management processes and ITIL® is recommended

Eligibility

Anyone interested in learning about Agile and Scrum from a products and process perspective

- Employees and managers responsible for designing, reengineering or improving process
- Consultants guiding their clients through process improvement initiatives
- Internal and external suppliers
- Process stakeholders

Agile Workshop for Product Owners

- A good Product Owner ensures that we deliver those items that are most likely to increase company ROI, add value for the customer, and maximize learning.
- The continual learning from each release is used to adjust plans for future releases
- Our training program of two days focuses on Scrum from a Product Owner's perspective
- This class will allow your organization to enjoy the many advantages Scrum has to offer by learning what it takes to play to role well from a leading expert on product ownership.
- Hands-on exercises demonstrate key concepts and let you experience the benefits of Scrum firsthand

Objectives

After the completion of the course, the participants would be able to:

- Understand the Agile Life Cycle, Scrum Process
- Practical understanding of roles, artifacts & ceremonies of Scrum
- Roles – Business Owner, Epics Owner, Product Manager, Product Owner, ScrumMaster, Team Member
- Ceremonies – Release Planning, Sprint Planning, Daily Scrum, Sprint Review

Course Outline

Introduction to Workshop (15mts)

- Participants introduction
- Familiarization with course material
- Familiarization with the protocols and timings
- Expectation setting and clarifications

Introduction to Agile Concepts

- Why Agile?
- Traditional vs Agile
- Introduction To Agile
- Agile Characteristics
- Agile Manifesto
- Agile Principles
- Popular Agile methods
- Applicability of Agile Methods
- Benefits of Agile Methods

Overview SCRUM (1 hr)

- Understanding Scrum framework
- SCRUM Rules / Guidelines
- Empirical Process Control
- Work Culture

Roles & Responsibilities

- Scrum Roles – Scrum Master, Product Owner, Scrum Team
- Product Owner (in Detail)
- Scrum Master (Overview)
- Development Team (Overview)
- Collaboration between Product Owner & Development team
- Team commitment
- Impact on traditional roles (How the Role of Manager Changes)

Questionnaire – Quiz – 10 mins

SCRUM Methodology – Sprint Execution

- Sprints – Time-boxed & protected
- Sustainable pace concept
- Sprint Planning and Release planning
- concepts Sprint duration and Sprint cancellation policy
- Implementing DOR and DOD concepts
- Sprint backlog
- Sprint Burn Down Charts
- Release Burn Down Charts
- Release Management
- Product backlog refinement
- Tracking progress in Scrum and metrics
- Sprint Review and retrospective

Role of Scrum Master and Daily Scrum – Video – 10 mins

SCRUM Simulation Exercise – 2.5 hours

- Includes creation of Product Backlog, Sprint Backlog, estimation, Scrum Roles identification, 3 (6 min) day Sprint, burn-down chart. Scrum ceremonies – sprint planning, stand-ups, Review and Retrospective

Product Vision

- Importance of Product Vision
- Create effective Product Vision
- Desired qualities of the vision
- How the vision can be shaped?
- Importance of just-enough prep work
- Relationship between vision & product roadmap

The Product Backlog

- Requirement Lifecycle in Scrum
- Understand Product Backlog
- Product Backlog Refinement
- Product Backlog Grooming
- Story Mapping
- Epics, Stories, Themes
- User Stories
- Themes, Epics, User Stories
- What is a User Story?
- User Role Modelling
- Personas
- Working with User Proxies

Writing User Stories

- User Story Workshop
- Card, Conversation, Confirmation
- Acceptance Tests
- INVEST
- Splitting User Stories
- Writing effective user stories
- Other artifacts – Design Documentation

Exercise – User Story writing (45 mins)
Interesting Agile Video Role of Product Owner 10 min)

Prioritizing

- Understand the importance of prioritizing in Product Backlog
- Implications of making everything mandatory
- Who inputs into prioritization?
- Multiple factors affecting prioritization
- Formal approach to prioritizing
- Team's role in adjusting sequence of work

Estimation

- Understand different estimation levels in Scrum
- Planning Flow
- Measure and monitor velocity
- Plan iterations and releases

- Estimation Flow
- Story points
- Planning poker
- Exercise on Effort and Schedule Estimation for Release and Sprint Planning

Release Management

- Goal of release management
- Adaptive, Iterative & collaborative planning
- Different levels of Planning
- Quality of shippable product
- Technical Debt
- Release early & frequently
- Understanding & measuring Velocity
- Release Burndown Chart
- Forecast future

Exercise – Backlog Estimation using Planner Poker, & Velocity & Release Planning Exercise (45 mins)

Conclusion and Q & A

Eligibility

The target audience for the program is a mix of professionals across hierarchies to get insights on the skills required for working as part of Agile Scrum teams. Participants learn the various activities involved in being a practitioner in an Agile SCRUM teams

- Existing Product Owners
- Business Analysts
- Project Managers
- Product Managers
- QA & Tech Leads

Certification Training Programs

Kanban Certifications

TKP - Team Kanban Practitioner

- Kanban approach is an “alternative path to agility.” Kanban Method uses Kanban boards to visualize invisible work, workflow and business risks and helps in managing the work faster with better predictability by introducing evolutionary changes to improve Service Delivery Workflow.
- The Team Kanban Practitioner class teaches the basics of the Kanban Method and serves as the entry level and starting point to an “alternative path to agility.” During this 1-day workshop, each attendee will:
  - Design and implement a Team Kanban board.
  - Learn the basics of visualizing different types of work and associated risk.
  - Understand how to proceed to the next level with Kanban

Certification

This training class is certified by Lean Kanban University (LKU) as TKP level training. Participants receive standard LKU certificates of class completion. LKU awards the Team Kanban Practitioner (TKP) credential to those successfully completed this class.

Learning Outcomes

- Participants should become familiar with the Kanban method and a conceptual overview of the full Kanban approach of “alternative path to agility,”
- They should be able to design and implement a Kanban board in their own team context. They should be able to differentiate between a work item type and the risks they are managing which are associated with specific work items.
- They should be familiar with a variety of different Team Kanban board designs and styles and know how to choose a design that is best suited for their context.
- They should be aware of the training roadmap to Kanban Management Professional and Kanban Coaching Professional and the value and benefits to be derived at each step

Attendees Receive

- Professional Credential TKP (Team Kanban Practitioner) and Certificate from Lean-Kanban University (LKU)
- Membership of the Lean-Kanban University (LKU)
- Soft copy of the David J. Anderson’s book “Kanban: Successful Evolutionary Change for Your Technology Business”
- Softcopy of the Classroom workbook

Delivery Method

- Lean Kanban University’s certified training program curriculum and teaching methods were created through collaboration of leading Kanban experts and validated in hundreds of training classes around the world.
- You get a trainer who is the LKU accredited trainer

- The course is a mix of case driven, instructor-led, and self paced learning, designed to enable participants learn, experiment and implement the concepts and underlying philosophy of Kanban.
- The course is very interactive and provides hands on Exercises and Group activities

Course Outline

- Participants introduction
- Familiarization with course material
- What is Lean Kanban?
- Connecting Agile, Scrum, Lean and Kanban
- Introduction to Kanban Method and Survey
- Using Kanban to address overburdening
- Principles & Practices of the Kanban Method
- Meanings of Kanban
- Basic Kanban concepts
- Visual Board
- Local Cycle Time Metrics
- WIP
- Delivery Rate & Little's Law
- Overview of 7 Kanban Cadences
- Daily standup meeting
- Replenishment meeting
- Lean Kanban interactive simulation
- Design a Ticket
- Kanban board design exercise (including Personal Kanban)
- WIP limits
- Batching and Flow
- Types of Risk
- Commitment and Replenishment
- Feedback loops – standup & replenishment
- Service delivery workflow Kanban
- Proto-Kanban versus full Kanban System
- Overview of STATIK
- Benefits of extending kanban up/down workflow
- Conclusion Q&A

Eligibility

- The target audience for the program is a mix of professionals across hierarchies to get insights on the skills required for working as part of Kanban teams and wishes to explore and pursue an alternative path to agility.
- Managers and team members who wish to find some respite to enable them to "get things done" with quality, improved speed, and predictability, and need help in focusing on what to work on now, what to leave until later and what to discard altogether.
- Participants learn the various activities involved in being a practitioner in an Agile Kanban teams.

KMP - I Kanban System Design

- Kanban approach is an “alternative path to agility.” Kanban is a set of values, practices and principles that bring the benefits of Agile and Lean concepts to organizations. Kanban method focuses on making evolutionary changes that evolve business processes into more efficient work streams while avoiding the risks associated with complex change programs
- Kanban System Design is a 2-day highly interactive workshop that provides a thorough foundation for anyone looking to understand how Kanban works in practice.
- This 2-day workshop, will make attendee:
  - to view what they do now as a set of services
  - guide them through the fundamentals of Lean Kanban principles and practices and how one can apply Lean Kanban method in their organization through hands-on exercises, games and simulations.
  - teaches them to understand demand of services types, visualize workflow, bottlenecks and queues and how to continually evolve their system to significantly improve service delivery.
  - get insights on how Kanban fits within the Agile context and how it can complement existing Agile or non-Agile ways of working.

