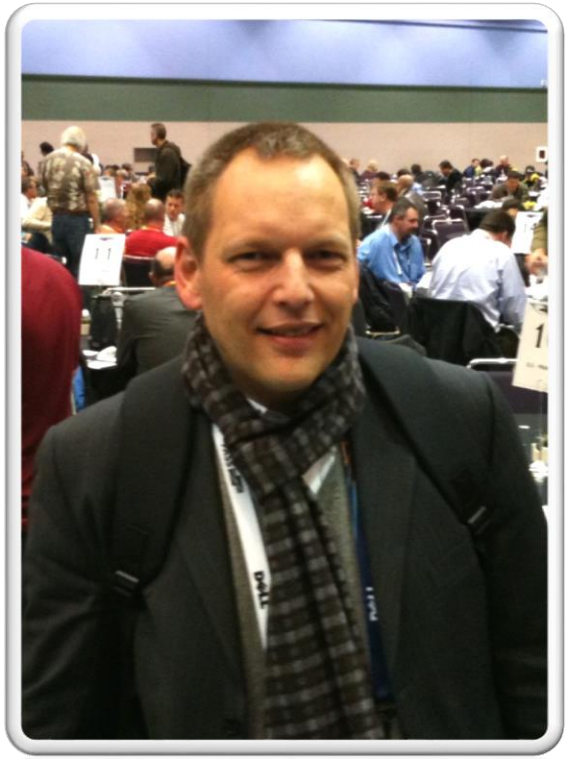
SQL Server goes Win**Phone**

Alexander Karl

about me



Alexander Karl

.net - CDE **SQL + BI Consultant**

Microsoft CERTIFIED Trainer

Microsoft CERTIFIED IT Professional

Database Administrator 2008
Server Administrator on Windows Server® 2008
Database Administrator on SQL Server® 2005

... und „2012er“ Zertifizierungen

publications

- Schulungs-Video: „SQL Integration Services“
- Kindle ebook: DQS step-by-step DE + EN
- session-ppts: Introduction + code samples

SQL Server goes Win**Phone**

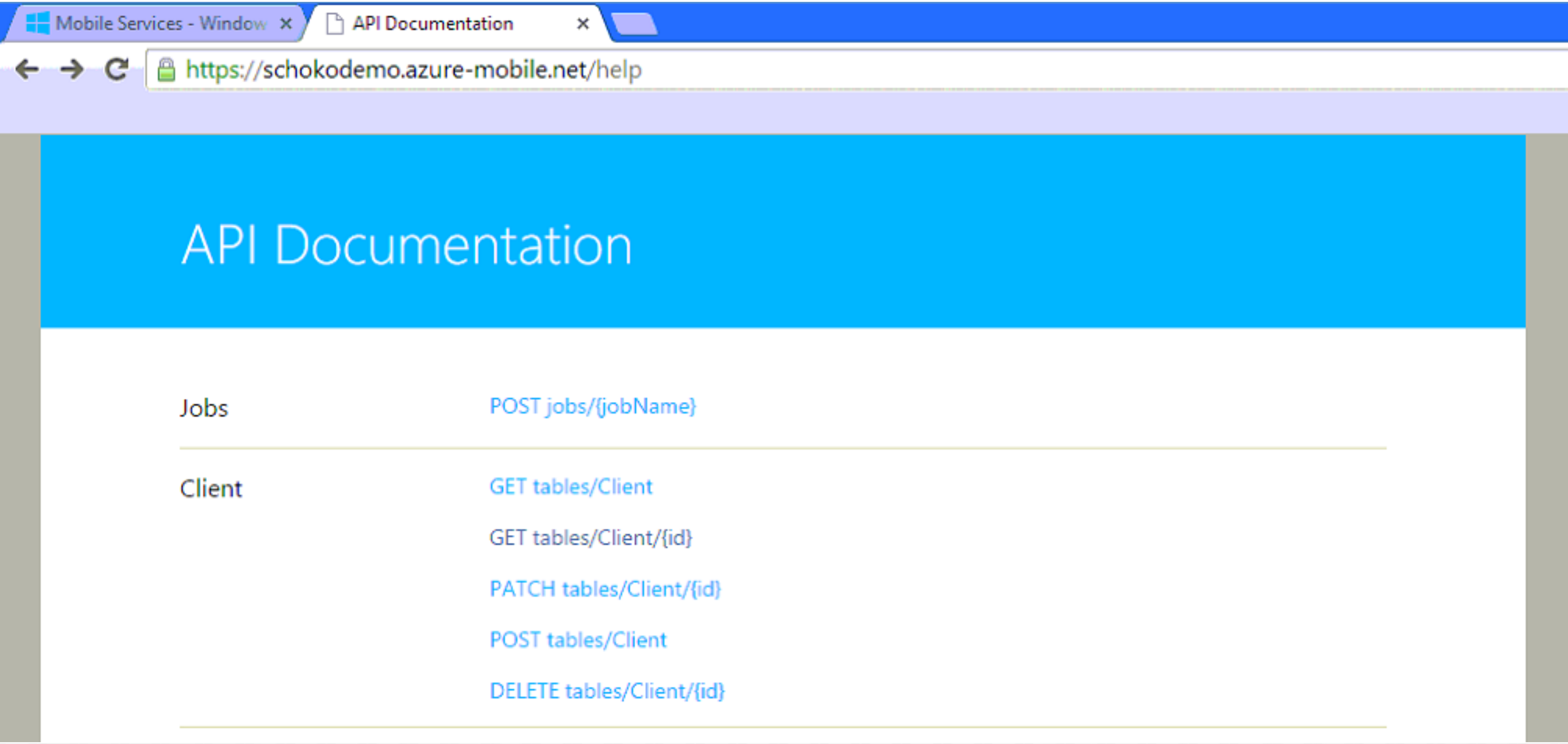
Diese Session zeigt in drei steps eine End-to-End Lösung

- zunächst die WinPhone Verbindung vom SQL-Server via ASP.net Web API zum WinPhone
- eine Service-Bus Verbindung mit zwei C# console apps
- und im Anschluß eine mobile-to-mobile Verbindung mit den Azure mobile-Services in Verbindung mit dem Servicebus.

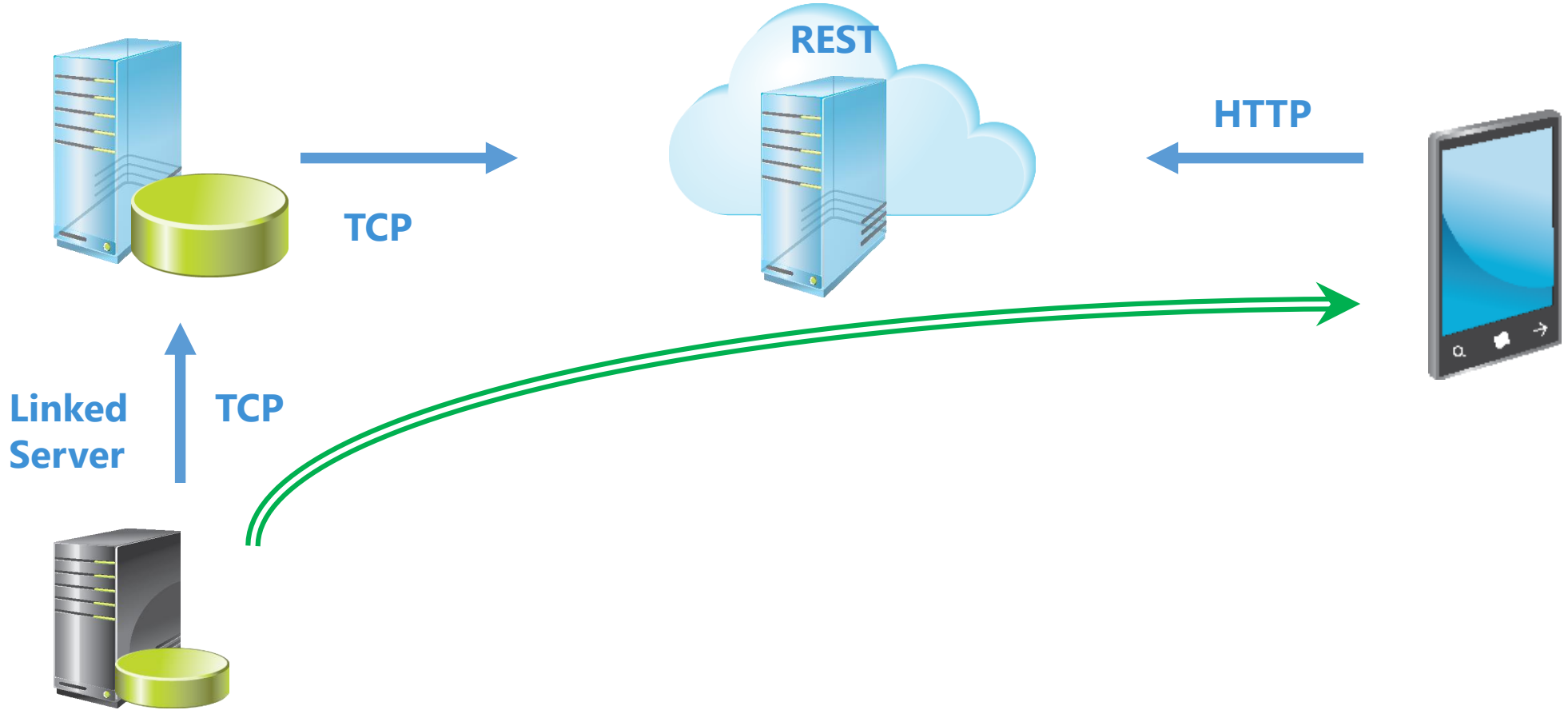
how to connect ??

