

# **Configuring Development Environment**

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# Introduction

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This document describes how to set up development environment to start developing with Acumatica Framework. The document guides you through creation of a new application from the application template, installation of the Visual Studio templates, and preparation of the solution in Visual Studio. The document also describes the differences between Acumatica Framework and Acumatica ERP.

# System Requirements

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Acumatica Framework includes server software and a database, each of which has its own requirements.

## Server Hardware and Software

Acumatica Framework can be installed on a computer running one of the following operating systems:

- Microsoft Windows Server 2012, any edition for the x64 (64-bit) platform, with or without any service pack
- Microsoft Windows Server 2008, any edition for the x64 (64-bit) platform, with or without any service pack
- Microsoft Windows Server 2008 R2, any edition for the x64 (64-bit) platform, with or without any service pack
- Microsoft Windows Vista, any edition for the x64 (64-bit) platform, with or without any service pack



You can install Acumatica Framework only in a Microsoft Windows Vista system running Internet Information Services (IIS) 7.0, 7.5, or 8.0.

- Microsoft Windows 7, any edition for the x64 (64-bit) platform, with or without any service pack



You can install Acumatica Framework only in a Microsoft Windows 7 system running IIS 7.0, 7.5, or 8.0.

- Microsoft Windows 8, any edition for the x64 (64-bit) platform



You can install Acumatica Framework only in a Microsoft Windows 8 system running IIS 7.0, 7.5, or 8.0.

The following hardware requirements apply:

- 4 GB RAM
- 1 GB available hard disk space plus 200 MB for each additional Acumatica Framework instance

## Database Hardware and Software

The Acumatica Framework database can be hosted by:

- Microsoft SQL Server 2005, any edition for the x64 (64-bit) platform, with or without any service pack
- Microsoft SQL Server 2008, any edition for the x64 (64-bit) platform, with or without any service pack
- Microsoft SQL Server 2008 R2, any edition for the x64 (64-bit) platform, with or without any service pack
- Microsoft SQL Server 2012, any edition for the x64 (64-bit) platform, with or without any service pack
- MySQL Community Edition Server for x64 (64-bit) platform, versions 5.6.12 - 5.6.15



GA release of MySQL Community Edition Server 5.6, revision 10 or newer is expected to work properly

The following hardware requirements apply:

- 4 GB RAM
- 1 GB available hard disk space plus 200 MB for each additional instance of Acumatica Framework

### **Code Authoring Environments**

To create stand-alone applications with Acumatica Framework or develop customizations and add-on solutions on top of Acumatica ERP, you need one of the following integrated development environments (IDEs):

- Microsoft Visual Studio 2010 with the Visual Web Developer feature, with or without any service pack
- Microsoft Visual Web Developer 2010 Express, with or without any service pack
- Microsoft Visual Studio 2012 with Microsoft Web Developer Tools, with or without any service pack
- Microsoft Visual Studio Express 2012 for Web, with or without any service pack

### **Other Software**

Before you install the Acumatica Framework software, make sure that the following software is installed and enabled:

- Microsoft .NET Framework 4.0
- Microsoft IIS 7.0, 7.5, or 8.0, depending on the underlying operating system (see the minimum options below)
- Microsoft Windows Installer 3.1
- Critical system patches and updates for Microsoft products

### **Configuration of IIS Features**

Before you install the Acumatica ERP server software, make sure that the following IIS features are turned on:

- **Web Management Tools > IIS Management Console**
- **World Wide Web Services > Application Development Features > .NET Extensibility**
- **World Wide Web Services > Application Development Features > ASP.NET**
- **World Wide Web Services > Application Development Features > ISAPI Extensions**
- **World Wide Web Services > Application Development Features > ISAPI Filters**
- **Common HTTP Features > Default Document**
- **Common HTTP Features > Static Content**
- **Security > Request Filtering**

# Acumatica Framework or Acumatica ERP

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There are two different packages, Acumatica Framework and Acumatica ERP. Acumatica Framework represents the platform without business modules, while Acumatica ERP includes the platform and the Acumatica ERP application based on the platform. Hence, you use Acumatica Framework to create stand-alone applications, and you use Acumatica ERP to develop customizations of the Acumatica ERP application or add-on solutions on top of Acumatica ERP.

