

uCertify

Course Outline

C# 12 for Cloud, Web, and Desktop Applications



30 Oct 2025

1. Exercises, Quizzes, Flashcards & Glossary

Number of Questions

2. Expert Instructor-Led Training

3. ADA Compliant & JAWS Compatible Platform

4. State of the Art Educator Tools

5. Award Winning Learning Platform (LMS)

6. Chapter & Lessons

Syllabus

Chapter 1: Preface

Chapter 2: Introduction to Visual Studio 2022

Chapter 3: What is New in C# 12

Chapter 4: Mastering Entity Framework Core

Chapter 5: Getting Started with Azure Functions

Chapter 6: Azure SQL, Cosmos DB and Blob Storage

Chapter 7: Unleashing the Power of Async Operations with Azure Service Bus

Chapter 8: Securing Your Apps with Azure Key Vault

Chapter 9: Building Dynamic Web Apps with Blazor and ASP.NET

Chapter 10: Real-time Communication with SignalR and ASP.NET

Chapter 11: Implementing MicroServices with Web APIs

Chapter 12: CI/CD with Docker and Azure DevOps

Chapter 13: Building Multi-platform Apps with .NET MAUI and Blazor Hybrid

Chapter 14: Windows UI Library: Crafting Native Windows Experience

Chapter 15: Unit Testing and Debugging

Videos and How To

1.  **Expert Instructor-Led Training**

uCertify uses the content from the finest publishers and only the IT industry's finest instructors. They have a minimum of 15 years real-world experience and are subject matter experts in their fields.

Unlike a live class, you can study at your own pace. This creates a personal learning experience and gives you all the benefit of hands-on training with the flexibility of doing it around your schedule 24/7.

2. **ADA Compliant & JAWS Compatible Platform**

uCertify course and labs are ADA (Americans with Disability Act) compliant. It is now more accessible to students with features such as:

- Change the font, size, and color of the content of the course
- Text-to-speech, reads the text into spoken words
- Interactive videos, how-tos videos come with transcripts and voice-over
- Interactive transcripts, each word is clickable. Students can clip a specific part of the video by clicking on a word or a portion of the text.

JAWS (Job Access with Speech) is a computer screen reader program for Microsoft Windows that reads the screen either with a text-to-speech output or by a Refreshable Braille display. Student can easily navigate uCertify course using JAWS shortcut keys.

3. **State of the Art Educator Tools**

uCertify knows the importance of instructors and provide tools to help them do their job effectively. Instructors are able to clone and customize course. Do ability grouping. Create sections. Design grade scale and grade formula. Create and schedule assessments. Educators can also move a student from self-paced to mentor-guided to instructor-led mode in three clicks.

4. **Award Winning Learning Platform (LMS)**

uCertify has developed an award winning, highly interactive yet simple to use platform. The SIIA CODiE Awards is the only peer-reviewed program to showcase business and education technology's finest products and services. Since 1986, thousands of products, services and solutions have been recognized for achieving excellence. uCertify has won CODiE awards consecutively for last 7 years:

- **2014**
 1. Best Postsecondary Learning Solution

- **2015**
 1. Best Education Solution
 2. Best Virtual Learning Solution
 3. Best Student Assessment Solution
 4. Best Postsecondary Learning Solution
 5. Best Career and Workforce Readiness Solution
 6. Best Instructional Solution in Other Curriculum Areas
 7. Best Corporate Learning/Workforce Development Solution

- **2016**
 1. Best Virtual Learning Solution
 2. Best Education Cloud-based Solution
 3. Best College and Career Readiness Solution
 4. Best Corporate / Workforce Learning Solution
 5. Best Postsecondary Learning Content Solution
 6. Best Postsecondary LMS or Learning Platform
 7. Best Learning Relationship Management Solution

- **2017**
 1. Best Overall Education Solution
 2. Best Student Assessment Solution
 3. Best Corporate/Workforce Learning Solution
 4. Best Higher Education LMS or Learning Platform