how to connect ??

how to connect > ASP .NET Web-API


Mobile Services - Window
API Documentation
https://schokodemo.azure-mobile.net/help
API Documentation
Jobs
POST jobs/{jobName}
Client
GET tables/Client
GET tables/Client/{id}
PATCH tables/Client/{id}
POST tables/Client
DELETE tables/Client/{id}

how to connect > ASP .NET Web-API



REST service

- REST ist eine Abstraktion der Struktur und des Verhaltens des World Wide Web.
- Jeder REST-konforme Dienst hat eine eindeutige Adresse, den Uniform Resource Locator (URL)
- Zusätzlich zum URL verwendet REST auch Uniform Resource Identifier (URI), um einzelne Ressourcen zu bezeichnen.

- http://de.wikipedia.org/wiki/Representational_State_Transfer

REST service in der Praxis

- Adresse: http://test … .azurewebsites.net/api/books
- http://test … .azurewebsites.net/api/books/2

- vgl. bisherige parametrische Aufrufe:
  http:// … .aspx?Id=2&parameter=abc

T-SQL vs. REST und http-Verben

• INSERT	C	POST
• **SELECT**	R	**GET**
• UPDATE	U	PUT
• DELETE	D	DELETE

Create ASP .NET Web-API in 5 steps

- Web.config
- Models / class.cs
- Models / Context.cs
- Controllers / classController.cs
- App_Start / WebApiConfig.cs

then „Publish“ to Azure

testfabrik-verlag - Manage NuGet Packages

Installed packages

Online

All

nuget.org

Microsoft and .NET

Updates

Each package is licensed to you by its owner. Microsoft is not responsible for, nor does it grant any licenses to, third-party packages.

Include Prerelease | Sort by: Most Downloads

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EntityFramework
Entity Framework is Microsoft's recommended data access technology for new applications.

Json.NET
Json.NET is a popular high-performance JSON framework for .NET

jQuery
jQuery is a new kind of JavaScript Library.
jQuery is a fast and concise JavaScript Library that simplifies HTML document traversing, event handli...

DataAnnotationsExtensions
Validation attributes that can be used in any .NET 4.0 project to supplement the existing Data Annotations attributes.

Microsoft ASP.NET MVC
This package contains the runtime assemblies for ASP.NET MVC.
Prerelease

Bootstrap
Sleek, intuitive, and powerful mobile first front-end framework for faster and easier web development.

WebGrease
Web Grease is a suite of tools for optimizing javascript, css files and images.

1 2 3 4 5

Created by: Microsoft
Id: EntityFramework
Version: 6.1.2
Last Published: 22.12.2014
Downloads: 8943857
License
View License
Project Information
Report Abuse
Description:
Entity Framework is Microsoft's recommended data access technology for new applications.
Tags: Microsoft EF Database Data O/RM ADO.NET
Dependencies:
No Dependencies

Settings

Close

Web.config

```
<?xml version="1.0" encoding="utf-8"?>
<!--
  For more information on how to configure your ASP.NET application, please visit
  http://go.microsoft.com/fwlink/?LinkId=301879
  -->
<configuration>
  <configSections>
    <!-- For more information on Entity Framework configuration, visit http://go.microsoft.com/fwlink/?LinkID=237468 -->
    <section name="entityFramework" type="System.Data.Entity.Internal.ConfigFile.EntityFrameworkSection, EntityFramework, Version=6.0
  </configSections>
  <connectionStrings>
    <add name="dbWebAPI" providerName="System.Data.SqlClient"
         connectionString="Data Source=ra[redacted].database.windows.net;
                           Initial Catalog=testfabrik-[redacted]_db;
                           User ID=A[redacted]09;
                           Password=P[redacted];
                           Encrypt=true;
                           Trusted_Connection=false;"/>
  </connectionStrings>
  <appSettings></appSettings>
  <system.web>
    <compilation debug="true" targetFramework="4.5" />
    <httpRuntime targetFramework="4.5" />
    <httpModules>
```

Book.cs | Web.config

testfabrik-verlag | testfabrik_webapi.Models.book | Id

```
1  using System;
2  using System.Collections.Generic;
3  using System.Linq;
4  using System.Web;
5
6  namespace testfabrik_webapi.Models
7  {
8      public class book
9      {
10         public int     Id    { get; set; }
11         public string  Title { get; set; }
12         public string  Autor { get; set; }
13         public string  Reihe { get; set; }
14         public string  ISBN  { get; set; }
15         public decimal Preis { get; set; }
16     }
17 }
```

VerlagContext.cs | Book.cs | Web.config

testfabrik-verlag | testfabrik_webapi.Models.VerlagContext | VerlagContext()

```
1  using System;
2  using System.Data.Entity;  //--
3  using System.Collections.Generic;
4  using System.Linq;
5  using System.Web;
6  using System.Text; //--
7
8  namespace testfabrik_webapi.Models
9  {
10     public class VerlagContext : DbContext
11     {
12         public VerlagContext() :base("name=dbWebAPI")
13         {
14             //----
15         }
16
17         public DbSet<book> books { get; set; }
18     }
19
20 }
```

PASS

BooksController.cs | VerlagContext.cs | Book.cs | Web.config

testfabrik-verlag | testfabrik_webapi.Controllers.BooksController | Get()

```
1  using System;
2  using System.Collections.Generic;
3  using System.Linq;
4  using System.Net;
5  using System.Net.Http;
6  using System.Web.Http;
7  using System.Data.Entity;
8  using testfabrik_webapi.Models;
9
10 namespace testfabrik_webapi.Controllers
11 {
12     public class BooksController : ApiController
13     {
14         // GET  api/books
15         public IEnumerable<Models.book> Get()...
22
23         // GET  api/books/2
24         public Models.book Get(int Id)
25         {
26             using (var db = new VerlagContext())
27             {
28                 return db.books.SingleOrDefault(t => t.Id == Id);
29             }
30         }
31     }
32 }
33
```

BooksController.cs | VerlagContext.cs | Book.cs | Web.config

testfabrik-verlag | testfabrik_webapi.Controllers.BooksController | Get()

```
1  using System;
2  using System.Collections.Generic;
3  using System.Linq;
4  using System.Net;
5  using System.Net.Http;
6  using System.Web.Http;
7  using System.Data.Entity;
8  using testfabrik_webapi.Models;
9
10 namespace testfabrik_webapi.Controllers
11 {
12     public class BooksController : ApiController
13     {
14         // GET  api/books
15         public IEnumerable<Models.book> Get()
16         {
17             using (var db = new VerlagContext())
18             {
19                 return db.books.ToList();
20             }
21         }
22
23         // GET  api/books/2
24         public Models.book Get(int Id)...
31     }
32 }
33
```