You can use Acumatica Framework to install an application template. The template includes the system database, the default website with no business application modules, and the Visual Studio solution with an empty C# Class Library project for your application.

You can use Acumatica ERP only to deploy a new instance of the Acumatica ERP application.

Both the Acumatica Framework and Acumatica ERP packages include a straightforward installer. Once you install the package, you can use Acumatica Framework Configuration Wizard (or Acumatica ERP Configuration Wizard) to deploy an application template (or new instance of the Acumatica ERP application).

# Installing Acumatica Framework

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To start developing applications with Acumatica Framework, you should do the following:

1. Install Acumatica Framework.
2. Deploy a new application instance from the template. For details, see [Deploying a New Acumatica Framework-based Application from the Template](#)
3. Install the Visual Studio templates. For details, see [Installing the Visual Studio Templates](#)
4. Prepare the solution in Visual Studio. For details, see [Preparing the Solution in Visual Studio](#)

## Deploying a New Acumatica Framework-based Application from the Template

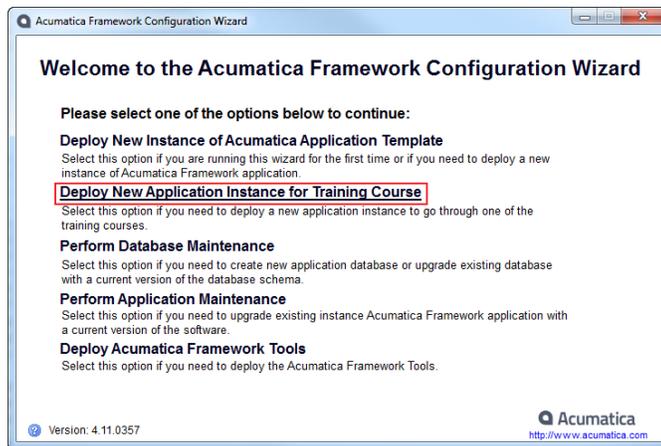
You can deploy a new application instance by using the Acumatica Framework Configuration Wizard.

This topic shows how to deploy a new application from the template on the example of the application you create to complete the training courses. After you complete all steps of the wizard, a new web application that contains only the system pages will be deployed on Internet Information Services (IIS).

### Creating a New Application from the Template

To deploy an application template, do the following:

1. Start the Acumatica Framework Configuration Wizard, which is located by default under **All Programs > Acumatica** on the Windows Start menu.
2. On the **Welcome** screen, select **Deploy New Application Instance for Training Course**, as shown in the following screenshot.

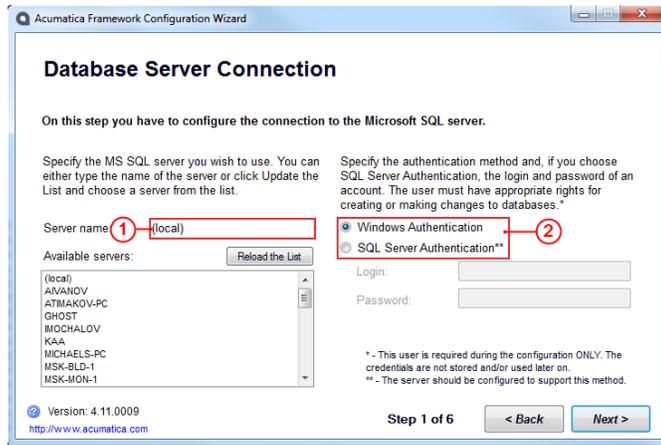


**Figure: Deploy an application instance for the training course**



You can deploy an application template without demo database tables by selecting the **Deploy New Instance of Acumatica Application Template** menu. In this case, the deployment steps are similar to the ones described below.

3. On the **Database Server Connection** screen (shown below), select the SQL server (1) where you want to create the new database for the application. Specify the authentication method and the user's credentials (2). Click **Next**.