Course Outline

Introduction to Workshop

- Participants introduction
- Familiarization with the protocols and timings
- Familiarization with course material
- Expectation setting and clarifications

Agile and Lean Concepts

- Agile Manifesto
- Agile Principles
- Popular Agile methods
- Lean Principles
- Connecting Agile, Scrum, Lean and Kanban

An overview to Kanban Method

- What is Kanban
- Kanban with a big ‘ K’ and little ‘k’
- Principles & Values of the Kanban Method
- Evolutionary change vs Big bang change approach
- Kanban Core Practices
- When is Kanban Typically Used

Kanban Board

- Identify Work items
- Visualizing the Workflow of work items
- Value stream and mapping of knowledge discovery process to workflow
- Demand Analysis
- Handling different Work items
- Kanban Cards
- Setting up and using a Kanban Board
- Input Queues and output Buffers

Work in Progress Limits

- Little's Law
- What is WIP and Why Limit WIP
- Calculating Lead Time
- Calculating Throughput
- Calculating Release Time
- Setting WIP Limits
- Where to Apply WIP Limits

Kanban Simulation

- Group exercise – realistic simulation of using a Kanban system in action

Managing the Flow of Work Items

- Measures and Metrics in Kanban
- Work flow and Cumulative Flow Diagram
- Measuring Lead time and Measuring Flow
- Interpreting Cumulative Flow diagram to identify problems
- How to optimize Flow
- Removing bottlenecks
- Computing Throughput and Flow Efficiency

Making Policies Explicit

- Understanding the Cost of Delay
- Understanding the risks
- Defining Definition Done
- Scheduling policies
- Service Level Agreement
- Making Policies Explicit

Kanban System Design and Implementation

- Introducing STATIK (Systems Thinking Approach To Introducing Kanban)
- Understanding Sources of Dissatisfaction
- Analyze Sources and Nature of Demand
- Understanding the impact of Variability
- Kanban System Design based on, service types, Delivery capability and Service Delivery Workflow
- Ticket Design
- Choosing appropriate System Replenishment and Delivery frequency

Feedback Mechanisms

- Cadence
- Daily Standups
- Retrospectives
- Operations Review

Continuous Improvement

- Evolving the process and practices in collaboration with team to ensure improvement in the service delivery model
- Empirical Feedback

Conclusion

- Summarization and Q&A

Certification

This course has been accredited by the Lean Kanban University (LKU) as Kanban System Design. Participants receive standard LKU certificates as KMP 1 (Kanban Management Professional) credentials, Membership of Lean Kanban University (LKU) and Listing in the LKU Member Directory.

Learning Outcomes

- Participants should become familiar with the Kanban method and a conceptual overview of the full Kanban approach of “alternative path to agility,”
- They should be able to lead or guide a team to model the knowledge discovery steps to design and implement a Kanban system in their own team context. They should be able to answer questions and support team in day to day operation in their journey towards adoption of Kanban
- They should be able to differentiate between a work item type and the risks they are managing which are associated with specific work items.
- They should be able to help teams to identify reasons for bottlenecks to flow, analyse demand vs capability and resolve by initiating evolutionary changes
- Will get familiar on creating meaningful metrics that can be used to evolve processes to bring in improvement and efficiency to service delivery.
- Connect with the Kanban community for the sharing of practical experiences and the development of new ideas and techniques

Attendees Receive

- Professional Credential KMP1 (Kanban Management Professional) Certificate from Lean-Kanban University (LKU)
- Membership of the Lean-Kanban University (LKU)
- Soft copy of the David J. Anderson’s book “Kanban: Successful Evolutionary Change for Your Technology Business”
- Softcopy of the Classroom workbook

Delivery Method

- Lean Kanban University’s certified training curriculum and teaching methods were created through collaboration of leading Kanban experts and validated in hundreds of training classes around the world.
- You get a trainer who is the LKU accredited trainer
- The course is a mix of case driven, instructor-led, and self paced learning, designed to enable participants learn, experiment and implement the concepts and underlying philosophy of Kanban.
- The course is very interactive and provides hands on Exercises and Group activities

Eligibility

- The target audience for the program is a mix of professionals across hierarchies to get insights on the skills required for working as part of Kanban teams and wishes to explore and pursue an alternative path to agility.
- Managers and team members who wish to find some respite to enable them to “get things done” with quality, improved speed, and predictability, and need help in focusing on what to work on now, what to leave until later and what to discard altogether.
- Product and Project Managers, Development Team Members (Architects, Designers, Coders, Testers, etc), Business Analysts and participants working in agile and scrum teams learn the various activities involved in being a practitioner in an Agile Kanban teams

KMP II – Kanban Management Professional

- KMP II systematically builds upon the foundations established in KMP I for your existing Kanban knowledge. By focusing on the complex demands of a multi-teamed organization, KMP II explores how to keep momentum beyond initial improvements realized from a successful Kanban implementation.
- KMP II addresses the need to ensure that better products and services lead to higher customer satisfaction and business performance.
- This 2-day workshop, will make attendee:
  - To gain a deeper understanding of the benefits of applying Kanban to their existing workflows
  - Investigate Kanban at scale, understanding the organization as a network of services
  - Provides the essential tools to those wanting to grow a learning organization and leverage the many services which connect and interact.
  - Gain hands-on learning with an enterprise-level Kanban case study

Pre-Requisites

- This course is for those who have experience applying the Kanban method in their organizations
- Attendees are expected to have completed a Kanban System Design Foundation – KMP I class
- Have read the Kanban book by David J Anderson or Kanban from the Inside by Mike Burrows.

Certification

- This course has been accredited by the Lean Kanban University (LKU) as Kanban System Design. Participants receive standard LKU certificates as KMP II (Kanban Management Professional) credentials,
- This course, following completion of the KMP Foundations I: Kanban System Design class, satisfies the Kanban Management Professional (KMP) designation requirement

Learning Outcomes

- Deeper Kanban practices to sustain evolutionary improvements for the participants who already are practicing Kanban in their work environment and are looking for further improvements
- Learn how to leverage the tools, collaboration mechanisms and actionable metrics to harness the full potential of the teams for service delivery
- Compile Kanban strategies to sustain and scale evolutionary improvements in the organization
- Implementing known empirical methods to sustain viable improvements

Delivery Method

Lean Kanban University's certified training curriculum and teaching methods were created through collaboration of leading Kanban experts and validated in hundreds of training classes around the world.

- You get a trainer who is the LKU accredited trainer
- The course is a mix of case driven, instructor-led, and self paced learning, designed to enable participants learn, experiment and implement the concepts and underlying philosophy of Kanban.
  - The course is very interactive and provides hands on Exercises and Group activities

Course Outline

Introduction to Workshop

- Participants introduction
- Expectation setting and clarifications

Motivation for Kanban Method

- Review and explore the motivations for the Kanban method

Kanban Values

- Examine and recognize emotional objections to WIP limit introduction
- Assess and interpret the Kanban value system, commitment and replenishment
- Decision Making – commitment
- Service Delivery Orientation

Kanban System

- Commitment and replenishment in-depth
- WIP Limits and Pull system to keep momentum beyond the initial improvements
- Insights w.r.t "cadence" in the workflow management.
- Building an Information Flow: the 7 Cadences
- Delivery Planning
- KPIs and metrics

Enterprise level Kanban Case study

- Hands-on learning with an enterprise-level Kanban case study

Feedback Loops to Improve Service Delivery

- Daily "Standup",
- Implementing organizational feedback loops with Kanban cadences, such as service delivery reviews, ops reviews and risk reviews
- Understanding Key Performance Indicators in Kanban and for service improvement.

Scaling Kanban

- Scale evolutionary improvements in the organization
- Investigate Kanban at scale, understanding the organization as a network of services
- Insights on practical approaches to apply Kanban to projects
- Large Project Planning and understanding scheduling
- Change Management

Conclusion

- Summarization and Q&A

Takeaways

- Professional Credential KMP II (Kanban Management Professional) Certificate from Lean-Kanban University (LKU)
- Membership of the Lean-Kanban University (LKU)

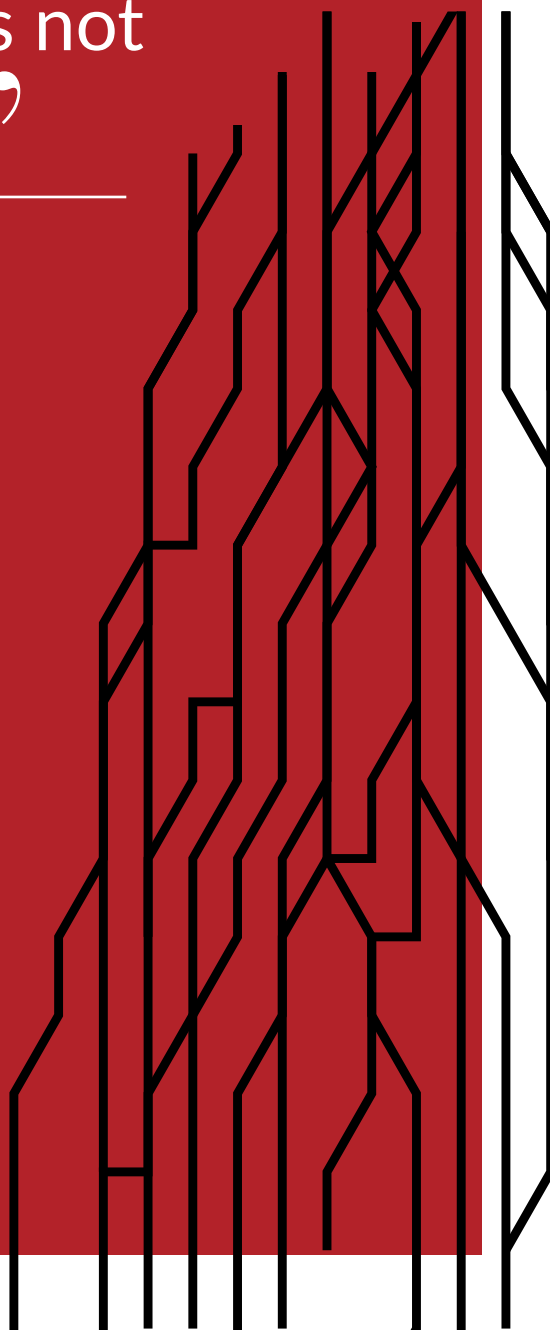
- Soft copy of the David J. Anderson's book "Kanban: Successful Evolutionary Change for Your Technology Business"
- Softcopy of the Classroom workbook