PASS

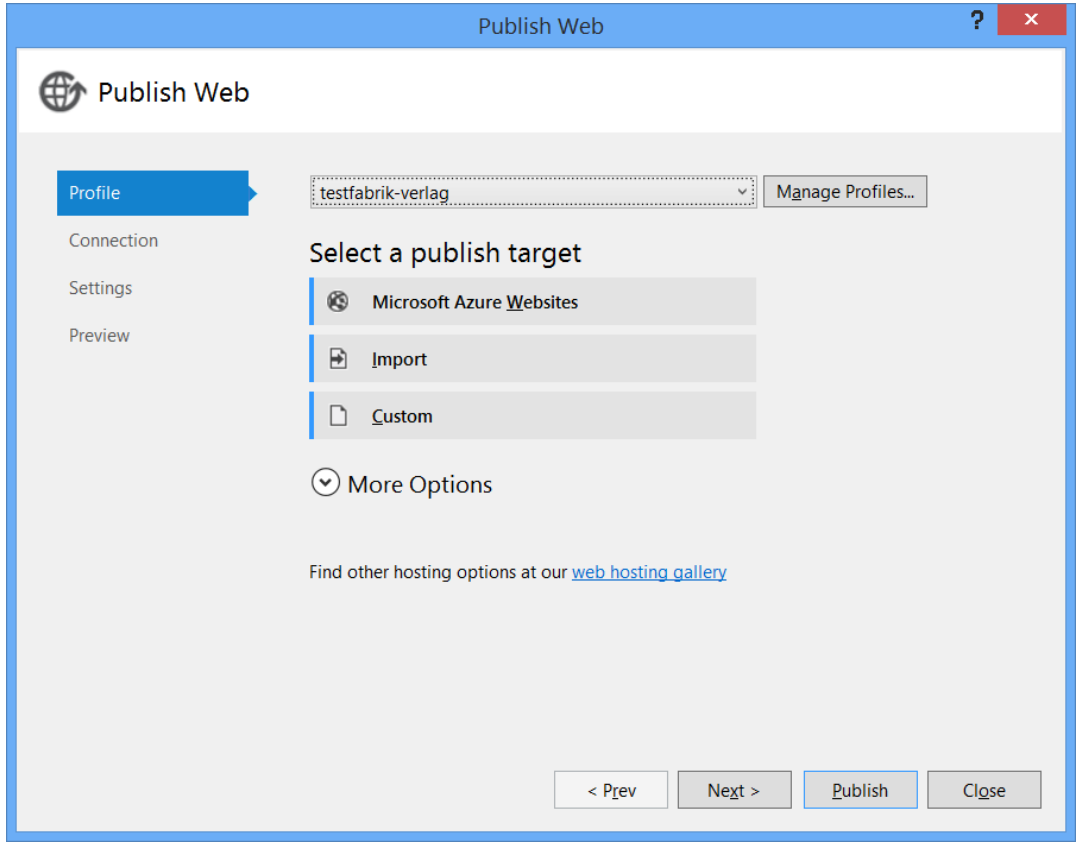
WebApiConfig.cs | BooksController.cs | VerlagContext.cs | Book.cs | Web.config

testfabrik-verlag | testfabrik_webapi.WebApiConfig | Register(HttpConfiguration config)

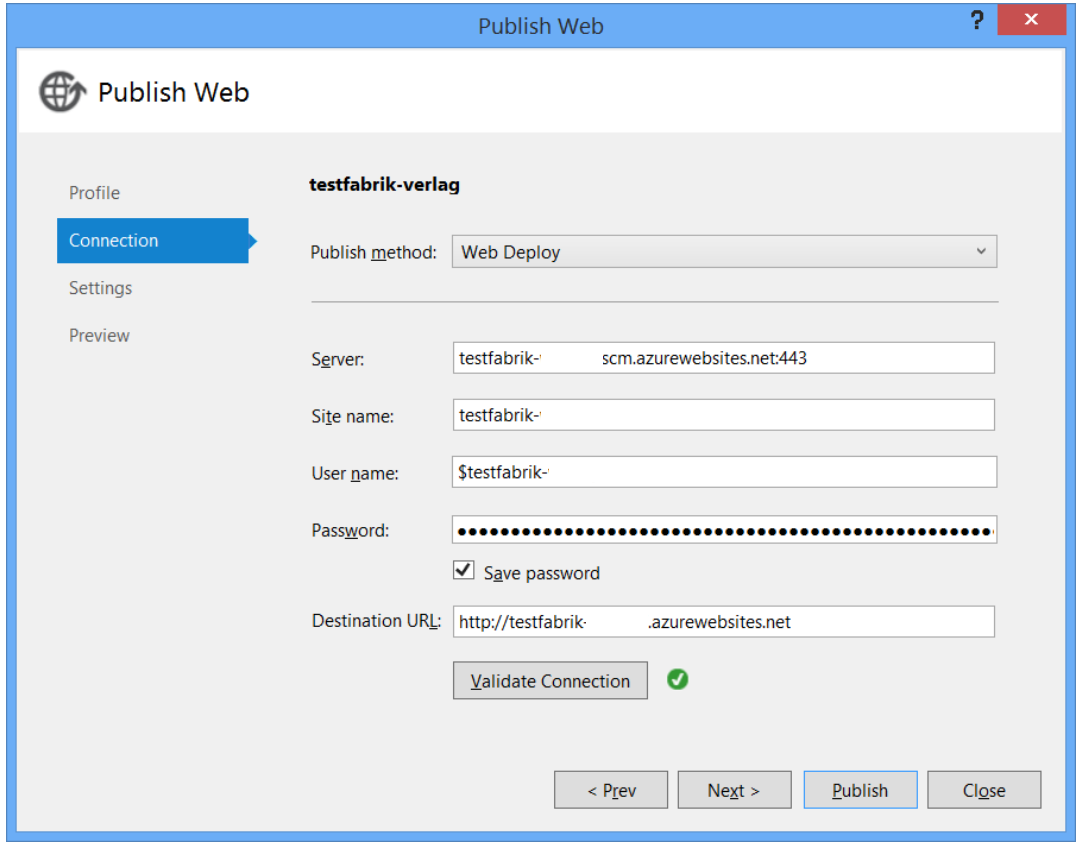
```
1  using System;
2  using System.Collections.Generic;
3  using System.Linq;
4  using System.Web.Http;
5
6  namespace testfabrik_webapi
7  {
8      public static class WebApiConfig
9      {
10         public static void Register(HttpConfiguration config)
11         {
12             // Web API configuration and services
13
14             // Web API routes
15             config.MapHttpAttributeRoutes();
16
17             config.Routes.MapHttpRoute(
18                 name: "DefaultApi",
19                 routeTemplate: "api/{controller}/{id}",
20                 defaults: new { id = RouteParameter.Optional }
21             );
22         }
23     }
24 }
25
```