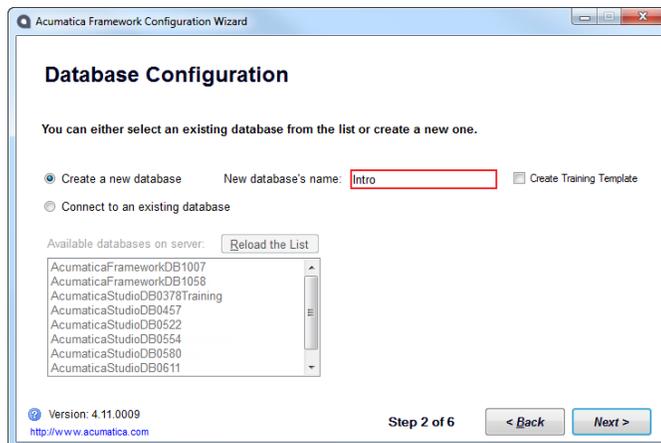


**Figure: Select the database server and authentication login to create the database**

4. On the **Database Configuration** screen (see below), select **Create a new database** and specify the database name. Click **Next**.

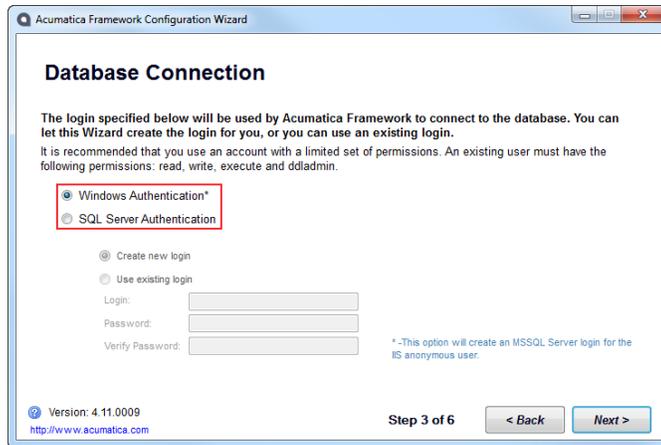


If you later need to modify the database connection string, you can find it in the `<connectionStrings>` element in the `Web.config` file, located in the `Site` folder of the solution.



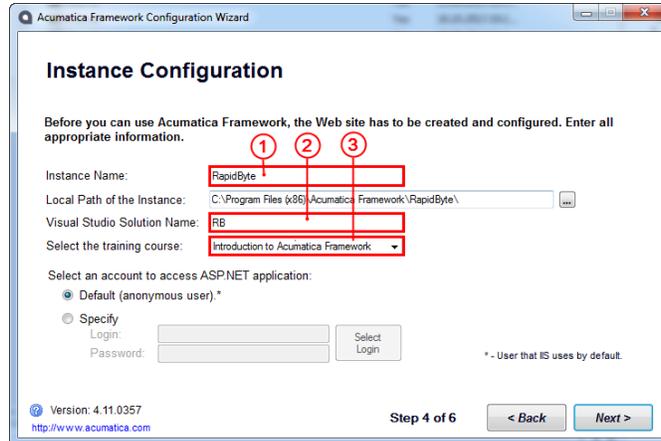
**Figure: Create new database**

5. On the **Database Connection** screen, specify the authentication method that IIS will use to connect to the database server for working with your application, as shown in the following screenshot. Click **Next**.



**Figure: Select the database connection login for the application**

6. On the **Instance Configuration** screen (shown below), select T100 Introduction to Acumatica Framework and set the ASP.NET application parameters, as described below.
  - a. In the **Instance Name** box, specify the site name (1).
  - b. Specify the **Local Path of the Instance** where the solution will be created.
  - c. Specify the solution name (2) and select *Introduction to Acumatica Framework* from the drop-down list (3).
  - d. Specify the user account on IIS that will be used by the Acumatica Framework Configuration Wizard (4) to deploy the application; leave **Default (anonymous user)** selected (as shown below). Click **Next**.



**Figure: Specify instance configuration**



For this training exercise, we recommend that you use the **Default** account. A specific account may be needed in production, for security and specific access policy reasons.