- **2018**
 1. Best Higher Education LMS or Learning Platform
 2. Best Instructional Solution in Other Curriculum Areas
 3. Best Learning Relationship Management Solution

- **2019**
 1. Best Virtual Learning Solution
 2. Best Content Authoring Development or Curation Solution
 3. Best Higher Education Learning Management Solution (LMS)

- **2020**
 1. Best College and Career Readiness Solution
 2. Best Cross-Curricular Solution
 3. Best Virtual Learning Solution

5. Chapter & Lessons

uCertify brings these textbooks to life. It is full of interactive activities that keeps the learner engaged. uCertify brings all available learning resources for a topic in one place so that the learner can efficiently learn without going to multiple places. Challenge questions are also embedded in the chapters so learners can attempt those while they are learning about that particular topic. This helps them grasp the concepts better because they can go over it again right away which improves learning.

Learners can do Flashcards, Exercises, Quizzes and Labs related to each chapter. At the end of every lesson, uCertify courses guide the learners on the path they should follow.

Syllabus

Chapter 1: Preface

Chapter 2: Introduction to Visual Studio 2022

- Significant changes from Visual Studio 2019

- Live unit testing

- Snapshot debugging

- Time Travelling Debugging

- Conclusion

Chapter 3: What is New in C# 12

- C# 11 updates
- C# 12 updates
- Conclusion

Chapter 4: Mastering Entity Framework Core

- Mastering Entity Framework Core
- Database First
- Code First
- LINQ to Entities
- Data Annotations
- Data Modeling
- Data Management
- Conclusion

Chapter 5: Getting Started with Azure Functions

- Getting started with Azure Functions

- Azure Function triggers
- Azure Function bindings
- Practical case-study
- Conclusion
- Points to remember
- Exercises

Chapter 6: Azure SQL, Cosmos DB and Blob Storage

- Azure SQL, Cosmos DB and Blob Storage
- Azure SQL
- Cosmos DB
- Blob Storage
- Conclusion

Chapter 7: Unleashing the Power of Async Operations with Azure Service Bus

- Async operations with Service Bus
- Azure Service Bus Queues
- Azure Service Bus Topics
- Azure Service Bus Subscriptions

- Case study
- Conclusion

Chapter 8: Securing Your Apps with Azure Key Vault

- Azure Key Vault Overview
- Azure Key Vault Authentication
- Azure Key Vault Access policies
- Case study
- Conclusion

Chapter 9: Building Dynamic Web Apps with Blazor and ASP.NET

- Web Apps with Blazor and .NET
- Hot reload
- Security
- Data binding
- Blazor vs Razor
- Practical case study
- Data binding
- Conclusion

Chapter 10: Real-time Communication with SignalR and ASP.NET

- Real-time communication with SignalR and ASP.NET
- Configuration
- Authentication and authorization
- Streaming hub
- Case study
- Conclusion

Chapter 11: Implementing MicroServices with Web APIs

- Implementing MicroServices with WebAPIs
- Asynchronous communication
- RabbitMQ
- MicroServices scalability
- Horizontal scalability
- Vertical scalability
- Orchestrators
- Most used architectural patterns
- Backend for frontend

- Command Query Responsibility Segregation
- Domain Driven Design
- Case study
- Conclusion

Chapter 12: CI/CD with Docker and Azure DevOps

- Overview
- Docker
- Azure DevOps
- Continuous integration
- Continuous deployment
- Case study
- Conclusion

Chapter 13: Building Multi-platform Apps with .NET MAUI and Blazor Hybrid

- .NET MAUI overview
- Differences between Blazor X Blazor Hybrid
- Case study with step-by-step implementation
- Conclusion

Chapter 14: Windows UI Library: Crafting Native Windows Experience

- Windows UI Library Introduction
- Fluent Design System
- Case study with step-by-step implementation
- Conclusion

Chapter 15: Unit Testing and Debugging

- Unit testing with xUnit
- Making usage of mocks
- Mastering debugging
- Applying xUnit and mocks
- Conclusion

You can't stay away! Get

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