PASS

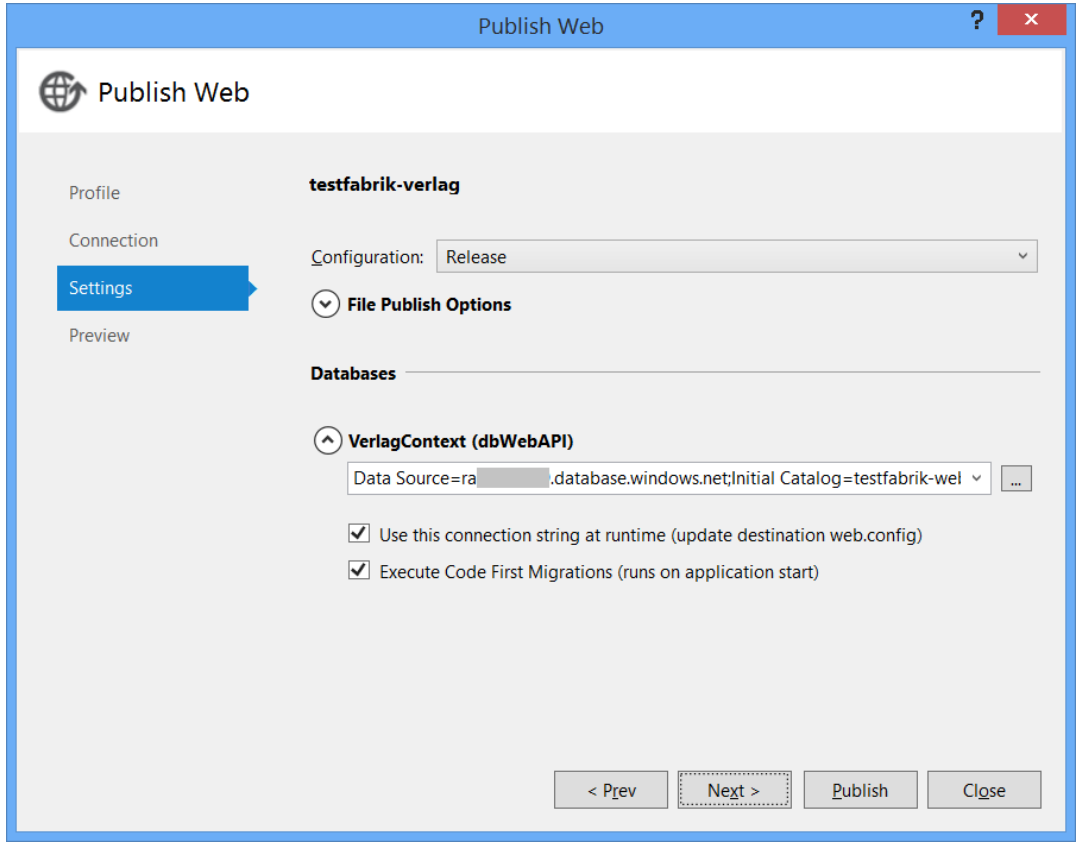
Publish Web to Azure



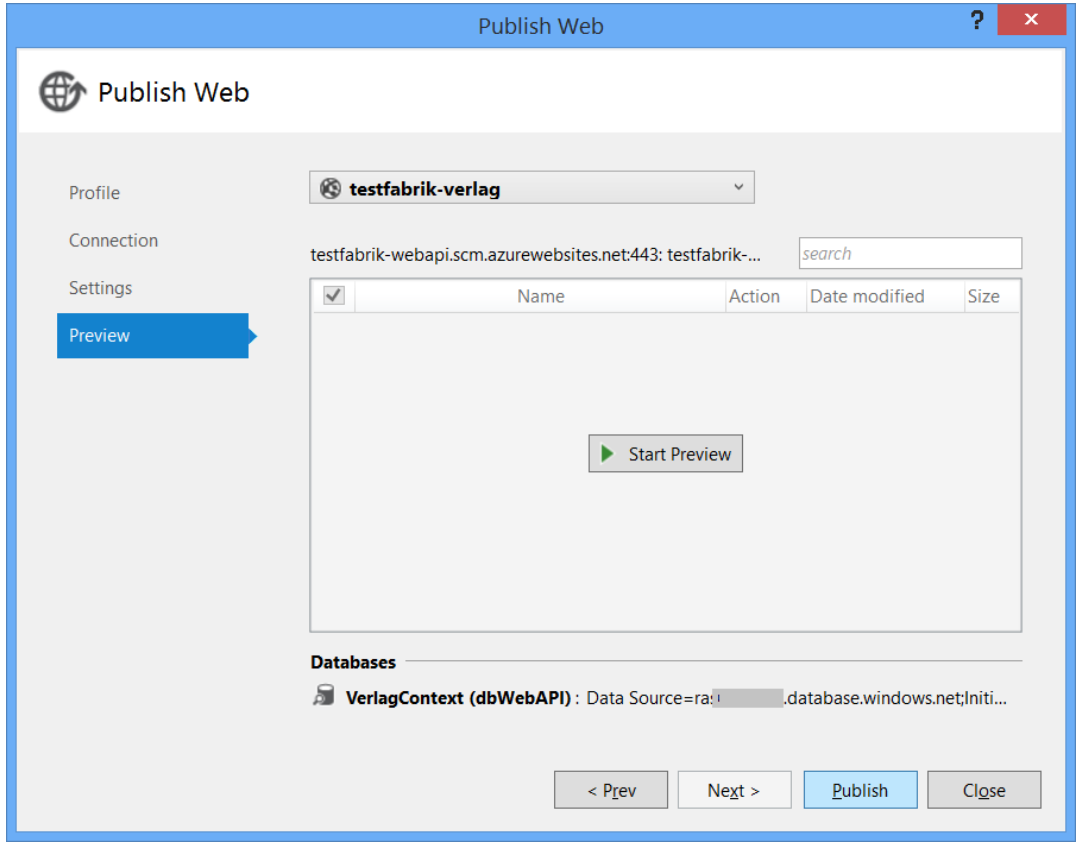
Publish Web to Azure



Publish Web to Azure



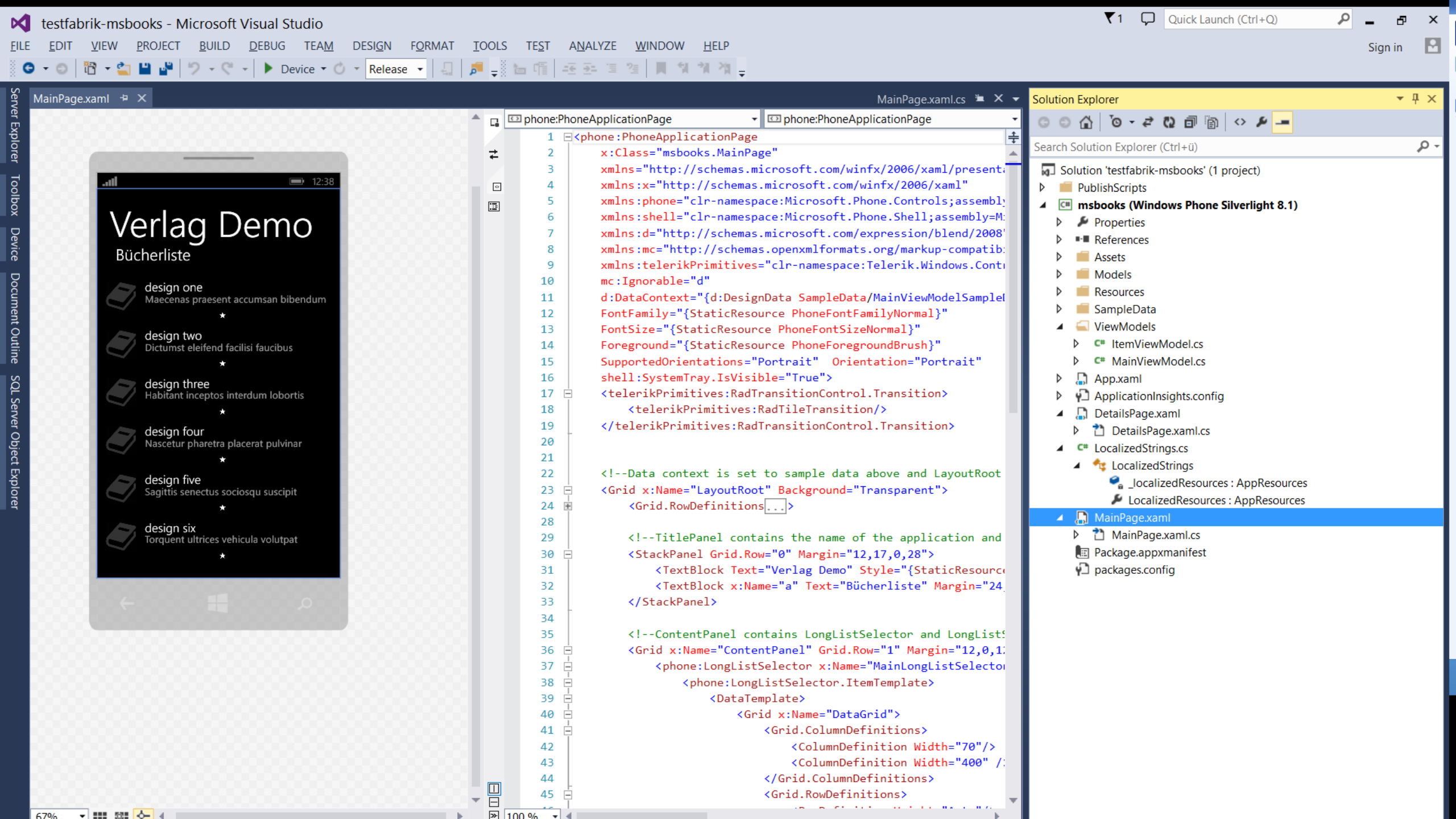
Publish Web to Azure



Liste der zugehörigen tools

- Visual Studio
- Service-Bus Explorer
- Fiddler
- Project My Screen

Demo


testfabrik-msbooks - Microsoft Visual Studio
Quick Launch (Ctrl+Q)
Sign in
FILE EDIT VIEW PROJECT BUILD DEBUG TEAM DESIGN FORMAT TOOLS TEST ANALYZE WINDOW HELP
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Verlag Demo
Bücherliste
design one
Maecenas praesent accumsan bibendum
design two
Dictumst eleifend facilisi faucibus
design three
Habitant inceptos interdum lobortis
design four
Nascetur pharetra placerat pulvinar
design five
Sagittis senectus sociosqu suscipit
design six
Torquent ultrices vehicula volutpat
phone:PhoneApplicationPage
phone:PhoneApplicationPage
<phone:PhoneApplicationPage
x:Class="msbooks.MainPage"
xmlns="http://schemas.microsoft.com/winfx/2006/xaml/present
xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
xmlns:phone="clr-namespace:Microsoft.Phone.Controls;assembl
xmlns:shell="clr-namespace:Microsoft.Phone.Shell;assembly=M
xmlns:d="http://schemas.microsoft.com/expression/blend/2008
xmlns:mc="http://schemas.openxmlformats.org/markup-compatib
xmlns:telerikPrimitives="clr-namespace:Telerik.Windows.Cont
mc:Ignorable="d"
d:DataContext="{d:DesignData SampleData/MainViewModelSample
FontFamily="{StaticResource PhoneFontFamilyNormal}"
FontSize="{StaticResource PhoneFontSizeNormal}"
Foreground="{StaticResource PhoneForegroundBrush}"
SupportedOrientations="Portrait" Orientation="Portrait"
shell:SystemTray.IsVisible="True">
<telerikPrimitives:RadTransitionControl.Transition>
<telerikPrimitives:RadTileTransition/>
</telerikPrimitives:RadTransitionControl.Transition>
<!--Data context is set to sample data above and LayoutRoot
<Grid x:Name="LayoutRoot" Background="Transparent">
<Grid.RowDefinitions...>
<!--TitlePanel contains the name of the application and
<StackPanel Grid.Row="0" Margin="12,17,0,28">
<TextBlock Text="Verlag Demo" Style="{StaticResourc
<TextBlock x:Name="a" Text="Bücherliste" Margin="24
</StackPanel>
<!--ContentPanel contains LongListSelector and LongList
<Grid x:Name="ContentPanel" Grid.Row="1" Margin="12,0,1
<phone:LongListSelector x:Name="MainLongListSelecto