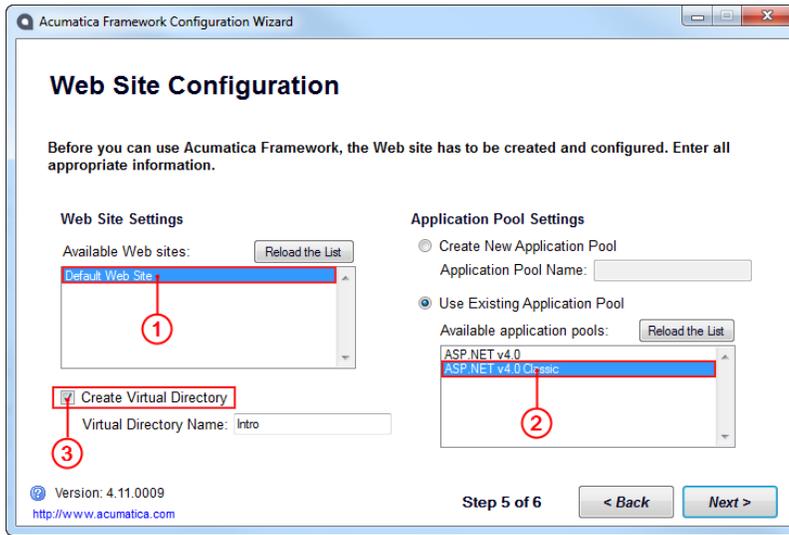
7. On the **Web Site Configuration** screen (shown below), select *Default Web Site* as the available site (1) and *ASP.NET v4.0 Classic* as the application pool (2). Select the **Create Virtual Directory** check box (3). We recommend that you leave the virtual directory name the same as the instance name. Click **Next**.



If you have an ASP.NET version of higher than 4.0, select the *Classic* version of the application pool.



If you later need to change the virtual directory name, you can do this from the **Application Maintenance** screen of the Acumatica Framework Configuration Wizard.



**Figure: Specify site configuration**

8. On the last screen, review the resulting configuration. Click **Back** to return to a previous screen of the wizard if you need to modify a parameter, or click **Finish** if the configuration is appropriate.

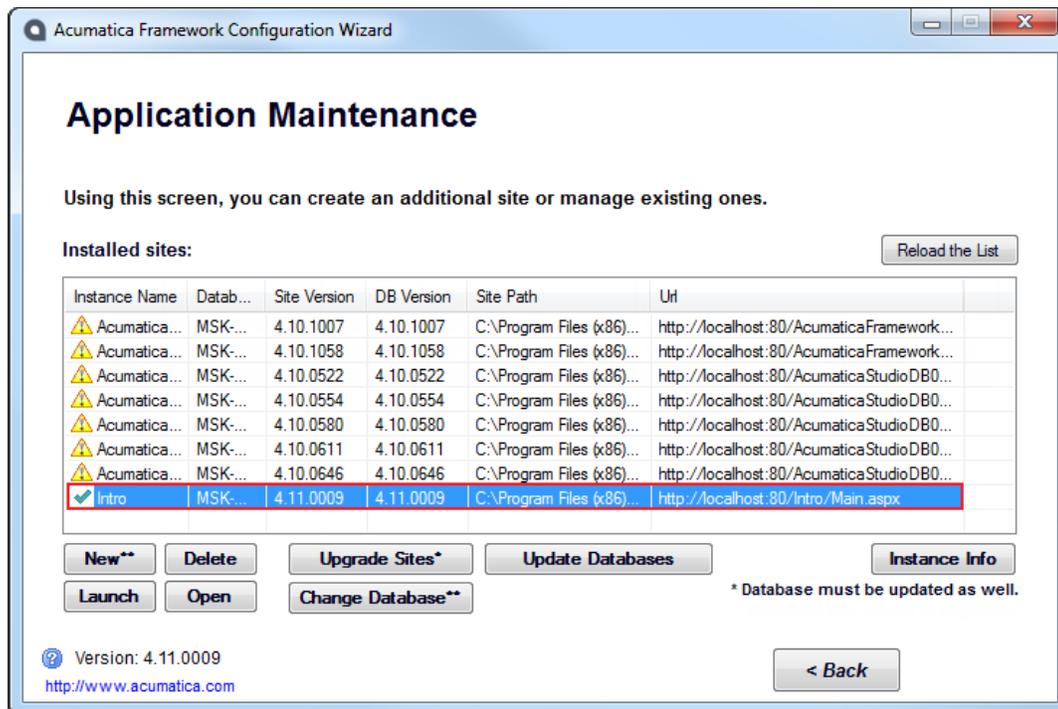
When you click **Finish**, the wizard creates the database, deploys the template website to IIS, and creates the Visual Studio solution with an empty project, as you have specified in the template configuration.

