TFS 2017 Developer Fundamentals

Duration	2 days	Version	2017
Skill level	Intermediate		
Audience	Developers using TFVC for version control		
Products and technologies	The following products and technologies will be covered in this course: • Visual Studio 2017 • Team Foundation Server 2017 or Visual Studio Team Services		

Course Description

Team Foundation Server 2017 and Visual Studio Team Services offer many features to help make developers more productive. This 2-day course has been designed for developers wanting to work efficiently with Team Foundation Server 2017 or Visual Studio Team Services. All examples are shown using Team Foundation Version Control (TFVC).

The course starts by getting developers familiar with the product suite before creating a new Team Project to organize their work. We then move onto Work Item Tracking, which is where requirements, tasks, bugs, and more are defined and tracked throughout the project.

The central part of the course provides a deep dive into version control topics that are vital to a developer's day-to-day work. This includes how to branch and merge following best practices before moving into unit testing and code quality features. We will examine the new build system and how to configure continuous integration (CI), and the final topic in the course looks at the new Package Management features introduced in TFS 2017 to allow teams to easily reuse packages across their applications.

Team Foundation Server or Visual Studio Team Services

This course is applicable for teams using Visual Studio Team Services or an on-premises Team Foundation Server.

Course Objectives

At the completion of this course, attendees will be able to:

- Create, configure, and manage team projects
- Use Team Explorer to navigate project content
- Manage work using work items, including how to configure links correctly
- Use work items such as Task and Bug to provide traceability
- Create and customize work item queries to find and organize work
- Set up and manage their own custom alerts (notifications)
- Understand core version concepts and how they apply to TFS or VSTS
- Use the Source Control Explorer
- Configure source control folder structures
- Use the version control system effectively, including branching and workspaces
- Use the MSSCCI provider to enable backward compatibility for maintaining legacy code
- Work with unit tests and the Test Explorer window
- Use Code Metrics and Static Code Analysis
- Use the new build system and configure Continuous Integration
- Improve team collaboration using Package Management

Audience

This course is designed for all Visual Studio 2017 developers who are starting work in a team with **either** Visual Studio Team Services or Team Foundation Server. The course focuses on features common to both the professional and enterprise editions of Visual Studio 2017.

Prerequisites

Attendees should have some familiarity with Visual Studio and either Visual Basic or C#.

Modules

Module 1: Introducing the Microsoft Visual Studio 2017 Family

- What's new in Visual Studio 2017
- Overview of the Visual Studio 2017 family
- Overview of product features
- A lap around Visual Studio Team Services
- Project workflow across the Visual Studio 2017 suite of products

Module 2: Organizing Work in Team Projects

- Understanding team projects and team project collections
- Selecting a process template
- Creating team projects
- Using Teams to manage work

Module 3: Understanding and Using Work Items

- Overview of work items
- Traceability between work items
- Creating custom queries
- Work item tagging
- Configuring project alerts and notifications

Module 4: TFS Version Control Concepts

- Version Control in Visual Studio
- Version Control terminology
- A closer look at workspaces
- Changesets and shelvesets

Module 5: Using Team Foundation Version Control

- The Source Control Explorer
- Getting code into TFVC
- Understanding the Pending Changes experience
- Linking changesets to work items
- Locking files in TFVC

Module 6: Configuring an Effective Version Control Environment

- Working with workspaces
- Setting team project-wide source control settings
- Check-in policies
- Backward compatibility using the MSSCCI provider

Module 7: Effective Branching and Merging

- Defining a branching strategy
- How to branch
- Branch visualization and tracking changes
- Merging and resolving conflicts
- Custom differencing tools

Module 8: Unit Testing and Code Quality Tools

- Unit testing in Visual Studio
- Visual Studio Test Explorer
- Code Metrics
- Static Code Analysis

Module 9: Build and Continuous Integration

- Understanding build infrastructure
- Creating new build definition
- Running tests as part of your build
- Extending builds using scripts

Module 10: Package Management

- Overview of Package Management in TFS/VSTS
- Consuming packages in Visual Studio
- Publishing packages to Package Management
- Creating a CI/CD pipeline for your packages