<phone:LongListSelector.ItemTemplate>
<DataTemplate>
<Grid x:Name="DataGrid">
<Grid.ColumnDefinitions>
<ColumnDefinition Width="70"/>
<ColumnDefinition Width="400" />
</Grid.ColumnDefinitions>
<Grid.RowDefinitions>
67%
100 %
Solution Explorer
Search Solution Explorer (Ctrl+ü)
Solution 'testfabrik-msbooks' (1 project)
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msbooks (Windows Phone Silverlight 8.1)
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_localizedResources : AppResources
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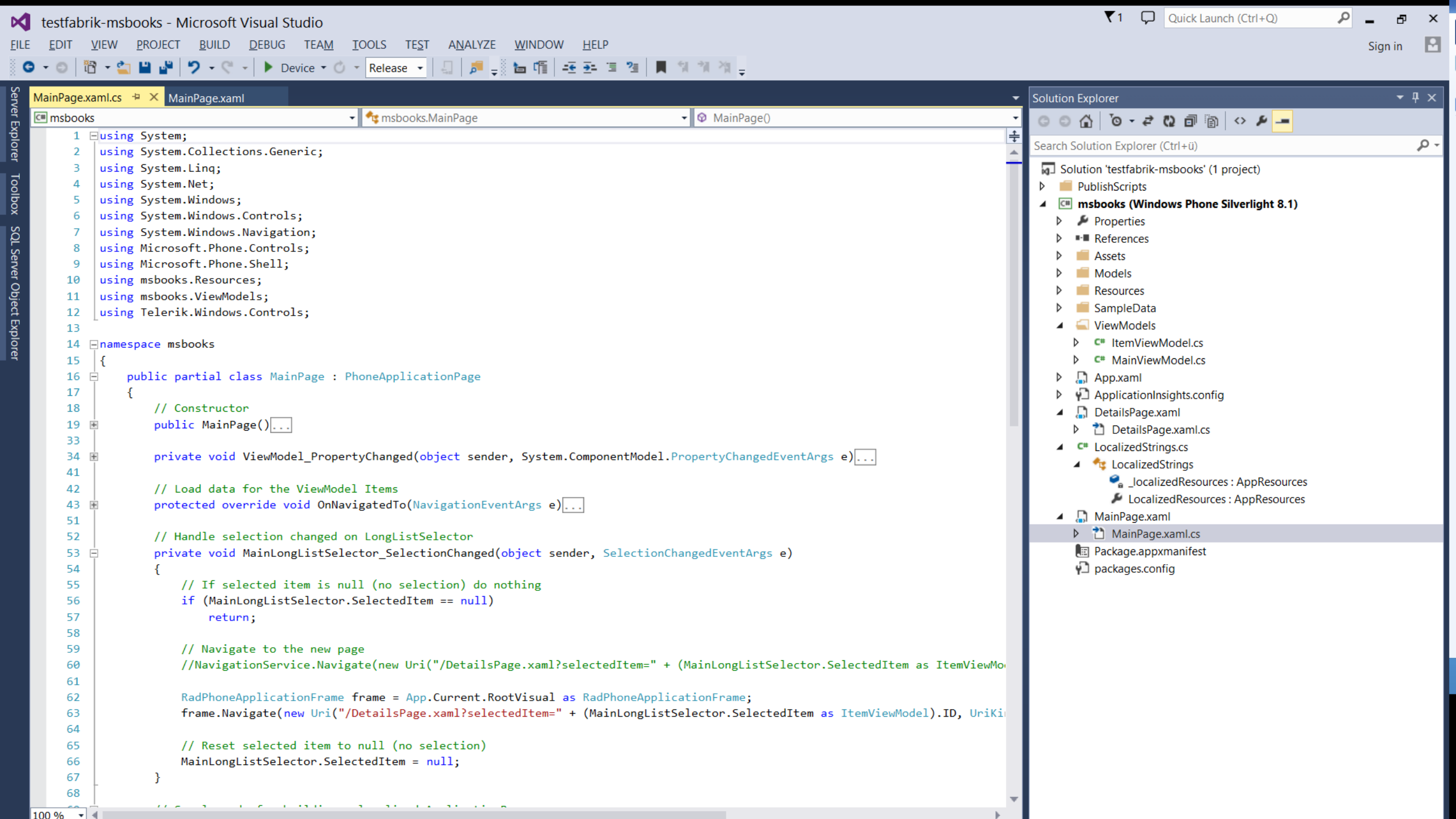
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Device
Release
MainPage.xaml.cs
MainPage.xaml
msbooks
msbooks.MainPage
MainPage()
using System;
using System.Collections.Generic;
using System.Linq;
using System.Net;
using System.Windows;
using System.Windows.Controls;
using System.Windows.Navigation;
using Microsoft.Phone.Controls;
using Microsoft.Phone.Shell;
using msbooks.Resources;
using msbooks.ViewModels;
using Telerik.Windows.Controls;
namespace msbooks
{
public partial class MainPage : PhoneApplicationPage
{
// Constructor
public MainPage()...
private void ViewModel_PropertyChanged(object sender, System.ComponentModel.PropertyChangedEventArgs e)...
// Load data for the ViewModel Items
protected override void OnNavigatedTo(NavigationEventArgs e)...
// Handle selection changed on LongListSelector
private void MainLongListSelector_SelectionChanged(object sender, SelectionChangedEventArgs e)
{
// If selected item is null (no selection) do nothing
if (MainLongListSelector.SelectedItem == null)
return;
// Navigate to the new page
//NavigationService.Navigate(new Uri("/DetailsPage.xaml?selectedItem=" + (MainLongListSelector.SelectedItem as ItemViewMo
RadPhoneApplicationFrame frame = App.Current.RootVisual as RadPhoneApplicationFrame;
frame.Navigate(new Uri("/DetailsPage.xaml?selectedItem=" + (MainLongListSelector.SelectedItem as ItemViewModel).ID, UriKi
// Reset selected item to null (no selection)
MainLongListSelector.SelectedItem = null;
}
100 %
Solution Explorer
Search Solution Explorer (Ctrl+ü)
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msbooks (Windows Phone Silverlight 8.1)
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testfabrik-msbooks - Microsoft Visual Studio