Eligibility

- The target audience for the program is for anyone who already are practicing Kanban in their work environment and are looking for further improvements for their systems and teams
- Kanban practitioners, Project and Program managers
- Line and middle managers
- Coaches and Trainers

“Learn from yesterday, live today, hope for tomorrow. The important thing is not to stop questioning.”

.. Albert Einstein



Non-Certification Training Programs

Non-Certification Training Programs

Mastering Agile SCRUM

The objective of this two-day course is to impart the skills required for working as part of Agile Scrum teams. Participants get to participate and learn the various activities involved in being a practitioner in an Agile SCRUM team. The participants will get an introduction to Agile and Scrum, release and sprint planning, estimation techniques, tracking in Scrum and participation in transitioning an organization to Scrum and so on. The participants can effectively be part of Scrum teams in an organization after attending this course.

The course is designed for individuals who want to familiarize themselves with Agile Scrum along with the usage of CMMI and begin using this new methodology for planning and executing their projects. The course is based upon the best practices of Agile Scrum as suggested by the Scrum Alliance and SEI for CMMI.

The program is an instructor led classroom session with self-paced learning through hands-on practice, which is highly interactive by means of practical exercises and case studies.

The course duration is 2 (two) days, and covers all aspects of Scrum Planning, Scheduling, Burn down charts, User Stories, Planning Poker, Velocity and its usage, Remote management of Agile Scrum, Working with distributed team in Agile, Roles in Agile Scrum (Product Owner, Certified Scrum Master and Project Team).

The course would cover elements and areas of CMMI with respect to different process areas and their interpretation and implementation.

Course Outline

At the end of the workshop you'll be able to:

- Understand the basics of Agile Scrum
- Issues with Traditional project management
- Complete Overview of Agile Scrum
- Understanding different roles in Agile Scrum
  - Product Owner
  - Scrum Master
  - Project Team
- Concept of Sizing in Agile Scrum
- Velocity and its usage in Scrum Planning
- Understanding Planning Poker
- Usage of Product Backlog
- Sprint Reviews
- Sprint Retrospective
- Using Agile Scrum in Fixed bid projects
- Distributed Teams and Agile Scrum
- Managing the project using Burn down chart
- Release Burn Down Chart
- Sprint Burn Down Chart
- Writing user stories
- Sizing user stories
- Implementation with CMMI
- Discussions on various process areas of Level 2 and 3
- Mapping Agile Scrum practices in CMMI
- Discussions on Agile / CMMI and PMP
- Real Cases studies
- Myths of Agile and CMMi

Takeaways

The participants will take away:

- Agile Scrum certificate
- Scrum Guide by Ken (Softcopy in PDF)
- Posters to be used internal in Organization or projects (Softcopy, PDF format)
- Case studies
- A huge amount of practical exercises

Eligibility

The course is targeted at individuals who intend to become a certified expert in Agile Scrum and manage projects effectively should enroll in this course, including:

- New Scrum Masters
- Product Owners
- Project Team Leads
- Team Member
- Customer Interfacing resources
- PMO Staff
- Manager of Project Managers

There are no pre-requisites, and anybody in the above role, in any industry or domain can attend this two-day course.

Prior experience of using any variant of Agile would be an added advantage.

Agile User Stories, Estimation & Planning

In traditional 'waterfall' style software development projects, the activities that fall under the banner of 'testing' are well defined and understood. However, on an Agile Projects start with their requirements. How those requirements are documented or expressed has a tremendous influence on the rest of the project. The technique of expressing requirements as user stories is one of the most significant approaches introduced by Agile Methodologies.

The technique of expressing requirements as user stories is one of the most significant approaches introduced by Agile Methodologies.

User Stories are a great way to build software that meets users' needs. They are simple, clear, brief descriptions of functionality that will be valuable to real users. In this practical, workshop we look at all aspects of gathering, writing and validating user stories. Participants will learn what makes a great user story, how to create it or ways to gather user stories. After compiling the user stories, workshop focuses on how to organize them, prioritize them, estimate them and use them for planning, management, and testing.

In this practical two-day workshop we look at all aspects of testing in an Agile project to decide what changes are needed to testing process to enable Agile Testing to be successful. The workshop looks at testing throughout the entire life-cycle of an Agile project from 'developer testing' right through to 'end-user testing' with all the intermediate steps that fall under the heading of 'IT' or 'Independent Testing'.

Course Outline

Day 1 – Introduction to Agile & User Stories, Estimation and Planning

- Introduction to Agile Methodology
  - Agile Manifesto, principles and practices.
  - Scrum methodology
- Approach for capturing user requirements in Agile project environment
- Understanding the concept of user stories
- Write/gather stories
  - Techniques for developing user stories – story-writing workshops
  - Understand the attributes of user stories and validate them
  - Acceptance test stories
- Prioritization of User Stories
- Benefits of User stories
- User story estimation and factors to consider for time boxing the iteration
- Plan iterations and releases
- Measure and monitor velocity
- Challenges with User Stories

Day 2 – Agile Test Strategies

- Traditional Vs Agile Testing
  - Impact on current testing process and team structure
  - Role of an independent tester in an Agile project
- Testing in Agile project environment
- Unit and Component Tests
  - Unit and Component Tests
  - Functional tests
  - User Acceptance tests
  - Performance tests
- Need for Test automation
- Case studies and Conclusion

Eligibility

The target audience for the program are Agile project team members involved in capturing Business/product requirements, system and solution architecting, Development and Testing

An Executive Overview to Agile Methodology

The objective of this two-day workshop is to provide the participants awareness on what Agile methodologies is all about, how it is different from traditional methodologies, an introduction to agile principles, practices and different agile methods. The workshop is aimed for senior and middle managers to get an insight on the challenges and the changes required for successful transformation to agile methodology for group/division or for an organization.

Getting started on adoption of Agile methodology requires some critical changes in the way the project team is structured and in its operations compared to the traditional life cycle methodology. The agile way of software development is a considerable departure from traditional waterfall development. It is important to set the expectation of different stake holders in the organization on both the benefits and challenges of implementing Agile methodology. The workshop aims to introduce people to:

- Need of developing Agile methodologies in the organization
- How it is different from traditional software development life cycle
- Different approaches of agile based on project landscape and organizational characteristics
- Understand the complete development life cycle of a project in terms of different agile approaches
- Overview of different roles of Agile teams
- Project Management in Agile Environment
- How agile can work in conjunction with other process improvement models

Course Outline

Agile Basics

- Overview, Principles & Manifesto of Agile
- Agile vs. Traditional
- Benefits of Agile methods

Agile Implementation Methods

- Extreme Programming, Scrum, Feature Driven Development, Test Driven Development, Dynamic System Development Method, etc.
- Overview to SCRUM methodology

When to use Agile methods

- Selecting right set of project types for Agile implementation
- Benefits of Agile methods
- Agile in large program context and Multi location teams.

Project Management in an Agile Environment

- How the role of the managers change and on stakeholder involvement, estimation and planning

Introducing Agile successfully in process-mature organizations

- Selecting right set of project types for Agile implementation
- Benefits of Agile methods
- Agile in large program context and Multi location teams.

Introducing Agile successfully in process-mature organizations

- Agile and CMMI
- Embedding agile methodology in CMMI organization

Agile methodology in Indian IT Context

- Distributed Development
- Customer participation in the team

Roadmap to Agile adoption

- Typical steps
- Challenges
- Critical success Factors

Eligibility

- Senior management
- Delivery Managers
- Program and Project Managers

Xtreme Programming (XP) Workshop

Over the past decade, Extreme programming (XP) practices have helped many software development teams significantly improve development speed, code quality and responsiveness to changing requirements. The engineering practices of XP are being applied in Agile projects to achieve remarkable results in terms of successful SCRUM implementation, high productivity and low defect rates.

This two-day workshop on “Software Excellence using Extreme Programming Practices” provides a detailed explanation of Extreme Programming (XP) practices with a focus on some of the development practices of XP like Test-Driven Development (TDD), Refactoring, Pair Programming and Continuous Integration.

