

# Kurs-Dokumentation



**Zentrum für Informatik ZFI AG**

## **Developing Advanced Web Applications with MS Visual Studio 2010 (NAWB-0711) -IT Ausbildung nach Mass**

<http://www.zfi.ch/NAWB-0711>

Weitere Infos finden Sie unter [www.zfi.ch](http://www.zfi.ch) oder via Adresse:

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<b>Titel</b>	<b>Developing Advanced Web Applications with MS Visual Studio 2010</b>
<b>Untertitel</b>	<b>für den fortgeschrittenen .NET-Web-Entwickler</b>
<b>Einleitung</b>	<p>Visual Studio 2010 Professional ist die moderne Entwicklungsumgebung mit allen Kernfunktionen für die professionelle Entwicklung von SingleCore- und MultiCore-Anwendungen für Windows, Web, SharePoint, die Cloud und weitere Plattformen. Zahlreiche neue Funktionen erleichtern das Programmieren, Testen oder Debuggen, darunter Multi-Monitor-Unterstützung sowie eine komplett überarbeitete und individuell anpassbare Benutzeroberfläche auf Basis der Windows Presentation Foundation. Softwareentwickler können ihre vorhandenen Kenntnisse nutzen und neue Anwendungen für die unterschiedlichsten aktuellen und zukünftigen Plattformen entwickeln. Neue Funktionen für testgetriebene Entwicklung und neue Debugging-Tools helfen dabei, Fehler leichter zu finden und so schneller zu hochwertigen Ergebnissen zu kommen. Webentwickler profitieren von Verbesserungen des Microsoft-ASP.NET AJAX-Frameworks und IntelliSense für JavaScript. Neben den gängigen .NET-Sprachen ist auch die neue funktionale Programmiersprache F# enthalten, ausserdem gibt es viele Verbesserungen für das Programmieren mit C++. Dieser Kurs richtet sich an fortgeschrittene Web-Entwickler, welche sich mit den im Inhaltsverzeichnis aufgelisteten Themen vertieft auseinandersetzen möchten. Der Kurs wird von einem erfahrenen Microsoft-zertifizierten Kursleiter geleitet.</p>
<b>Ihr Nutzen</b>	<p>After completing this course, students will be able to:</p> <ul style="list-style-type: none"><li>- Describe the underlying architecture and design of a Web application.</li><li>- Apply best practices and make appropriate trade-offs based on business requirements when designing a Web application.</li><li>- Develop MVC models.</li><li>- Develop MVC controllers.</li><li>- Develop MVC views.</li><li>- Optimize the design of a Web application for discoverability by search engines.</li><li>- Write server-side code for Web Forms.</li><li>- Optimize data management for Web Forms.</li><li>- Ensure quality by debugging, unit testing, and refactoring.</li><li>- Secure a Web application.</li><li>- Apply Master Pages and CSS for a consistent application UI.</li><li>- Develop client-side scripts and services for a responsive, rich, and interactive UI.</li><li>- Implement advanced AJAX in a Web application.</li><li>- Deploy a Web application. Develop a Web application by using Silverlight.</li></ul>
<b>Voraussetzungen</b>	<p>In addition to their professional Web development experience, students who attend this training should have the following technical knowledge:</p> <ul style="list-style-type: none"><li>- An understanding of the problem-solving techniques that apply to software development, including the following principles of software development:<ul style="list-style-type: none"><li>- modern software development model</li><li>- typical phases of a software development lifecycle</li><li>- concepts of event-driven programming</li><li>- concepts of object-oriented programming</li></ul></li></ul>

- creating use-case diagrams
- designing and building a user interface
- developing a structured application
  
- A basic understanding of the following scripting techniques and some hands-on experience writing scripts:
  - Web scripting techniques
  - Macro scripting techniques
  - Windows scripting techniques
  
- A general understanding of the purpose, function, and features of following .NET Framework topics:
  - Common Language Runtime
  - .NET Framework class library
  - Common Type System
  - Component interoperation
  - Cross-Language Interoperability
  - Assemblies in the Common Language Runtime
  - Application Domains
  - Runtime hosts supported by the .NET Framework
  
- Experience using Visual Studio 2008 in the following task areas:
  - Declaring and initializing typed variables using the Camel case naming convention
  - Using arithmetic, relational, and logical operators in code statements
  - Using branching statements to control code execution
  - Using looping statements to iterate through collections or repeat steps until a specified condition is met
  - Creating classes and methods to establish the basic structure of an application
  - Using methods and events to implement the programming logic of an application
  - Identifying syntax and logic errors
  - Accessing and managing data from a data source
  