FILE EDIT VIEW PROJECT BUILD DEBUG TEAM TOOLS TEST ANALYZE WINDOW HELP

Device | Release

DetailsPage.xaml.cs* | DetailsPage.xaml | MainPage.xaml.cs | MainPage.xaml

msbooks | msbooks.DetailsPage | DetailsPage()

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Net;
using System.Windows;
using System.Windows.Controls;
using System.Windows.Navigation;
using Microsoft.Phone.Controls;
using Microsoft.Phone.Shell;
using msbooks.Resources;
using Telerik.Windows.Controls;

namespace msbooks
{
    public partial class DetailsPage : PhoneApplicationPage
    {
        // Constructor
        public DetailsPage()
        {
            InitializeComponent();

            this.SetValue(RadTileAnimation.ContainerToAnimateProperty, this.ContentPanel);

            // Sample code to localize the ApplicationBar
            //BuildLocalizedApplicationBar();
        }

        // When page is navigated to set data context to selected item in list
        protected override void OnNavigatedTo(NavigationEventArgs e)
        {
            if (DataContext == null)
            {
                string selectedIndex = "";
                if (NavigationContext.QueryString.TryGetValue("selectedItem", out selectedIndex))
                {
                    int index = int.Parse(selectedIndex);
                    DataContext = App.ViewModel.Items[--index];
                }
            }
        }

        // Sample code for building a localized ApplicationBar
```

100 %

Solution Explorer

Search Solution Explorer (Ctrl+ü)

- Solution 'testfabrik-msbooks' (1 project)
  - PublishScripts
  - **msbooks (Windows Phone Silverlight 8.1)**
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      - MainViewModel.cs
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    - ApplicationInsights.config
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      - DetailsPage.xaml.cs
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        - _localizedResources : AppResources
        - LocalizedResources : AppResources
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testfabrik-msbooks - Microsoft Visual Studio

FILE EDIT VIEW PROJECT BUILD DEBUG TEAM TOOLS TEST ANALYZE WINDOW HELP

Device | Release

MainViewModel.cs* | ApplicationInsights.config | App.xaml | DetailsPage.xaml.cs* | DetailsPage.xaml | MainPage.xaml.cs | MainPage.xaml

msbooks | msbooks.ViewModels.MainViewModel | apiUrl