Workshop Objectives

This workshop aims to provide:

- An understanding of Extreme Programming
- A Deep dive into Test Driven Development, Refactoring, Continuous Integration and Pair Programming techniques
- Participants will learn these approaches and techniques via interactive discussions, case studies, exercises and quizzes. Their expectations are tabled initially, and at the end of the Workshop, they are revisited to confirm whether all the expectations are covered or not.

Workshop Duration : 2 Days

Course Outline

- Introduction
- Overview of Agile and Extreme Programming
- Extreme Programming practices in detail
- How to do Test-Driven Development and use Mock Objects
- The importance of Continuous Integration and insights into this practice
- How to detect “Code Smells” and Refactoring
- The challenges of working with Legacy Code
- Effective Pair Programming

Eligibility

- Software developers, development team leads
- Development/technical managers

Test Driven Development (TDD)

The TDD Workshop offers a comprehensive, hands-on introduction to evolutionary design, clean code and automated testing.

Over the past decade, eXtreme Programming practices like User Stories, Test-Driven Development (TDD), Behavior Driven Developer (BOD), Refactoring, Continuous Integration and Automation have fundamentally changed software development processes and inherently how engineers work.

This two-day workshop explores the foundations of TDD, unit testing and automated refactoring with the help of various patterns, strategies, tools and techniques. Students will learn essential test-first approaches via interactive discussions, multimedia content hands-on exercises and quizzes.

Learning Outcomes

- Understand the thought process and steps involved during a typical test-driven session.
- Drive the development (design and implementation) of a User Story using automated tests.
- Discover improved confidence & increase in development speed by writing automated tests first!
- Examine various styles of TDD and their attributes
- Learn various TDD patterns, which will help you acquire the TDD skill faster.

Course Outline

Unit Testing

- Philosophy of Developer Unit Testing
- Anatomy of Unit Testing Framework
- Automated Tests
- Overview of XUnit
- Testing Pyramid

Test Driven Development

- Introduction to TDD
- Test First Vs Test Last
- TDD Rhythm: Red, Green, Refactor
- Crucial Design Principles
- TDD and Design
- Avatars of TDD

Executable Specification

- Crafting acceptance criteria for user stories
- Writing executable examples for each criteria
- Demo of BDD frameworks (Cucumber, FitNesse, SpecFiow, Jasmine)

Beyond Basics

- Test Doubles/Fakes- Stubs, Mocks, Spy, Simulators...
- TDD in Legacy Code

Strongly Recommended

- **1 or 2 Days of Mentoring via Pair Programming with Developers on your code base**
  - To get your team kick-started with the learning from the workshop, we recommend, that our trainer spends a day or two, working with your team on your code base.

    - Each day will be reserved for 4 pair programming sessions. During these sessions, the workshop participants will take specific examples from their projects, where they are finding it difficult to apply any of the practices learned in the workshop. The trainer will then pair with an individual to show how to resolve those challenges.
    - At the end of the day, the 4 volunteers will summarize their learning by showing before and after code from their respective pairing session to the rest of the group.
- **Pre-Post Programming Assessment**
    - The goal of these programming assessments is to identify real and quantifiable measures for the learning achieved through our workshop.
    - **Objective**
        - Get a quick understanding of your knowledge and skill level with respect to Designing & Programming
        - Establish a baseline against which the effectiveness of the workshop may be measured
        - Customize our workshop based on specific areas identified in this assessment
        - **Pre-Assessment:** Before the workshop, we'll send a problem description, your developers will spend max 4 hours and solve the problem and send us the code. We'll evaluate the code and send you detailed feedback about the code, including areas for improvement. We can send different types of problems (fresh development, cleaning up existing code and so on.)
        - **Post-Assessment:** 2 week after the workshop, we send another problem and evaluate the solution code. A comparison between the Pre and Post Assessment should be able to clearly quantify per-participant level improvement.

Method of Instruction

- Interactive Dialogues, Programming Exercises, Demos, and Instructional Games

Transfer %

- Knowledge: 50%, Skill-Building: 50%

Target Audience

- Primary: Sr. Object-Oriented Programmers, Architects, Designers
- Secondary: Technical Managers, Business Analysts, Testers, Technical Writers

Course Level

- Intermediate to Advanced

Course Prerequisites

- Required: some understanding or OO concepts and an OO language
- Highly Recommended: some understanding of OO concepts and an OO language

General Requirements

To ensure a successful class, we require the following facilities:

- VGA projector (1024x768 minimum) & Projector screen
- 1 White board & Dry erase markers
- Cluster seating with 5-6 people on each table
- 1 Flip chart with the stand and marker pens for each table
- Notepad and Pen for each participant
- Ample room for students in terms of room size and set up
- For Dev trainings: at least one powerful workstation between two programmers

Development Tools

Java

- Latest Java JDK
- Latest Standard Eclipse OR IntelliJ Idea
- JUnit, Mockito, JBehave, FitNesse or Cucumber JVM

C#

- Latest .Net Framework
- Latest Visual Studio
- Latest ReSharper Plugin
- SpecFlow's Visual Studio IDE Integration or FitNesse

JavaScript

- Latest WebStorm JavaScript IDE
- Latest Chrome Browser
- Latest Jasmine Framework
- Latest JsTestDriver

C/C++

- Latest Eclipse CDT OR Visual Studio
- Latest GTest
- Latest Visual Studio
- Latest CLion

Ruby

- Latest RubyMine
- Latest Cucumber

PHP

- Latest PHPStorm
- Latest PHPUnit, BeHat

Flex

- Latest Flex SDK
- Latest Flash Builder OR IntelliJ Idea

Test Driven Development (TDD) and Refactoring Workshop

The TDD and Refactoring Workshop offers a comprehensive, hands-on introduction to evolutionary design, clean code and automated testing.

Over the past decade, eXtreme Programming practices like User Stories, Test-Driven Development (TDD), Behavior Driven Developer (BDD), Refactoring, Continuous Integration and Automation have fundamentally changed software development processes and inherently how engineers work.

This three-day workshop explores the foundations of TDD, unit testing, automated refactoring and improving the design of legacy code with the help of various patterns, strategies, tools and techniques. Students will learn essential test-first approaches via interactive discussions, multimedia content, hands-on exercises and quizzes.

Learning Outcomes

- Understand the thought process and steps involved during a typical test-driven session.
- Drive the development (design and implementation) of a User Story using automated tests.
- Discover improved confidence and increase in development speed by writing automated tests first!
- Identify poorly designed code by using our elaborate code smell vocabulary.
- Learn various automated refactoring techniques and strategies to carefully clean the identified code smells.
- Practice key techniques to break coupling between classes and micro-test each component independently.
- Incrementally transform complex and difficult classes into readable, well-structured, and well-designed code, while keeping them running at all times

Additional Information – Inside Out and Outside in Test First

Test-Driven Development (TDD) is a practice for efficiently evolving useful code. While its name implies that it's mostly about testing, test-driven development is primarily about design: it keeps programmers focused on exactly what they need to build and helps them avoid over-engineering. We'll demonstrate the TDD Rhythm. Participants will understand how TDD simplifies evolving lean, useful, fully tested software.

We'll give a small live demo of TDD and then Participants will get their hands dirty by using TDD on 3 different problems. We'll conclude by highlighting the different styles of TDD.

Behavior-Driven Development (BDD) combines the general techniques and principles of TDD with ideas from domain-driven design and object-oriented analysis and design to provide software developers and business analysts with shared tools and a shared process to collaborate on software development, with the aim of delivering "software that matters".

Although BDD is principally an idea about how software development should be managed by business interests and technical insight, the practice of BDD does assume the use of specialized software tools to support the development process. Although these tools are often developed specifically for use in BDD projects, they can be seen as specialized forms of the tooling that supports

test-driven development. The tools serve to add automation to the ubiquitous language that is a central theme of BDD.

Strongly Recommended

- 1 or 2 Days of **Mentoring via Pair Programming** with Developers on your code base
  - To get your team kick-started with the learning from the workshop, we recommend, that our trainer spends a day or two, working with your team on your code base.
  - Each day will be reserved for 4 pair programming sessions. During these sessions, the workshop participants will take specific examples from their projects, where they are finding it difficult to apply any of the practices learned in the workshop. The trainer will then pair with an individual to show how to resolve those challenges.
  - At the end of the day, the 4 volunteers will summarize their learning by showing before and after code from their respective pairing session to the rest of the group.
- **Pre-Post Programming Assessment**
  - The goal of these programming assessments is to identify real and quantifiable measures for the learning achieved through our workshop.
- **Objective**:
  - Get a quick understanding of your knowledge and skill level with respect to Designing & Programming
  - Establish a baseline against which the effectiveness of the workshop may be measured
  - Customize our workshop based on specific areas identified in this assessment
- **Pre-Assessment**: Before the workshop, we'll send a problem description, your developers will spend max 4 hours and solve the problem and send us the code. We'll evaluate the code and send you detailed feedback about the code, including areas for improvement. We can send different types of problems (fresh development, cleaning up existing code and so on.)
- **Post-Assessment**: 2 week after the workshop, we send another problem and evaluate the solution code. A comparison between the Pre and Post Assessment should be able to clearly quantify per-participant level improvement.

