

Effective Team Development Using Microsoft Visual Studio Team System

Course GWE6214A0: Three days; Instructor-Led
On This Page



↓ [Introduction](#)

↓ [Audience](#)

↓ [At Course Completion](#)

↓ [Prerequisites](#)

↓ [Course Outline](#)

Introduction

This three-day instructor-led course provides students with the knowledge and skills to manage source control management, a configurable build process, tools that aid in test driven development, and process workflow all integrated directly into Visual Studio 2008. By the end of the course, developers are equipped to use test-driven techniques and proven software processes to create high-quality software with a minimal change in overall effort.

↑ [Top of page](#)

Audience

This course is intended for Enterprise IT Staff who actively participate in software development projects. They participate in specification, design, coding, testing or project management

↑ [Top of page](#)

At Course Completion

After completing this course, students will be able to:

- Describe integrated Application Life-Cycle Management (ALM) and how Visual Studio Team System 2008 aids the ALM process.
- Identify the components of Visual Studio Team System architecture and how these are used to improve collaboration and increase the overall efficiency of the team development process.
- Describe project management tools available in Visual Studio Team System.
- Describe the Developer and Architect tasks in Visual Studio Team System 2008.
- Describe MSBuild architecture and customize Team Build.
- Access Version control and use branching and merging effectively.
- Describe tools used for performance and code analysis.
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↑ [Top of page](#)

Prerequisites

Before attending this course, students must have:

- Experience and familiarity with process methodologies such as Microsoft Solutions Framework (MSF).
- Familiarity with diagramming implementations, High-level database design, Distributed systems design, Business requirements analysis.
- Experience in using source code versioning control tools, bug reporting, tracking, analysis tools, and possibly a unit testing suite.
- Experience with Microsoft Visual Studio 2003 or Microsoft Visual Studio 2005.
- Experience in using source code versioning control tools, bug reporting, tracking, analysis tools, and possibly a unit testing suite. They should have experience with Visual Studio 2003 or Visual Studio 2005 and some knowledge of Visual Basic .NET or Visual C# code.

[↑Top of page](#)

Course Outline

Module 1: Overview of Application Lifecycle Management

This module describes integrated Application Life-Cycle Management (ALM) System and how Visual Studio Team System aids ALM.

Lessons

- Introduction to Application Lifecycle Management
- Introduction to Team Development Features in Visual Studio Team System 2008
- Introduction to ALM Scenarios Supported by Visual Studio Team System

Lab 1: Identifying the Benefits of Having Process Guidance

- Using TFS Web Access to access project information
- Using Team Explorer to access project information
- Creating a Work Item and route through different members in the team

After completing this module, students will be able to:

- Identify Role-Based Editions and the elements of Team Foundation Server.
- Describe ALM scenarios supported by Visual Studio Team System.

Module 2: Using Visual Studio Team System in a Team

This module explains how to develop and test team interactions with Visual Studio Team System TFS in Team System. It also describes the use of Team System to improve collaboration and the overall efficiency of the software development efforts.

Lessons

- Introduction to Visual Studio Team System Architecture
- Using Visual Studio Team System in a Team

Lab 2: Exploring Visual Studio Team System for Teams

- Scheduling a Build
- Automating Unit Testing
- Filing Project Documents

After completing this module, students will be able to:

- Describe Team Foundation Client Tier, Application Tier, and Data Tier.
- Describe the Visual Studio Team System Client Architecture, Database, and Reporting.

Module 3: Overview of Project Management

This module explains how to plan projects using MSF and use Process Guidance to customize process templates. It also describes how to track projects through work items and reports.

Lessons

- Overview of Microsoft Solution Framework (MSF)
- Overview of Project Planning
- Overview of Process Guidance
- Overview of Process Customization
- Overview of Work Items
- Overview of Project Portal

Lab 3: Overview of Project Management Tools

- Customizing a process using Process Template Editor
- Creating a new project using Project Creation Wizard in Team Explorer
- Export Work Items to MS Project

After completing this module, students will be able to:

- Describe the Microsoft Solution Framework.
- Identify the tasks and roles in the Application Development Lifecycle.
- Describe the Process Guidance workflow.
- Identify the ways in which a process can be customized.
- Demonstrate work item management.
- Describe the features of Team Project Portal.

Module 4: Designing and Developing a Software Solution in Visual Studio Team System

This module explains how to minimize the complexity of distributed software by utilizing more tools than simply code modeling. It also describes the Developer and Architect tasks of Visual Studio Team System, and explains the need to map applications to the physical environment in which they will run.

Lessons

- Designing a Solution
- Using Database Design Tools
- Developing a Solution

Lab 4: Designing a Software Solution

- Creating and Implementing a Class diagram
- Managed Code Analyses Using Database Schema
- Implementing a unit test

After completing this module, students will be able to:

- Use Visual Studio Team System Architecture tools for designing a solution.
- Use Visual Studio Team System Database Designing tools for designing database.
- Use Visual Studio Team System Developer tools for developing a solution.

Module 5: Introduction to Version Control in Parallel Development

This module explains how the build process works and how to utilize the customization and dynamic build features.

Lessons

- Overview of MSBuild architecture
- Customizing Team Build
- Integrating Testing in Visual Studio Team System

Lab 5: Customizing Team Build

- Configuring the Build Agent machine
- Configuring Continuous Integration Build
- Integrating a test with Build

After completing this module, students will be able to:

- Describe MSBuild architecture.
- Customize Team Build.
- Integrate a test with Team Build

Module 6: Introduction to Version Control in Parallel Development

This module explains features of the Version Control like branching, Merging, Locking models, differencing and security.

Lessons

- Introduction to Version Control Locking Models
- Overview of Branching, Differencing and Merging

Lab 6: Defining Branching, Differencing and Merging

- Creating a branch
- Performing difference on different branches
- Performing a baseless merge

After completing this module, students will be able to:

- Describe version control locking models.
- Describe branching, differencing and merging.

Module 7: Introduction to Advance Analyzing Tasks

This module explains how performance analysis is done using performance tools and performance explorer. It also explains the quality tools which ensure the quality of the application.

Lessons

- Overview of Performance Analysis Tools
- Overview of Code Analysis Tools
- Overview of Unit Testing
- Overview of Performance Profiling Tools

Lab 7: Exploring Advanced Analysis tools

- Creating a performance session using Performance Wizard
- Running tests of a given profile using Application Performance Explore
- Enabling code analysis for managed code

After completing this module, students will be able to:

- Describe performance analysis tools.
- Describe code analysis tools.
- Describe unit testing framework.

- Demonstrate how to use each performance profiling tool.

Module 8: Overview of Testing in Visual Studio Team System

This module explains how to develop, operate, and interpret results obtained from web and load tests. It also explains how to develop test cases.

Lessons

- Overview of Developing Web Tests
- Overview of Running Web Tests
- Overview of Developing Load Tests
- Overview of Interpreting Test Results
- Overview of Test Case Development

Lab 8: Overview of Testing Tools

- Creating a test case using Test Case Manager
- Managing test cases
- Creating a web test request for a given scenario, using a given set of parameters

After completing this module, students will be able to

- Describe web test development in Visual Studio Team System 2008.
- Describe web test operation in Visual Studio Team System 2008.
- Describe load test development in Visual Studio Team System 2008.
- Describe load test operation in Visual Studio Team System 2008.
- Describe how test results can be interpreted using Visual Studio Team System 2008.
- Describe test case development.