Course T412 Outline
.NET Best Practices and Design Patterns

IT ACADEMY TRAINING

Duration

3 Days

8 AM-4 PM Central Daily

Course skill level

- Foundation
- ✓ **Intermediate**
- Advanced

This course qualifies for

2.4 CEUs

17 NASBA CPEs

Technology used during course

- AnyWare Classes use Zoom
- SkyTap Virtual Machines
- Computing Sandbox

Who should attend (Audience)

This course is designed for Application Architects, Software Developers, and other IT Professionals with .NET programming experience who want to expand their .NET programming skills.

What is this course about?

This course is designed for those who want to build upon their basic .NET language knowledge. Developers learn to identify and solve common design and architecture problems by applying best practices to .NET application development.

.NET design patterns are also covered in this course. Design patterns enhance the adaptability of your application, creating application reuse and flexibility.

Recommended prerequisites

- T405 - Object-Oriented Programming and Design With C#

Previous knowledge & experience needed

- Experience with .NET development is assumed.

Course Details

Chapter 1: Introduction to Design Patterns and Best Practices
- Façade Pattern
- Design Pattern
- Best Practices

Chapter 2: Automated Test-Driven Development (TDD)
- Refactoring
- Test-driven development
- VS Test
- Mock Object Pattern
- Code Analysis and Metrics

Chapter 3: SOLID Principles and Tactical Patterns
- Tradeoffs in different approaches
- SOLID and Hollywood design principles
- Tactical Design Patterns

Chapter 4: Threading and Concurrency
- Threads
- Task Parallel Library (TPL)
- Locking
- Asynchronous keywords
- The Awaitable-Awaiter Pattern

Chapter 5: Separation of Concerns (Business Logic—Data)
- Separation of concerns
- Strategic design patterns
- Repository pattern

Chapter 6: Separation of Concerns (View—Business Logic)
- Separation concerns
- Compare architectural patterns
- Examine tactical design patterns
- Useful Tactical patterns

Chapter 7: Performance
- Performance aspects of C#
- General tips
- Memory management
- Finalization
- Dispose pattern

Chapter 8: Course Summary

Common Questions – Attendance Policy, Contacts

What is the Attendance Policy for IT Academy Classes?
IT Academy attendees are expected to adjust their work schedule to match the IT Academy class hours of 8:00am – 4:00pm. 100% attendance is expected in each IT Academy class. Missing time in class may result in the following:

- No Show=Employees who do not show up for class or arrive more than one (1) hour after the start of class will be advised to reschedule for the next available course.
- Incomplete=Employees missing a half day or more of class-any day of class-will be advised to reschedule for the next available course. Employees not available to sit for the post-test will be considered incomplete.

AnyWare Technical Support contact?
AnyWare@LearningTree.com, 1-877-653-8733

IT Academy Classroom Point of Contact?
Christopher Marsh, Christopher.marsh@tn.gov, 615-532-5517

How do I access the new My IT Academy Portal?
1. Log into Edison
2. ELM Learning Home Page
3. Quick Links
4. My IT Academy (last link under Quick Link)

For more FAQs visit the IT Academy AEM Site
https://www.teamtn.gov/sts/sts-employee-engagement/itacademytn/it-academy-toolkit/faqs.html