Method of Instruction

- Interactive Dialogues, Programming Exercises, Demos, and Instructional Games

Transfer %

- Knowledge: 50%, Skill-Building: 50%

Target Audience

- Primary: Sr. Object-Oriented Programmers, Architects, and Designers
- Secondary: Technical Managers, Business Analysts, Testers, Technical Writers

Course Level

- Intermediate to Advanced

Course Prerequisites

- Required: some understanding of OO concepts and an OO language
- Highly Recommended: basic understanding of the life-cycle of software projects

Development Tools

Java

- Latest Java JDK
- Latest Standard Eclipse OR IntelliJ Idea
- JUnit, Mockito, JBehave, FitNesse or Cucumber JVM

C#

- Latest .Net Framework
- Latest Visual Studio
- Latest ReSharper Plugin
- SpecFlow's Visual Studio IDE Integration or FitNesse

JavaScript

- Latest WebStorm JavaScript IDE
- Latest Chrome Browser
- Latest Jasmine Framework
- Latest JsTestDriver

C/C++

- Latest Eclipse CDT OR Visual Studio
- Latest GTest

Ruby

- Latest RubyMine
- Latest Cucumber

PHP

- Latest PHPStorm
- Latest PHPUnit, BeHat

Flex

- Latest Flex SDK
- Latest Flash Builder OR IntelliJ Idea

Course Outline

Unit Testing

- Philosophy of Developer Unit Testing
- Anatomy of Unit Testing Framework
- Automated Tests
- Overview of xUnit
- Levels of Testing

Code Smells

- Common Code Smells
- Dealing with Code Smells

Refactoring

- Purpose of Refactoring
- Refactoring Patterns
- Using Automated Refactoring

Inside Out Test First – Test Driven Development

- Introduction to TDD
- Test First Vs Test Last
- TDD Rhythm: Red, Green, Refactor
- Crucial Design Principles
- Driving Design using TDD
- Different Styles of TDD

Outside In Behaviour First – Behaviour Driven Development

- Driving Implementation and Design from Scenarios
- Creating an Application from Scratch using Scenarios
- Crafting acceptance criteria for user stories
- Writing executable examples for each criteria
- Documenting Scenarios with Gherkin
- Demo of BDD frameworks (Cucumber, FitNesse, SpecFlow, Jasmine)
- Automation Hazards
- Safe Automation Practices

Beyond Basics

- Test Doubles/Fakes – Stubs, Mocks, Spy, Simulators…
- TDD in Legacy Code
- Breaking Dependencies in Legacy Code
- Patterns for writing effective tests

Behaviour Driven Development (BDD)

Over the past decade, eXtreme Programming practices like User Stories, Test-Driven Development (TDD), Behaviour Driven Developer (BDD), Refactoring, Continuous Integration and Automation have fundamentally changed software development processes and inherently how engineers work.

BDD is practice for efficiently evolving useful code. While its name implies that it's mostly about development, BDD is primarily about collaboration and delivering business value: it keeps programmers focused on exactly what they need to build and helps them avoid over- engineering.

This two-day workshop offers a comprehensive, hands-on introduction to behaviour driven development via interactive discussions, multimedia content, hands-on exercises and quizzes. We'll demonstrate the BDD Rhythm. Also explore the foundations of BDD with the help of various patterns, strategies and your programming language specific BDD tools & techniques. Participants will understand how BDD simplifies evolving lean, valuable, useful, fully specified software.

We'll give a small live demo of BDD and then Participants will get their hands dirty by using these techniques on different problems using their language specific BDD tools. We'll conclude by highlighting the key benefits, common challenges and different styles of BDD.

Learning Outcomes

- Understand how the whole team collaborates around scenarios to support development
- Learn to drive the development (design and implementation) of a User Story using BDD.
- Collaboratively define scenarios that refine and clarify user stories.
- Discover improved confidence & increase in development speed by writing behaviour first.
- Learn various techniques and strategies to write acceptance criteria for your user stories.
- Practice key techniques to collaborate between business and tech to flush out scenarios, which helps your team deliver business value faster.

Course Outline

Discovering User Stories

- Quick introduction to User Story Mapping
- Crafting INVESTable User Stories
- Defining SMART Acceptance Criteria

Specifying Scenarios

- Importance of Scenarios (The Power of Examples)
- Effective Collaboration techniques to flush out valid Scenario
- Documenting Scenarios with Gherkin
- Patterns for Writing meaningful Scenarios
- Demo of using Gherkin to document an entire Application

Automating Scenarios

- What Will We Automate & How?
- Automation Tools
- Your First Automated Scenario
- Automating Scenarios: Getting Beyond the Basics
- Dealing with Obstacles: Randomness, External Systems, etc.

Implementing Behaviour-Driven Development

- Driving Implementation and Design from Scenarios
- Creating an Application from Scratch using Scenarios
- Automation Hazards
- Safe Automation Practices

Strongly Recommended

- **1 or 2 Days of Mentoring via Pair Programming with Developers on your code base**
  - To get your team kick-started with the learning from the workshop, we recommend, that our trainer spends a day or two, working with your team on your code base.
  - Each day will be reserved for 4 pair programming sessions. During these sessions, the workshop participants will take specific examples from their projects, where they are finding it difficult to apply any of the practices learned in the workshop. The trainer will then pair with an individual to show how to resolve those challenges.
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      - Establish a baseline against which the effectiveness of the workshop may be measured
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      - **Post-Assessment:** 2 week after the workshop, we send another problem and evaluate the solution code. A comparison between the Pre and Post Assessment should be able to clearly quantify per-participant level improvement.

Method of Instruction

- Interactive Dialogues, Programming Exercises, Demos, and Instructional Games

Transfer %

- Knowledge: 50%, Skill-Building: 50%

Target Audience

- Primary: Product Owners, Business Analysts, Sr. Programmers, Architects, Testers
- Secondary: Technical Managers, Technical Writers, User Experience Designers

Course Level

- Beginner to Intermediate

Course Prerequisites

- Required: solid hands-on understanding of the life-cycle of software projects
- Highly Recommended: some understanding of OO concepts and an OO language

General Requirements

To ensure a successful class, we require the following facilities:

- VGA projector (1024x768 minimum) & Projector screen
- 1 White board & Dry erase markers
- Cluster seating with 5-6 people on each table
- 1 Flip chart with the stand and marker pens for each table
- Notepad and Pen for each participant
- Ample room for students in terms of room size and set up
- For Dev trainings: at least one powerful workstation between two programmers

Development Tools

Java

- Latest Java JDK
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- SpecFlow's Visual Studio IDE Integration or FitNesse

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- Latest WebStorm JavaScript IDE
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- Latest RubyMine
- Latest Cucumber

PHP

- Latest PHPStorm
- Latest PHPUnit, BeHat

Flex

- Latest Flex SDK
- Latest Flash Builder OR IntelliJ Idea

Design Principles and Patterns

The Design Patterns Workshop offers a comprehensive introduction to design patterns, with a focus on patterns that have proven over the last decade to be most effective at addressing real-world software design problems.

This four-day workshop helps people understand good object-oriented design through the medium of highly useful design patterns. Students are introduced to essential patterns via an amalgam of interactive discussions and hands-on exercises and quizzes.

The patterns taught in this course are drawn primarily, but not exclusively, from the classic catalog by Gamma, et al.: Design Patterns: The Elements of Reusable Object-Oriented Software Design. Students will gain a solid understanding of essential patterns as well as how to incorporate them into new or legacy code using modern refactoring and testing tools.

Course Outline

Day 1

- Implementation Patterns
  - Values of a Good Design – Communication, Simplicity, Flexibility
- OO Design Principles:
  - Open Close Principle (OCP)
  - Single Responsibility Principle (SRP)
  - Tell, Don't Ask
  - Don't Repeat Yourself (DRY)
  - Law of Demeter
  - Dependency Inversion Principle (DIP)
  - Liskov Substitution Principle (LSP)
  - Interface Segregation Principle (ISP)
  - Triangulate
- Code Smells and Refactoring

Day 2

Readability, Construction and Structural Pattern

Pattern

- Composed Method
- Fluent Interface
- Template Method
- Creation Method
- Factory Method
- Abstract Factory
- Strategy
- Prototype
- Singleton
- Composite
- Chain of Responsibility

Programming Exercise

- Template Method: Loans Exercise
- Creation Method: Loans Exercise
- Strategy: Loans Exercise
- Composite Product Finder Exercise
- Employee Exercise

Day 3

Behavioral and Structural Pattern

Pattern

- Null Object
- Guard Clause
- Builder

Programming Exercise

- Person Finder Exercise

	• Interpreter • Flyweight • Bridge • Adapter • Decorator • Proxy • Memoization • Façade • State	• Product Finder Exercise • Proxy Finance Exercise • Fibonacci Exercise • Permissions Exercise
Day 4 Behavioral and More advanced Patterns	**Pattern** • Command • Memento • Observer • Mediator • Parameter Object • Collecting Parameter • Dependency Injection • Iterator • Dispatch Table • Self-Shunting • Pluggable Selector	**Programming Exercise** • xUnit Observer Exercise • Tags Exercise • Iterator Loans Exercise • Operator Exercise • CoffeeMachine Exercise

Learning Outcomes

- Understand essential design patterns, and how to use them
- Obtain a strong, fundamental understanding of Smalltalk style Object Orientated Development
- Understand basic OO design principles and see how they apply to real world problems
- Learn to recognise code smells and understand how they violate the design principles
- Obtain an excellent understanding of 10+ design principles and 30+ design patterns
- Experience hands-on, refactoring to and away from patterns during the lab sessions
- Gain a working vocabulary of design patterns
- Understand how to evolve patterns into a design, rather than designing with them up-front

Strongly Recommended

- 1 or 2 Days of Mentoring via Pair Programming with Developers on your code base
  - To get your team kick-started with the learning from the workshop, we recommend, that our trainer spends a day or two, working with your team on your code base.
  - Each day will be reserved for 4 pair programming sessions. During these sessions, the workshop participants will take specific examples from their projects, where they are finding it difficult to apply any of the practices learned in the workshop. The trainer will then pair with an individual to show how to resolve those challenges.
  - At the end of the day, the 4 volunteers will summarize their learning by showing before and after code from their respective pairing session to the rest of the group.

