

## Kurs-Dokumentation



## Zentrum für Informatik ZFI AG

# Developing Windows Azure and Web Services (NAZS)

<http://www.zfi.ch/NAZS>

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

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<b>Titel</b>	<b>Developing Windows Azure and Web Services</b>
<b>Untertitel</b>	
<b>Einleitung</b>	<b>In this course, students will learn how to design and develop services that access local and remote data from various data sources. Students will also learn how to develop and deploy services to hybrid environments, including on-premises servers and Windows Azure.</b>
<b>Ihr Nutzen</b>	<b>After completing this course, students will be able to:</b> <ul style="list-style-type: none"><li><b>- Query and manipulate data with Entity Framework</b></li> <li><b>- Use ASP.NET Web API to create HTTP-based services and consume them from .NET and non-.NET clients</b></li> <li><b>- Extend ASP.NET Web API services using message handlers, model binders, action filters, and media type formatters</b></li> <li><b>- Create SOAP-based services with the Windows Communication Foundation (WCF) and consume them from .NET clients</b></li> <li><b>- Apply design principles to service contracts and extend WCF services using custom runtime components and behaviors</b></li> <li><b>- Secure WCF services using transport and message security</b></li> <li><b>- Use Windows Azure Service Bus for relayed messaging and brokered messaging using queues and topics</b></li> <li><b>- Host services on on-premises servers, and on various Windows Azure environments, such as Web Roles, Worker Roles, and Web Sites</b></li> <li><b>- Deploy services to both on-premises servers and Windows Azure</b></li> <li><b>- Store and access data in Windows Azure Storage, and configure</b></li></ul>

	<p><b>storage access rights</b></p> <ul style="list-style-type: none"> <li>- Monitor and log services, both on-premises and in Windows Azure</li> <li>- Implement federated authentication by using ACS with ASP.NET Web API services</li> <li>- Create scalable, load-balanced services</li> </ul>
<p><b>Voraussetzungen</b></p>	<p><b>Before attending this course, students must have:</b></p> <ul style="list-style-type: none"> <li>- Experience with C# programming, and concepts such as Lambda expressions, LINQ, and anonymous types.</li> <li>- Understanding the concepts of n-tier applications.</li> <li>- Experience with querying and manipulating data with ADO.NET.</li> <li>- Knowledge of XML data structures.</li> </ul>
<p><b>Teilnehmerkreis</b></p>	<p><b>This course is intended for both novice and experienced .NET developers who have a minimum of six months programming experience, and want to learn how to develop services and deploy them to hybrid environments.</b></p>
<p><b>Unterlagen</b></p>	
<p><b>Folgekurse</b></p>	
<p><b>Inhalt</b></p>	<ul style="list-style-type: none"> <li>- <b>Module 1: Overview of service and cloud technologies</b></li> <li><b>Key Components of Distributed Applications</b></li> <li> </li> <li><b>Data and Data Access Technologies</b></li> <li> </li> <li><b>Service Technologies</b></li> <li> </li> <li><b>Cloud Computing</b></li> </ul>

## Exploring Blue Yonder Airlines? Travel Companion Application

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### Module 2: Querying and manipulating data using Entity Framework ADO.NET overview

#### Creating an entity data model

#### Querying data

#### Manipulating data

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### Module 3: Creating and consuming ASP.NET Web API services What are HTTP services?

#### Creating an ASP.NET Web API service

#### Handling HTTP requests and responses

#### Hosting and consuming ASP.NET Web API services

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### Module 4: Extending and securing ASP.NET Web API services The ASP.NET Web API request pipeline

#### The ASP.NET Web API response pipeline

#### Creating OData services

**Implementing Security in ASP.NET Web API services****Injecting dependencies into controllers**

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**Module 5: Creating WCF services  
Advantages of creating services with WCF****Creating and implementing a contract****Configuring and hosting WCF services****Consuming WCF services**

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**Module 6: Designing and extending WCF services  
Applying design principles to service contracts****Handling distributed transactions****WCF pipeline architecture****Extending the WCF pipeline**

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**Module 7: Implementing Security in WCF services  
Transport security****Message security**

## **Configuring service authentication and authorization**

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**Module 8: Windows Azure Service Bus**  
**Windows Azure Service Bus Relays**

**Windows Azure Service Bus Queues**

**Windows Azure Service Bus Topics**

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**Module 9: Hosting services**  
**Hosting services on-premises**

**Hosting services in Windows Azure**

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**Module 10: Deploying Services**  
**Web Deployment with Visual Studio**

**Creating and deploying Web Application packages**

**Command-line tools for web deployment packages**

**Deploying to Windows Azure**

**Continuous delivery with TFS and GIT**

**Best practices for production deployment**

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## **Module 11: Windows Azure Storage** **Introduction to Windows Azure storage**

**Windows Azure Blob Storage**

**Windows Azure Table Storage**

**Windows Azure Queue Storage**

**Restricting access to Windows Azure Storage**

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## **Module 12: Monitoring and diagnostics** **Performing diagnostics using tracing**

**Configuring service diagnostics**

**Monitoring IIS**

**Monitoring services using Windows Azure diagnostics**

**Debugging using IntelliTrace**

**Collecting Windows Azure metrics**

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## **Module 13: Identity management and access control** **Claim-based identity concepts**

**Access Control Service****Configuring services to use federated identities****Handling federated identities in the client side****-****Module 14: Scaling Services****Introduction to scalability****Load balancing****Scaling on-premises services with distributed cache****Windows Azure caching****Caveats of scaling services****Scaling globally****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).**