ProTech Professional Technical Services, Inc.

Course Outline

Managing Projects Using Visual Studio 2019 and Scrum

Course Summary

Description

This course will help take your team and product to the next level. Using a combination of lecture, demonstrations, and team-based exercises, students will experience how to deliver software using the Scrum framework and corresponding practices and tools found in Visual Studio and Azure DevOps Services.

Objectives

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

- Agile software development values and principles
- Why empiricism is best suited for complex work
- The Scrum framework (roles, events, and artifacts)
- Product Backlog refinement
- Lean approaches to software requirements
- Requirements vs. specifications
- Importance of acceptance criteria
- Agile estimation techniques
- Definition of “Ready” and definition of “Done”
- Reducing waste during development
- How to use Azure Boards to support Scrum
- Creating a custom Professional Scrum process
- Creating and configuring a team project
- Mapping product development to a team project
- Using Azure Boards to plan and track work
- Strategies for multiple teams and multiple products
- Managing a Product Backlog in Azure Boards
- Tagging, finding, and querying work items
- Tracking business value and size (effort)
- Customizing and using the Kanban board
- Using Epic and Feature level backlogs
- Using the SpecMap extension to create story maps
- Forecasting work for upcoming Sprints
- Planning work in the current Sprint
- Capturing the Sprint plan as task work items
- Capturing the Sprint plan as test case work items
- Using the task board to update Sprint progress
- Using boards and charts to assess progress Using the Definition of “Done” extension
- Collaborating as a team & improving productivity
- Pairing, swarming, and mobbing
- Maintaining a wiki in Azure DevOps Services
- Performing code reviews using pull requests
- Requesting and capturing stakeholder feedback
- Using the Test and Feedback browser extension
- Using Live Share to collaborate in real time
- Assuring quality using Azure Test Plans
- Development, acceptance, and exploratory tests
- Creating test plans, test suites, and test cases
- Importing and exporting test artifacts
- Testing web applications and desktop applications
- Performing exploratory testing
- Creating automated acceptance tests in Visual Studio

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Course Summary (cont.)

- collaborating in code using Azure Repos
- Git overview and basic workflow
- Writing and running unit tests
- Practicing Test-Driven Development (TDD)
- Building and releasing code using Azure Pipelines
- Practicing Continuous Integration (CI)
- Agile metrics vs. traditional project metrics
- Reporting on a product's health and progress
- Configuring project alerts and notifications
- Using Excel for reporting and charting
- Using the Analytics Service and related widgets
- Velocity, Cumulative Flow, and other charts
- Using Power BI and the REST API for reporting

Topics

- The Scrum Framework
- Scrum in Action
- Adopting Scrum
- The Team Project
- The Product Backlog
- Planning a Sprint
- Collaborating as a Team
- Agile Software Testing
- Agile Software Development
- Reporting

Audience

This course is designed for Product Owners, Scrum Masters, developers, testers, architects, business analysts, team leaders, and managers who want to improve the way their software is delivered should attend this class. Both technical and non-technical people will benefit from the many discussions and hands-on activities

Prerequisite

Having some project management and software development experience, either as a team member or as a project manager, is preferred. Experience with Agile software development, Scrum and Visual Studio are also helpful, but not required. Attendees should read and be familiar with the Scrum Guide prior to attending class.

Duration

Three Days

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I. *The Scrum Framework*

- A. The Scrum framework
- B. Empiricism, inspection, adaptation, transparency
- C. Scrum roles, events, and artifacts
- D. Scrum values

II. *Scrum in Action*

- A. Refining the Product Backlog
- B. Planning a Sprint
- C. Planning and executing daily work
- D. Conducting a Sprint Review
- E. Conducting a Sprint Retrospective

III. *Adopting Scrum*

- A. Changing organizational culture
- B. Adoption blockers and common issues
- C. Dysfunction case studies

IV. *The Team Project*

- A. Azure DevOps Services overview
- B. Creating a custom Professional Scrum process
- C. Planning and creating a team project
- D. Configuring security, areas, and iterations
- E. Socializing the development effort
- F. Mapping Scrum to a team project

V. *The Product Backlog*

- A. Introduction to Azure Boards
- B. Creating and managing the Product Backlog
- C. PBI and Bug work item types
- D. Tracking business value and size (effort)
- E. Tagging, querying, and charting work items
- F. Customizing and using the Kanban board
- G. Implementing a definition of “Ready”
- H. Using Epic and Feature level backlogs
- I. Using Excel to manage the Product Backlog
- J. Leveraging stakeholder access
- K. Using SpecMap to create a story map

VI. *Planning a Sprint*

- A. Using the forecasting tool
- B. Planning the forecasted work in the Sprint
- C. Representing the Sprint plan with task work items
- D. Tracking the daily progress of work
- E. Using the Burndown and Cumulative Flow charts
- F. Using the Definition of “Done” extension

VII. *Collaborating as a Team*

- A. Collaboration principles and practices
- B. Pairing, swarming, and mobbing
- C. Creating and maintaining a wiki
- D. Using pull requests to review code
- E. Requesting and collecting stakeholder feedback
- F. Using the Test and Feedback extension
- G. Collaborating with Visual Studio Live Share

VIII. *Agile Software Testing*

- A. Agile testing principles and practices
- B. Introduction to Azure Test Plans
- C. Development, acceptance, and exploratory tests
- D. Creating a test plan, test suites, and test cases
- E. Testing web and desktop applications
- F. Performing exploratory testing

IX. *Agile Software Development*

- A. Introduction to Azure Repos and Azure Pipelines
- B. Git overview and workflow
- C. Unit testing & Test-Driven Development (TDD)
- D. Automated build and release using Azure Pipelines
- E. Practicing Continuous Integration (CI)

X. *Reporting*

- A. Agile metrics that matter
- B. Configuring alerts and notifications
- C. Using the Microsoft Analytics extension
- D. Ad-hoc reporting using Excel and Power BI
- E. Querying data using the REST API

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