- **Pre-Post Programming Assessment**
  - The goal of these programming assessments is to identify real and quantifiable measures for the learning achieved through our workshop.
  - **Objective**:
    - Get a quick understanding of your knowledge and skill level with respect to Designing & Programming
    - Establish a baseline against which the effectiveness of the workshop may be measured
    - Customize our workshop based on specific areas identified in this assessment
  - **Pre-Assessment:**
    Before the workshop, we'll send a problem description, your developers will spend max 4 hours and solve the problem and send us the code. We'll evaluate the code and send you detailed feedback about the code, including areas for improvement. We can send different types of problems (fresh development, cleaning up existing code and so on.)
  - **Post-Assessment**:
    2 week after the workshop, we send another problem and evaluate the solution code. A comparison between the Pre and Post Assessment should be able to clearly quantify per-participant level improvement.

Method of Instruction

- Interactive Dialogues, Programming Exercises, Demos, and Instructional Games

Transfer %

- Knowledge: 60%, Skill-Building: 40%

Course Level

- Advanced

Course Prerequisites

- Required: solid hands-on understanding of OO concepts and an OO language
- Highly Recommended: overall understanding of the life-cycle of software projects

Development Tools

Java

- Latest Java JDK
- Latest Standard Eclipse OR IntelliJ Idea
- JUnit, Mockito, JBehave, FitNesse or Cucumber JVM

C#

- Latest .Net Framework
- Latest Visual Studio
- Latest ReSharper Plugin
- SpecFlow's Visual Studio IDE Integration or FitNesse

JavaScript

- Latest WebStorm JavaScript IDE
- Latest Chrome Browser
- Latest Jasmine Framework
- Latest JsTestDriver

C/C++

- Latest Eclipse CDT OR Visual Studio
- Latest GTest

Ruby

- Latest RubyMine
- Latest Cucumber

PHP

- Latest PHPStorm
- Latest PHPUnit, BeHat

Flex

- Latest Flex SDK
- Latest Flash Builder OR IntelliJ Idea

Eligibility

- Primary: Object-Oriented Programmers, Architects, and Designers
- Secondary: Technical Managers, Technical Writers, User Experience Designers

“Attention to detail can’t be and never is added later. Its an entire development philosophy, methodology and culture. ”

.. Marco Arment

Product Discovery Workshop

Many product companies struggle with a big challenge: how to identify a Minimal Viable Product that will let them quickly validate their product hypothesis? Teams that share the product vision and agree on priorities for features are able to move faster and more effectively.

During this hands-on workshop, we'll take your real product and coach you on how to effectively come up with an evolutionary roadmap for your product.

This week long workshop teaches you how to collaborate on the vision of the product and create a Product Backlog, a User Story map and a pragmatic Release Plan.

Course Outline

Day 1: Understand Product Context

- Introduction
- Domain Overview
- Define Product Vision
- Ice Breaker
- Identify Users That Matter
- Create User Personas
- Define User Goals
- A Day-In-Life Of Each Persona

Day 2: Build Initial Story Map from Activity Model

- Prioritize Personas
- Break Down Activities And Tasks From User Goals
- Lay Out Goals Activities And Tasks
- Walk Through And Refine Activity Model

Day 3: Create First-Cut Product Road Map

- Prioritize High Level Tasks
- Define Themes
- Refine Tasks
- Define Minimum Viable Product
- Identify Internal And External Release Milestones

Day 4: Write User Stories for the First Release

- Define User Task Level Acceptance Criteria
- Break Down User Tasks To User Stories Based On Acceptance Criteria
- Refine Acceptance Criteria For Each Story
- Find Ways To Further Thin-Slice User Stories
- Build Quick Paper-Prototype For Vague User Stories
- Spike Out Risky User Stories
- Capture Assumptions And Non-Functional Requirements

Day 5: Refine First Internal Release Based on Estimates

- Define Relative Size Of User Stories
- Refine Internal Release Milestones For First-Release Based On Estimates
- Define Goals For Each Release
- Sketch Out Walking Skeleton Using Wire-frames
- Discuss And Agree To A Collaborative Working Model In The Team
- Refine Product And Project Risks
- Present And Commit To The Plan
- Retrospective

Takeaways

When we finish this workshop, your team will have:

- A prioritized product backlog/roadmap with high-level estimates for the upcoming release
- A story map to visualize the overall product backlog/roadmap
- External and internal release milestones
- Paper prototypes or wire-frames for user stories planned for first internal release
- A list of important risks and concerns the teams have identified for this project
- The confidence to start executing the product development

Learning Outcomes

- Understand the thought process and steps involved during a typical product discovery and release planning session
- Using various User-Centered Design techniques, learn how to create a User Story Map to help you visualize your product
- Understand various prioritization techniques that work at the Business-Goal and User-Persona Level
- Learn how to decompose User Activities into User Tasks and then into User Stories
- Apply an Acceptance Criteria-Driven Discovery approach to flush out thin slices of functionality that cut across the system
- Identify various techniques to narrow the scope of your releases, without reducing the value delivered to the users
- Improve confidence and collaboration between the business and engineering teams
- Practice key techniques to work in short cycles to get rapid feedback and reduce risk

Method of Instruction

- Focused Break-Out Sessions, Group Activities, Interactive Dialogues, Presentations, Heated Debates/Discussions and Some Fun Games

Transfer %

- Knowledge: 40%, Skill-Building: 60%

Course Level

- Intermediate to Advanced

Course Prerequisites

- Required: basic understanding of Agile (iterative and incremental software delivery models)
- Required: buy-in and support from senior management
- Highly Recommended: co-located team members for this workshop

Eligibility

In the past, this workshop has been most successful if the following roles are present all 5 days:

- Product Owner
- Release/Project Manager
- Subject Matter Expert, Domain Expert, or Business Analyst
- User Experience team
- Architect/Tech Lead
- Core Development Team (including developers, testers, DBAs, etc.)

Ideally the number of participants for this workshop is 10-12 people.

Kanban Introductory Course

The objective of this two day workshop is to impart the skills required for becoming Agile using the Lean principles and Kanban Method.
After the completion of the workshop, the participants would be able to:

- Understand the Agile Manifesto, Lean Principles and Kanban Method
- Participants learn to create a value stream map of their activities and visualize their workflow

Duration: 2 days
Batch Size: Around Twenty participants per batch as it contains multiple hands-on group exercises

Course Outline

This training is aimed at instilling the core beliefs of Agile and Kanban and creating a transparent and collaborative environment where the team succeeds as a single entity.
During this 2- day course, participants will get clear understanding on implementing Kanban techniques and improvised thinking in order to elevate their current practices. They will get trained in applying Kanban in multiple situations & how to cultivate Kanban mindset which is essential for effective delivery results.

Introduction

- Agile Manifesto
- Agile Principles
- Mindset shift to Agile
- What is the Kanban method?
- Kanban in Software Development
- Why use a Kanban System?
- Kanban Change Initiative

Leading Change

- Common reasons for resistance to change
- How to avoid that resistance?
- How to mitigate?
- Manage & Coach change in the fact of that resistance

Kanban Foundation

- Properties of Kanban
- Quality focus
- Continuous Improvement Culture
- Limit Work In Progress
- Frequent delivery
- Balancing demand
- Prioritize
- Improve Predictability

Kanban System

- The flow
- Understanding Cadences
- Mapping Value Stream (Kanban Board)
- Establishing Delivery Cadence
- Establishing Input Cadence
- Setting WIP limit
- Establishing SLAs
- Implementing Change
- Looking for further improvements

Kanban in Action

- Simulation

Metrics & Management reporting

- Flow Efficiency
- Lead time
- Cycle time
- Throughput

Scaling Kanban

- Swim lanes
- Classes of Services
- Integrating systems

Agile Communications and Team Dynamics

- Defining Agile Leadership
- Team Space
- Information Radiators
- Osmotic Communication
- Daily Stand Ups
- Building High Performance Teams
- Building Empowerment Teams
- Collaboration
- Kaizen Culture – A continuous improvement culture

Adopting Scrumban

- Overview to Scrum Framework
- Inheriting Scrum Practices on Kanban

Conclusion

- Kanban Change Initiative

Delivery Method

The course is a mix of case driven, instructor-led, and self paced learning, designed to enable participants learn, experiment and implement the concepts and underlying philosophy of Agile and Lean. The course is very interactive and provides hands on Exercises and Group activities

Eligibility

- Leadership
- Team Members
- Process owners

An Executive Overview to Agile, Scrum and Kanban Msethods

It is important to set the expectation of different stake holders in the organization on both the benefits and challenges of implementing different flavors of Agile methodologies. This one-day executive workshop provides an overview on Why Agile, what is Agile, Principles and practices of different Agile methods. Specifically focusing on SCRUM and KANBAN approaches as well as the team scenarios where they fit well and how to leverage the best of both.