```
1  using System;
2  using System.Collections.ObjectModel;
3  using System.ComponentModel;
4  using System.Net;
5  using System.Net.NetworkInformation;
6  using System.Collections.Generic;
7  using Newtonsoft.Json;
8  using msbooks.Resources;
9  using msbooks.Models;
10 using System.Windows;
11
12 namespace msbooks.ViewModels
13 {
14     public class MainViewModel : INotifyPropertyChanged
15     {
16         const string apiUrl = @"http://testfabrik      .azurewebsites.net/api/books/";
17
18         /// <summary>
19         /// A collection for ItemViewModel objects.
20         /// </summary>
21         public ObservableCollection<ItemViewModel> Items { get; private set; }
22
23         public MainViewModel()
24         {
25             this.Items = new ObservableCollection<ItemViewModel>();
26         }
27
28
29         public bool IsDataLoaded
30         {
31             get;
32             private set;
33         }
34
35         /// <summary>
36         /// Creates and adds a few ItemViewModel objects into the Items collection.
37         /// </summary>
38         public void LoadData()
39         {
40             if (this.IsDataLoaded == false)
41             {
42                 //this.Items.Add(new ItemViewModel() { ID = "0", LineOne = "Please Wait...", LineTwo = "Please wait while the catalog
```

Solution Explorer

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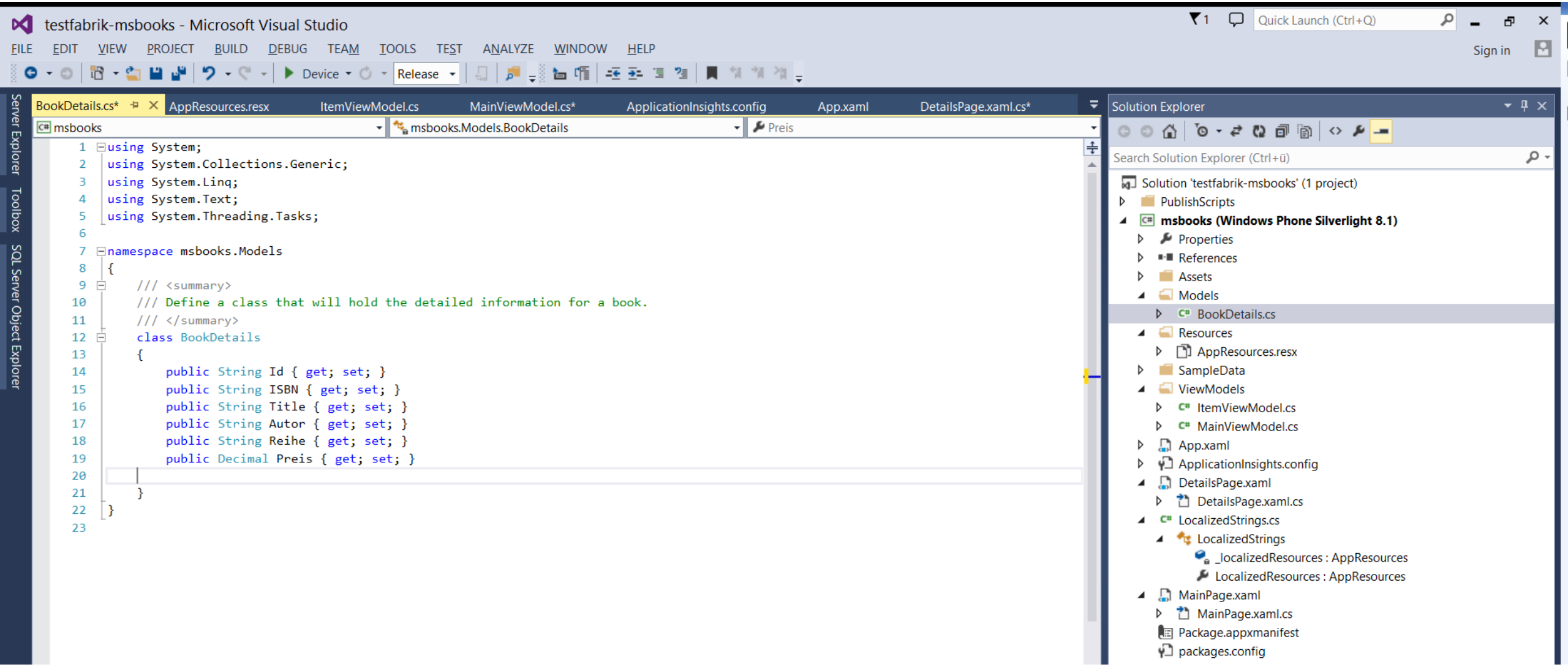
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BookDetails.cs*
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MainViewModel.cs*
ApplicationInsights.config
App.xaml
DetailsPage.xaml.cs*
msbooks
msbooks.Models.BookDetails
Preis
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