- Experience in object oriented design and development as follows:
  - Creating and accessing classes and class properties
  - Creating and accessing methods and overloaded methods
  - Implementing inheritance, base classes, and abstract classes
  - Declaring, raising, and handling events
  - Responding to and throwing exceptions
  - Implementing interfaces and polymorphism
  - Implementing shared and static members
  - Implementing generics
  - Creating components and class libraries

- Experience in N-Tier application design and development as follows:
- Managing a software development process
- Controlling input at the user interface level in Windows Client and Web applications
- Debugging, tracing, and profiling .NET applications
- Monitoring and logging .NET applications
- Implementing basic testing best practices
- Performing basic Data Access tasks with LINQ
- Implementing basic security best practices in .NET Applications
- Implementing basic service calls
- Using .NET Configuration Files

**Teilnehmerkreis**

This course is intended for professional Web developers who use Microsoft Visual Studio in a team-based, medium-sized to large development environment. Members of the audience have a minimum of two to three years of experience developing Web-based applications by using Microsoft Visual Studio and Microsoft ASP.NET. Members of the audience are experienced users of Microsoft Visual Studio 2008 SP1 and newer releases of the Visual Studio product. The audience understands how to use the new features of Visual Studio 2010.

**Unterlagen  
Folgekurse**

Original Microsoft Unterlagen

- andere Kurse aus dem Bereich Spezialisierung, siehe Bildungsweg-«Application Design for Developers», NADD/10552

**Inhalt**

- Overview of Web Application Design  
- Overview of IIS 7.0  
- Overview of ASP.NET 4.0  
- Introduction to the MVC Framework  
- Overview of the Request Life Cycle

- Designing a Web Application  
- Web Applications: Case Studies  
- Web Application Design Essentials  
- Guidelines for Determining When to Use Web Forms and MVC  
- Visual Studio 2010 Tools and Technologies for Web Application Design

Developing MVC Models  
- Exploring Ways to Create MVC Models  
- Creating a Data Repository

Developing MVC Controllers  
- Implementing MVC Controllers  
- Creating Action Methods

Developing MVC Views  
- Implementing MVC Views  
- Implementing Strongly-Typed MVC Views  
- Implementing Partial MVC Views

Designing for Discoverability  
- Overview of Search Engine Optimization  
- Creating the Robots and Sitemap Files  
- Using ASP.NET Routing

Writing Server-Side Code for Web Forms  
- Overview of the Structure of a Web Application  
- Controlling ViewState  
- Localizing a Web

ApplicationPersisting Data on a Web Forms PageValidating User Input

Optimizing Data Management for Web FormsManaging Data by Using LINQ to EntitiesUsing Data Source ControlsUsing ASP.NET Dynamic Data

Ensuring Quality by Debugging, Unit Testing, and RefactoringDebugging and Refactoring CodeUnit Testing CodeProcessing Unhandled ExceptionsTest Driven Development

Securing a Web ApplicationConfiguring AuthenticationConfiguring ASP.NET MembershipManaging Authorization by Using ASP.NET Roles

Applying Master Pages and CSSApplying Master PagesApplying CSS, Skins, and Themes

Developing Client Side Scripts and ServicesDeveloping Client-Side ScriptsImplementing AJAXCreating Services

Implementing Advanced AJAX in a Web ApplicationImplementing Ajax in ASP.NET MVC Pages Using Microsoft AjaxImplementing Ajax in ASP.NET MVC Pages Using jQueryWorking With jQuery and Ajax Events

Deploying a Web ApplicationOverview of Web Application DeploymentsOverview of Web Site DeploymentsDeploying AdventureWorks

Developing a Web Application by Using SilverlightIntroduction to Rich Internet ApplicationsOverview of SilverlightCreating a Silverlight Application

Beitrag

Der Teilnehmerbeitrag versteht sich rein netto. Das ZFI ist (gemäss MwSt-Gesetz) nicht Mehrwertsteuerpflichtig und erhebt somit keine MwSt. Bei länger als einen Monat dauernden Lehrgängen ist die Zahlung des Teilnehmerbeitrages in mehreren Raten möglich (pro rata temporis).

# Bildungsweg Visual Studio .NET