Delivery Method

- The course is a mix of case driven, instructor-led, and self paced learning, designed to enable participants to understand concepts and underlying philosophy of Agile, Scrum and Kanban.
- The course is very interactive and provides hands on Exercises, Quizzes, Videos and Group activities w.r.t Scrum and Kanban Approaches

Learning Outcomes

- Participants should become familiar with Agile and Lean Principles as well as terminologies of Scrum and Kanban approaches
- At the end of this 1-day workshop, each attendee will:
  - Get clarity on why Agile, what is Agile and what are agile methods and how they are different from traditional life cycle.
  - Get an overview of Scrum Life cycle process, Scrum Terminologies, Roles, Ceremonies, Scrum Practices and artifacts
  - Get an overview of Kanban Method, Values, Principles, Practices and on How to visualize the workflow and steps required to implement a Kanban System
  - Connecting Agile, Scrum, Lean and Kanban
  - Insights on what approaches or mix of approaches can be applied based on project and team work items context

Course Outline

Introduction to Agile Concepts

- Why Agile?
- Traditional vs Agile
- Agile Manifesto
- Agile Principle
- Popular Agile methods
- Applicability of Agile Methods
- Benefits of Agile Methods

Introduction to SCRUM

- Scrum Basics
- Scrum Team formation
- Scrum Roles – Scrum Master, Product Owner, Scrum Team
- Scrum Terminologies
- Scrum Life Cycle, Scrum Practices and Artifacts

An Overview to Scrum Life Cycle

- Product Backlog Items, User stories
- Release Planning, Sprints and Sprint 0
- SCRUM Rules / Guidelines
- Concepts Sprint duration and Sprint cancellation policy
- Definition of Ready
- Sprint Planning, Sprint Goal and Sprint Backlog
- Definition of Done
- Daily Scrum
- Sprint Burn Down Charts
- Product backlog refinement
- Sprint Review and retrospective
- Release Burn Down Charts
- Tracking progress in Scrum and metrics
- Estimation and Planning in Scrum
- User Stories – Story card, Conversation and Confirmation

Introduction to Kanban Method

- Lean Kanban Basics
- Connecting Agile, Scrum, Lean and Kanban
- Evolutionary change vs Big bang change approach
- Basic Kanban Concepts
- Core Values, Principles and Practices of Kanban Method?
- How it is different from Scrum? and What is Scrumban?
- Where does Kanban approach fit well and Why Lean Kanban approach

An overview to Kanban Method

- Identify Work items
- Visualizing the Workflow of work items
- Value stream and mapping of knowledge discovery process to workflow
- Setting up and using a Kanban Board
- Kanban Cards and Ticket Design
- 'Input Queues and output Buffers
- What is Work in Progress (WIP) and Why Limit WIP and Setting WIP Limits
- Making Policies explicit
- Measures and Metrics in Kanban – Lead Time, Through Put, Flow efficiency
- Daily Kanban Meeting
- Cadences and Rhythm – System Replenishment and Delivery frequency
- Empirical Feedback
- Evolving the process and practices in collaboration with team to ensure improvement in the service delivery model

Team Dynamics and Project management in Agile Environment

- Trust, Collaboration, negotiations and Team communication
- How the role of the manager changes and on stakeholder involvement
- Team Ownership and accountability
- Selecting right set of project types for Agile implementation
- Agile adoption typical Challenges
- Critical success Factors
- Roadmap to successful Agile adoption – Typical steps

Eligibility

- The target audience for the program is a mix of professionals across hierarchies to get insights on the skills required for working as part of Agile teams and wishes to explore path to agility.
- Senior Managers/Delivery or Department Heads – Stakeholders for Enterprise Agile roll out.
- Project managers, BAs, Architects, Test and Tech leads Quality team, Process Champions.

DevOps Automation Technical Workshop

This is an advanced technical course spread over duration of three days to help participants become well acquainted with intricacies involved in adopting and implementing tooling for DevOps practice.

While software helps businesses automate processes, these very businesses face impediments due to their processes to release it being too heavy. A wide range of problems can be pointed out of this, from indispensable infrastructure, to lack of automation and collaboration schematics etc.

DevOps brings a refreshing change to way of handling operations and development and makes infrastructure a disposable, reusable asset. It enables collaboration between all teams in the technology business unit so that they are able to understand each other's needs. It helps foster a culture based on trust and collective responsibility not the cross boundary interaction that adds to operational bottleneck. Moreover, it helps operations teams adopt innovative technologies to automate the daily mundane tasks of infrastructure management, monitoring, security audit and compliance.

We have courses designed for various maturity and specific domains viz. technology, process, governance and strategy which help organisations ease out stepping into the world of DevOps methodologies with minimal disruption.

Course Outline

This course aims at acquainting participants with the following hands on practices
Chef/Puppet/Ansible for Configuration Management.

- Docker/Packer for Containerization
- Vagrant for Provisioning
- AWS Cloud computing
  - EC2 API Tools
  - Using programmatic provisioning using Jclouds or AWS SDK (optional, only for developers)
- Jenkins for Automated Installation and Deployment.
- Nagios for Infra-Monitoring
- Rundeck for Deployment Automation
- Elasticsearch for storage & distributed search engine
- Kibana and Graphite for data visualization
- Tools for injecting metrics and monitoring data into Elastic search and Graphite – FluentD, CollectD.
- logstash to process & transport logs
- Serf for Service orchestration and management tool
- Installation / Configuration basics of PaaS Openshift / Apache Stratos

Pre Requisites

The audience should be equipped with the following for this training session

- Workstation, option one
  - Operating System: Linux, Ubuntu
  - Type: Laptop or Desktop
  - Configuration
    - Processor: at least Intel i5 3rd generation or higher
    - RAM: 4 GB minimum
    - Hard Disk: 40 GB Minimum

- Workstation, option two, user can use a Windows based workstation, however it should have a Linux based Virtual machine configured
  - Oracle Virtual Box with VM Extensions
  - Linux Image of Ubuntu / Fedora latest version
  - Operating System: Windows
  - Type: Laptop or Desktop
  - Configuration
    - Processor: at least Intel i5 3rd generation or higher
    - RAM: 8 GB minimum
    - Hard Disk: 40 GB Minimum
- Infrastructure
  - A high speed internet connection for a batch of 15 to 25 at-least 10 mbps internet connection with more than 20 GB download limit
- A pre-registered Account with AWS

DevOps Introductory Course - One day

This one-day course talks about the basic foundations of DevOps from the CAMS perspective. It looks into how to realise DevOps practices using the three ways, and also provides good insight of goals of DevOps and how DevOps uses them for a continuous improvement cycle. It touches upon some crucial tools in the end that can be utilised while moving towards DevOps practices.

Workshop Objectives

This course helps attendees to understand the following

- Basic Principles of DevOps
- Business Benefits
- Implementing an operational framework around DevOps
- The pillars of DevOps
  - Culture
  - Automation
  - Measurement
  - Sharing
- Some Important Tools / Frameworks

Course Outline

Introduction To DevOps

- A business perspective to DevOps
- A Technology perspective to DevOps
- Breaking through Stereotypes

What is DevOps

- Goals
- Values
- What it is Not
- Who is it for? Enterprises vs. Startups

Principles of DevOps

- The three ways
- Systems Thinking
- Amplified Feedback Loops
- Continuous Learning and Experimentation

CAMS

- Understanding, Transforming and Managing Culture
- Automation Practices
- Measurement & Sharing

A Word about tools

- Virutalisation
- Containers and Container
- ManagementConfiguration Automation
- Build and Release Automation
- PaaS

DevOps Introductory Course - Two days

This two-day course talks about the basic foundations of DevOps from the CAMS perspective. It looks into how to realise DevOps practices using the three ways, and also provides good insight of how DevOps takes it's principles from established practices such as Lean, KanBan and uses it for a continuous improvement cycle. It touches upon some crucial tools in the end that can be utilised while moving towards DevOps practices.