namespace msbooks.Models
{
/// <summary>
/// Define a class that will hold the detailed information for a book.
/// </summary>
class BookDetails
{
public String Id { get; set; }
public String ISBN { get; set; }
public String Title { get; set; }
public String Autor { get; set; }
public String Reihe { get; set; }
public Decimal Preis { get; set; }
}
}
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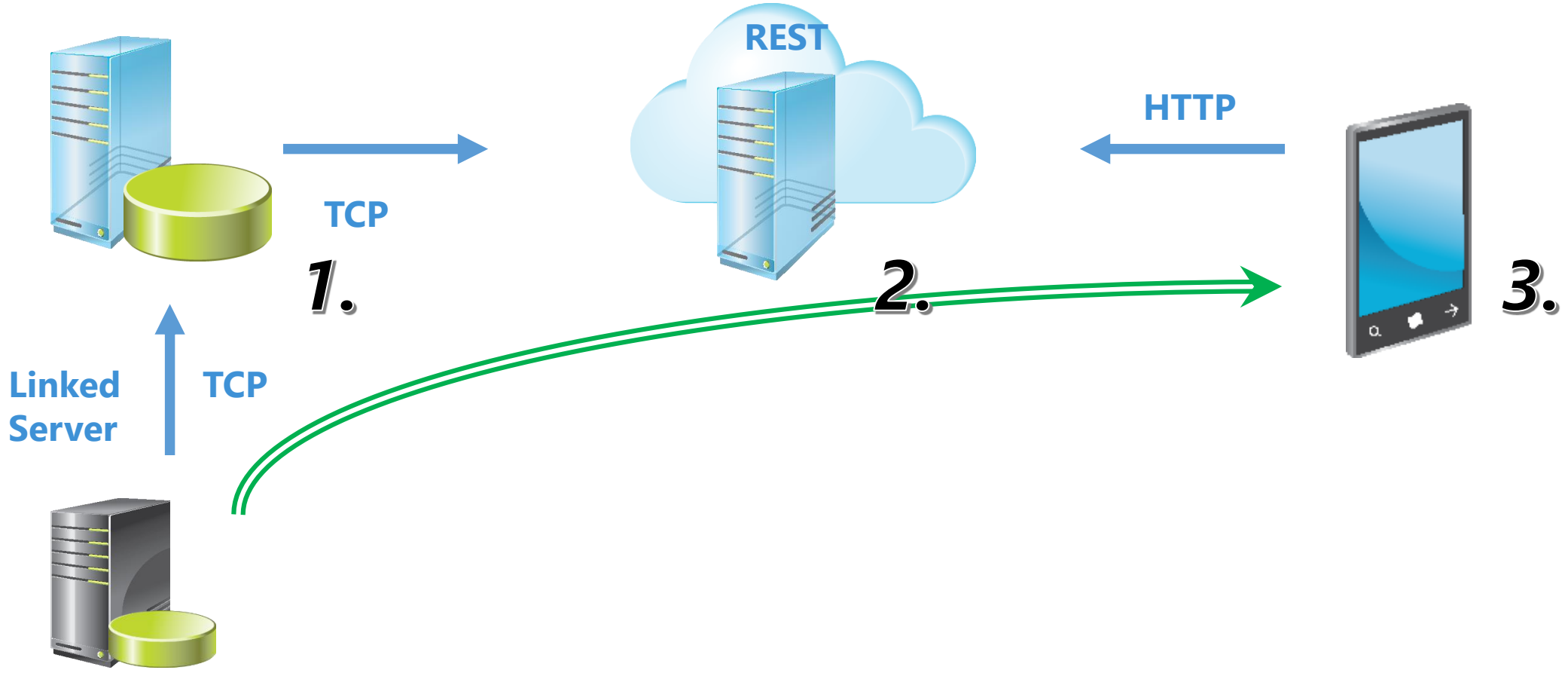
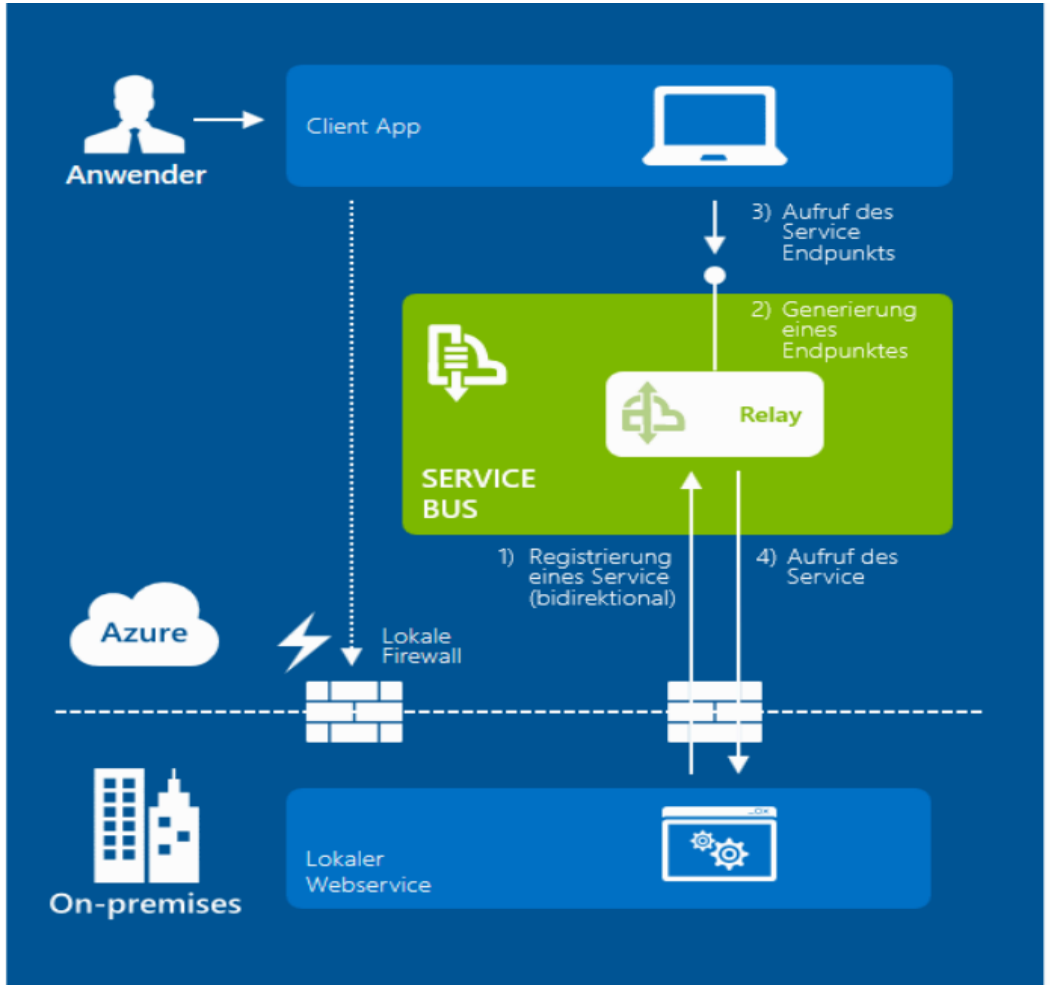
how to connect >> ASP Web-API



Demo

Azure Service Bus



Service Bus

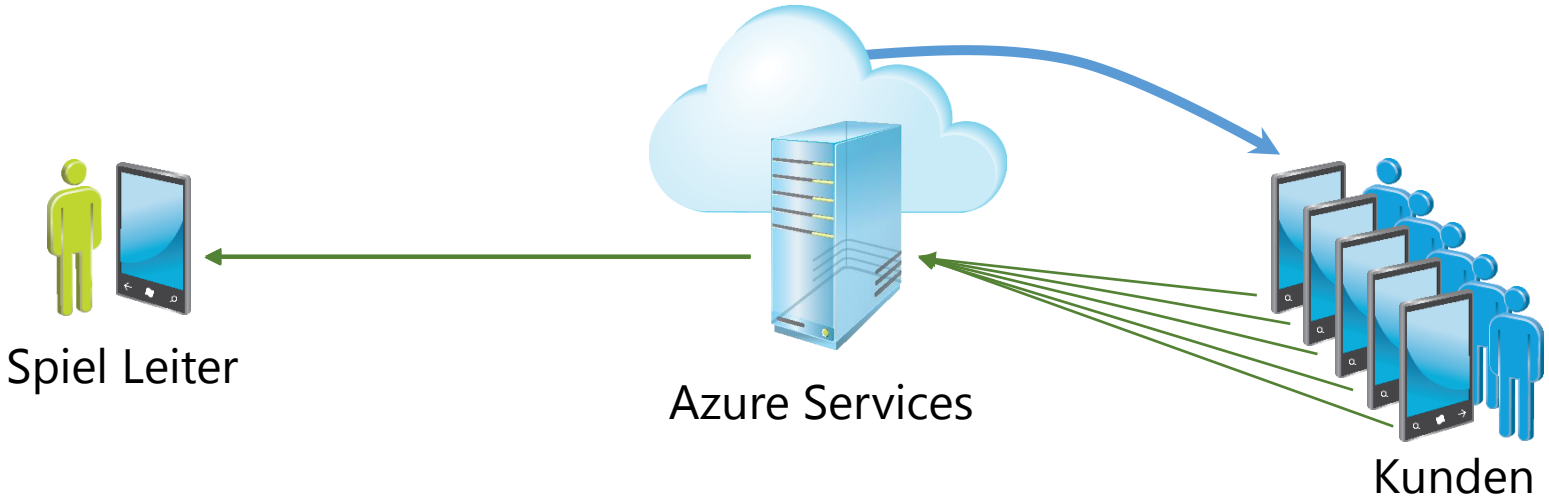
Microsoft

Demo

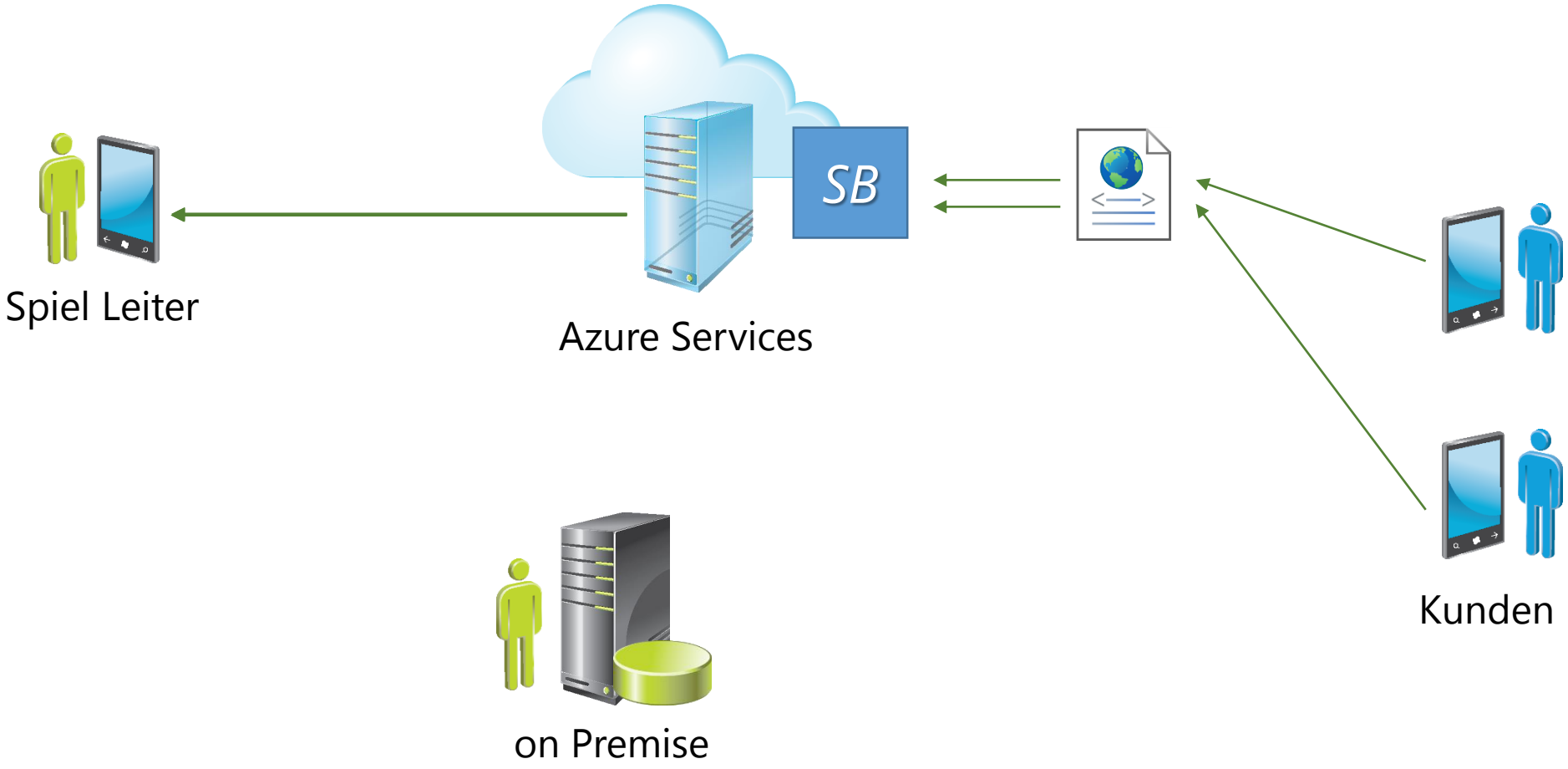
„Schoko Demo“

Alpenmilch Schokolade.
Zutaten: Zucker, Kakaobutter, Magermilchpulver, Kakaomasse,
Süßmolkenpulver (aus Milch), Butterreinfett, Haselnüsse,
Emulgatoren (Sojalecithin, E476), Aroma. Kakao: 30 % mindestens.
Kann andere Nüsse und Weizen enthalten.
Trocken lagern und vor Wärme schützen.
Mondelēz International
Mondelez Deutschland
D-28078 Bremen
Mondelez Österreich
A-1140 Wien
e 40g
Mindestens haltbar bis:
06112015
00T0244543 02:02
Eiweiß 6,4g 1,3g 3%
0,30g 0,06g 1%
dem Mobilfunknetz!
www.mila.com

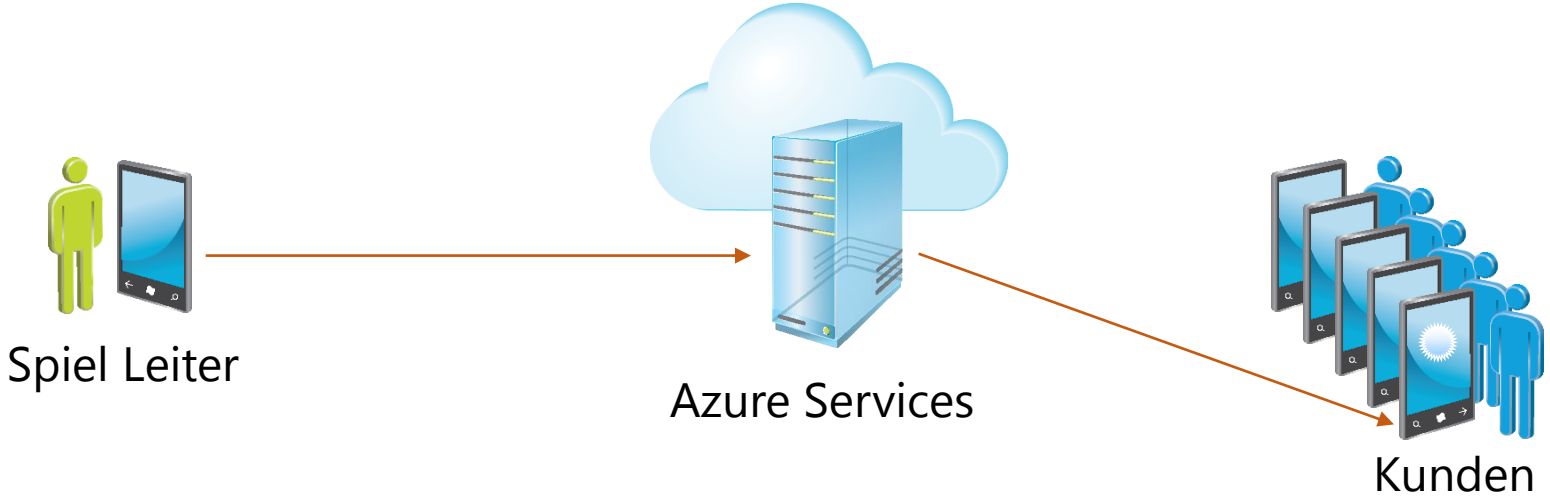
„Schoko Demo“ step1 registration



„Schoko Demo“ step1b registration iOS/ Android



„Schoko Demo“ step2 notification



09:45
SchokoDemo
Spielleiter
Current Registrations: 1
refresh
The winner is:
30D4B049-71D1-4B33-
BF5F-032F82070098
end game

9:44
SchokoDemo
Player
You are the winner!
register
unregister

Questions ??

thanks …

- to my co-programmer Andreas Wendl
- to all the Sponsors
- to SQL PASS Germany

- and
  to you for joining my session.

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