

VISUAL STUDIO TEAM SYSTEM 2008 ADVANCED TOPICS



Course ADVT08: Two days; Instructor-Led Course Syllabus

INTRODUCTION

This two-day, instructor-led course dives deep into the areas of process template customization, version control, parallel development, and Team Foundation Build. It provides students with the knowledge and skills to effectively customize process templates, understand the advanced usage of the version control and check-in policies in a parallel development environment, and customize Team Foundation Build. The course also includes many best practices and solutions to common problems in Visual Studio Team System 2008.

AUDIENCE

This course is intended for students who have a working-knowledge of Team System and Team Foundation Server, or who have attended comparable training classes.

AT COURSE COMPLETION

After attending this course, students will be able to:

- Understand the architecture of a process template
- Customize a process template
- Create a new work item type
- Alter work item types for existing team projects
- Understand parallel development
- Understand Team Foundation Server's support for parallel development
- Setup and manage workspaces
- Detect and resolve conflicts in a parallel development environment
- Apply the correct branching pattern for a given SCM environment
- Use branching and merging effectively
- Use shelving and unshelving effectively
- Secure version control assets
- Use alternate compare and merge tools
- Use Team Foundation Server 2008 Power Tools effectively
- Use the MSSCCI provider from SQL Server Management Studio
- Create and use work item, code analysis, and unit testing check-in policies
- Create and deploy a custom check-in policy
- Manage check-in policy failure and overrides
- Configure check-in policy failure notifications
- Create and execute a Team Foundation Build manually
- Schedule a Team Foundation Build using Windows Scheduler
- Run code analysis as part of a Team Foundation Build
- Configuration of Team Foundation Build notifications
- Implement Continuous Integration using Team Foundation Build
- Customize Team Foundation Build
- Create custom MSBuild tasks
- Configure Team Foundation Build to build and deploy a Web application

PREREQUISITES

Before attending this course, students should have working experience with Visual Studio Team System and Team Foundation Server. In addition, students should:

- Have familiarity with their organization's software development methodology
- Have experience developing and supporting multiple versions of a software project
- Have experience working with multiple developers on a software project
- Have experience with the types of conflicts that can arise from a multi-user project
- Understand the basic foundations of .NET
- Be able to read Visual C# code (all source code will be provided)
- Understand Microsoft Windows operating system basics
- Understand Microsoft Windows security basics

COURSE OUTLINE

Module 1: Customizing Process Templates

This module introduces process templates and the tools and techniques to customize and tailor them for a team's specific needs.

Lessons

- Customizing vs. extending
- Process template architecture
- Modifying process guidance
- Modifying process templates
- Work item type schema
- Customizing work item types
- Configuring work item state transition workflow

Lab Exercises

- Download and explore a process template
- Create a new process template
- Upload and test a process template
- Alter work item types of existing team projects
- Use the Process Editor found in the Team Foundation Server 2008 Power Tools

Module 2: Parallel Development

This module dives deep into the discussion of Team Foundation Version Control, focusing on the topics related to multiple users working on multiple, sometimes simultaneous, projects and project versions in an agile environment. The topics in this module cover branching, merging, shelving, and detecting/mitigating conflicts when they occur.

Lessons

- Introduction to parallel development, terminology
- Parallel development scenarios, locking models
- Branching, merging, and promotion modeling
- Branching patterns, conflict detection and resolution
- Shelving, unshelving, achieving peer review using shelving
- Securing version control files and folders
- Using Team Foundation Server 2008 Power Tools

Lab Exercises

- Understand and resolve conflicts in a multi-user environment
- Branch code, manage branches, merge changes between branches
- Use the command-line tool to perform a baseless merge
- Secure artifacts in version control
- Shelf and unshelf changes
- Explore the widget: alternate merge tool (optional)

Module 3: Check-In Policies

This module continues the deep dive into Team Foundation Version Control, focusing on ensuring the quality of the checked-in artifacts. The topics in this module include using the standard policies to run tests, code analysis, and verify work item association, as well as creating and using custom check-in policies.

Lessons

- Ensuring changes are properly implemented
- Configuring check-in policies and notes
- Using Team Foundation Server 2008 Power Tools policy-pack
- Understanding policy failure, overriding, and managing overrides
- Creating, deploying, and debugging a custom check-in policy

Lab Exercises

- Configure the work item association check-in policy
- Configure the code analysis check-in policy
- Migrate code analysis policy settings to Visual Studio projects
- Create a unit test and manage test lists
- Configure a unit testing check-in policy
- Use the Custom Path policy to scope other check-in policies
- Create, deploy, and debug a custom check-in policy (optional)
- Explore the widget: Policy Override Notification Tool (optional)

Module 4: Advanced Team Foundation Build

This module includes a deep dive into Team Foundation Build, including a more technical look into the architecture and execution process. Topics include understanding MSBuild and customizing and automating Team Foundation Build.

Lessons

- Team Foundation Build architecture
- Automating Team Foundation Build
- Continuous integration
- Customizing Team Foundation Build
- MSBuild Architecture
- Understanding targets and tasks
- Creating custom MSBuild tasks
- Common build recipes

Lab Exercises

- Define an automated build
- Queue (execute) the automated build in various ways
- Ensure a quality build by enabling code analysis
- Ensure a quality build by running Build Verification Tests (BVTs)
- Configure build notifications
- Customize the automated build definition
- Create a custom MSBuild task (optional)

Module 5: Patterns, Best-Practices, and How-To's

This comprehensive module covers various Visual Studio Team System and Team Foundation Server patterns and best practices, and also examines how to solve many of the frequently asked questions and problems.

Lessons

- Common SCM patterns
- Organizing team projects
- Planning iterations and releases
- Configuring areas, iterations, and version control settings
- Bulk copying and moving work items and artifacts
- Promoting an application from Dev to QA to Production
- Promoting an application through major and minor version changes
- Best practices – workspace management
- Best practices – branching and merging
- Best practices – working with shared code and components
- Best practices – working offline
- Best practices – achieving traceability
- Team Foundation Server capacity planning
- How-To – various topics around work items, version control, and build automation
- Resources

Lab Exercises

- This module contains no lab

Course Designer

This course was designed by Richard Hundhausen of Accentient, Inc. Richard is a Visual Studio Team System MVP and Microsoft Regional Director, as well as an experienced developer and trainer.

For more information, visit www.accentient.com