Workshop Objectives

This course helps attendees to understand the following

- Basic Principles of DevOps
- Business Benefits
- Implementing an operational framework around DevOps
- The pillars of DevOps
  - Culture
  - Automation
  - Measurement
  - Sharing
- How to go about DevOps Transition
- Some Important Tools/Frameworks

Course Outline

Introduction To DevOps

- A business perspective to DevOps
- A Technology perspective to DevOps
- Breaking through Stereotypes

What is DevOps

- Goals
- Values
- What it is Not
- Who is it for? Enterprises vs. Startups

Principles of DevOps

- The three ways
- Systems Thinking
- Amplified Feedback Loops
- Continuous Learning and Experimentation

DevOps & The World

- DevOps & Lean
- DevOps & Agile
- DevOps& ITSM

CAMS

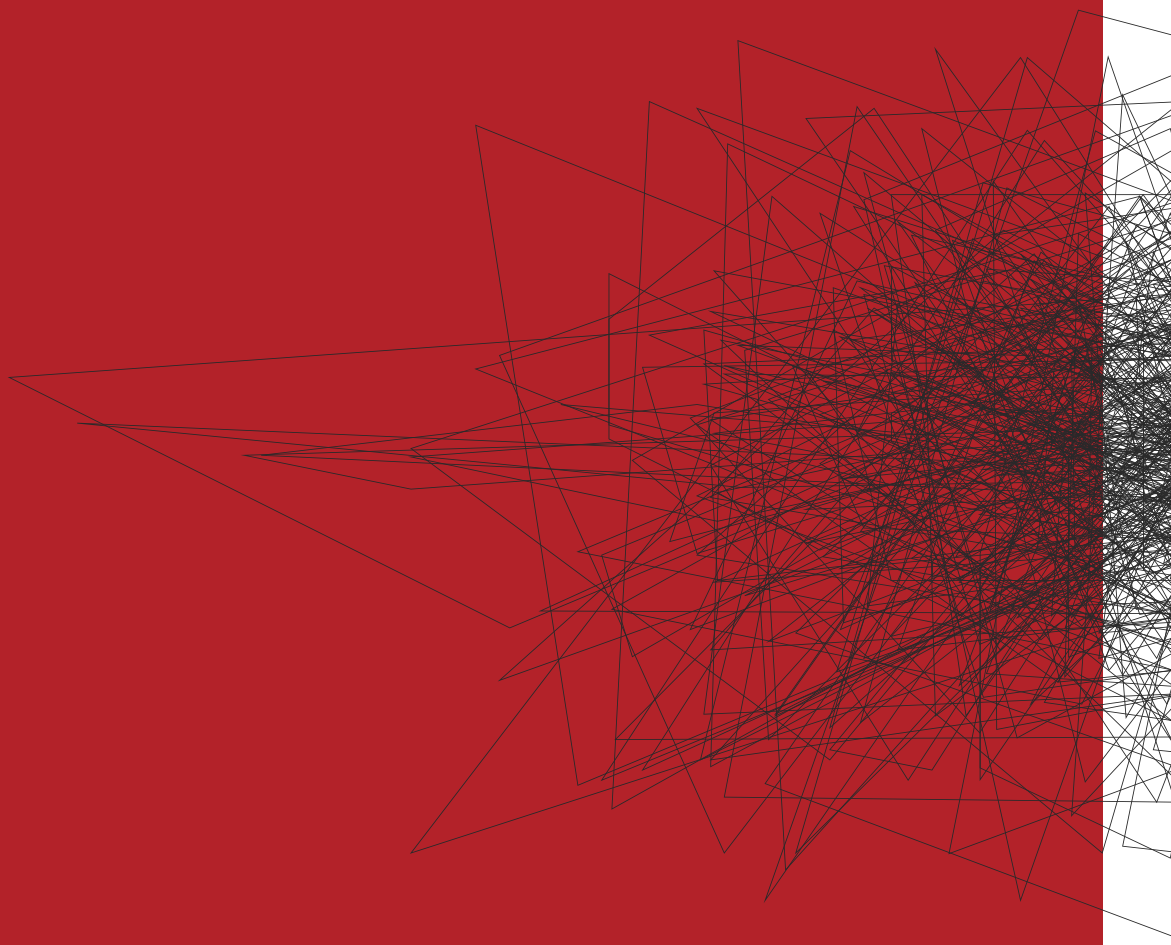
- Understanding, Transforming and Managing Culture
- Automation Practices
- Measurement & Sharing

Adopting DevOps Culture

- Getting Started
- Risks & Challenges

A Word about tools

- Virutalisation
- Containers and Container Management
- Configuration Automation
- Build and Release Automation
- PaaS



It’s better to know some of the questions, than all of the answers.”

.. James Thurber

Docker Workshop

Docker has revolutionised internet and cloud based services with a simple solution that has its basis in the well established convention of over configuration and DRY principles. We believe it is imperative for Enterprises to include this tool in their armour for optimising the much bloated build, release and deployment procedures that exist in the non-Docker world.

This three-day workshop helps participants understand the underlying technology of Docker containers, including but not limited to how is it different from Virtual Machines, how it works and not to miss, how to use it for revolutionising continuous delivery pipeline with disposable infrastructure.

Course Outline

Introduction

- About Docker
- Docker vs Virtualisations
- Architecture and Major components
- Example Use Cases
- Installing Docker
- Using the Docker Virtual Machine

Containers and Images

- Building a simple Image
- Automating Image creation
- Commands to control
  - Docker Machine
  - Docker Engine
  - Running Docker containers and background processes
  - Docker File System, linking to Storage, Logging
- Docker Networking Basics
- Creating and simple local development workflow
- Running Images

Hub & Registry

- Publishing to Registry
- Hosting a Docker Registry
- Using a private Docker registry
- Security considerations in private hosted setup
- Private / Public setups
- Security and TLS
- Setting up your own Registry
- Docker Trusted Registry

Container Networking

- Connecting containers
- Advanced Dockerfiles
- Orchestration

Docker API

Container Volumes Advanced

Controlling the Docker daemon

Docker Machine

Docker Swarm

Building micro service applications

Docker Compose

Managing Docker through Infrastructure as Code practices

Eligibility

- Infrastructure Automation Engineers
- Developers, Test Automation Engineers
- Solutions Architects

Puppet Training Program

A comprehensive training program that helps organisations jumpstart their Puppet based operations. We have courses designed for the intermediate and Advanced level Puppet practitioners, and provide a way for requestors to add or remove topics to their needs.

Course Objective

By the end of these two days training session participants will be able to

- Install & Configure Puppet to their needs
- Learn about all components in Puppet Enterprise (and Puppet Open Source), their configuration and modification
- Customise installation to their needs
- Work with Puppet DSL including:
  - Modules and Classes
  - Classification
  - Resources
  - Relationships
  - Language Constructs
- Use Templates& File Server to automate repeatable configuration with specific values
- Define and use Resources & Resource Types
- Use advanced concepts of puppet classes such as:
  - Parameterized Classes
  - Inheritance
  - Data Separation using Hiera
  - Classify using parameterized classes & ADB
- Use modules from the Puppet Forge and Supported Modules
- Use Puppet Master REST API for further automation or integration to other systems

Pre Requisites

Users in general should be well acquainted with the following to make full use of this training

- Aware with command line
- Aware with concepts of Unix/Linux
- Hands on with at-least basic level system administration skills

Software

- VirtualBox latest stable release along with the VM Extensions package
- At-least 8 GB RAM (Windows), 4 GB Ram Mac OS/X& a good speed internet

Co-existence of Agile & CMMI

The pursuits of achieving true agility in delivering software solutions that adapt quickly to changing business needs, organizations are increasingly adopting Agile methodologies. At the same time organizations also want to establish & maintain a strong quality framework based on internationally recognized models & frameworks such as CMMI® that foster continuous improvement. This two-day course emphasizes on these topics.

With the advent of globalization, rapidly changing market scenarios, increased customer awareness and increased pressure on cost optimization, Organizations want to establish & maintain a strong quality framework based on internationally recognized models & frameworks such as CMMI® that foster continuous improvement. In the pursuit of achieving true agility in delivering software solutions that adapt quickly to changing business needs, organizations are increasingly adopting agile methodologies. Organizations are feeling a need to focus on both Agile and CMMI®. However they are often perceived as opposites. This makes striking a right balance between them a big challenge.

This workshop aims to provide:

- An understanding on basics around CMMI® and Agile
- Clarity on myths surrounding co-existence of CMMI® and Agile
- Insights on how to use Agile with CMMI®

BDD through Cucumber

Behaviour Driven Development has proven to be one of the most effective methodologies for Agile Teams in terms of transforming a User Story into an objective specification with no room for churn, underestimation or confusion in terms of scope. One of the primary reasons it has achieved this success is because it brings a common language comprehendible by all alike. Cucumber has been at the forefront of creating this ubiquitous, objective specification for any requirements in hand so as to avoid any pitfalls in design and scope of a user story or overall system.

This two-day workshop aims at equipping audiences with the power of BDD using Cucumber as a tool. We go through a sample application with hands-on exercises throughout the workshop, so that they can start practicing the methodology and the tool to build better features throughout the project / product lifecycle.

Course Outline

Introduction

- Agile & Scrum
- Extreme Programming
- Use Cases and the problem with bloated specification
- Use Cases vs. User Stories

Behaviour Driven Development

- Introduction
- Let's build a calculator
- BDD as a design / specification methodology

Cucumber

- Writing the right user story
- Discovering behaviours
- Exercise (One of)
  - Money Converter
  - Parking Lot
  - Roulette
- The Gherkin Syntax
  - Specification by example Features & Scenarios
  - Scenario Outline & Background
  - Using Tables
  - Multiline Specification Examples
- Deriving specifications from user stories written in activity number 10.

Cucumber Advanced

- Framework Integrations (As per customer request)
  - Either of Ruby on Rails or Spring / Java
  - Selenium

Advanced Tooling for Mobile (Optional)

- Appium Overview
- Calabash Overview

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