### Browsing the Deployed Application

After the template application is deployed on IIS, you can open it in the web browser. You can also find out the application URL in the Acumatica Framework Configuration Wizard.

To find out the URL of the application, do the following:

1. Launch the Acumatica Framework Configuration Wizard, and click **Perform Application Maintenance** on the **Welcome** screen. The **Application Maintenance** screen appears, which presents the list of web applications created and deployed by using the wizard.
2. From the list, select the deployed application and note the **URL** column, which contains the application URL, *http://localhost:80/Intro/Main.aspx*, by default, as the screenshot below shows.

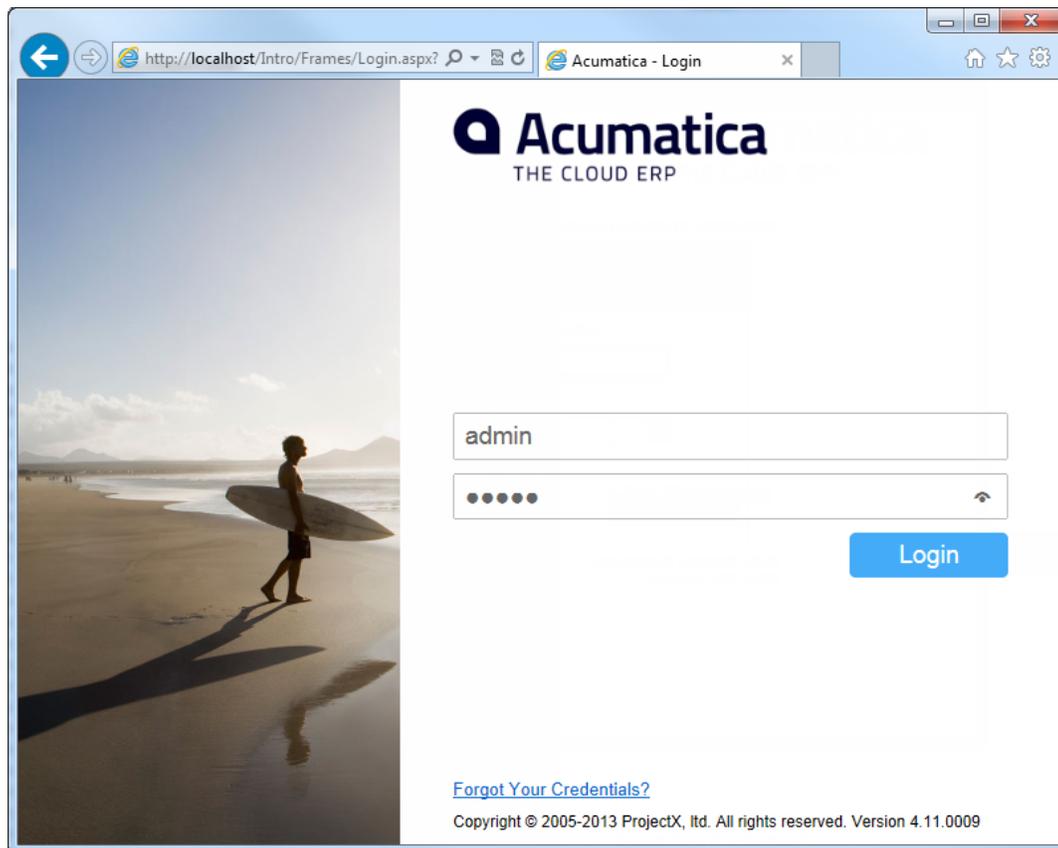


**Figure: Find the application URL**

- Click **Launch** to open the application.
- For the first login, specify the **Username** as *admin* and the **Password** as *setup*, and click **Log in**. (See the screenshot below.)

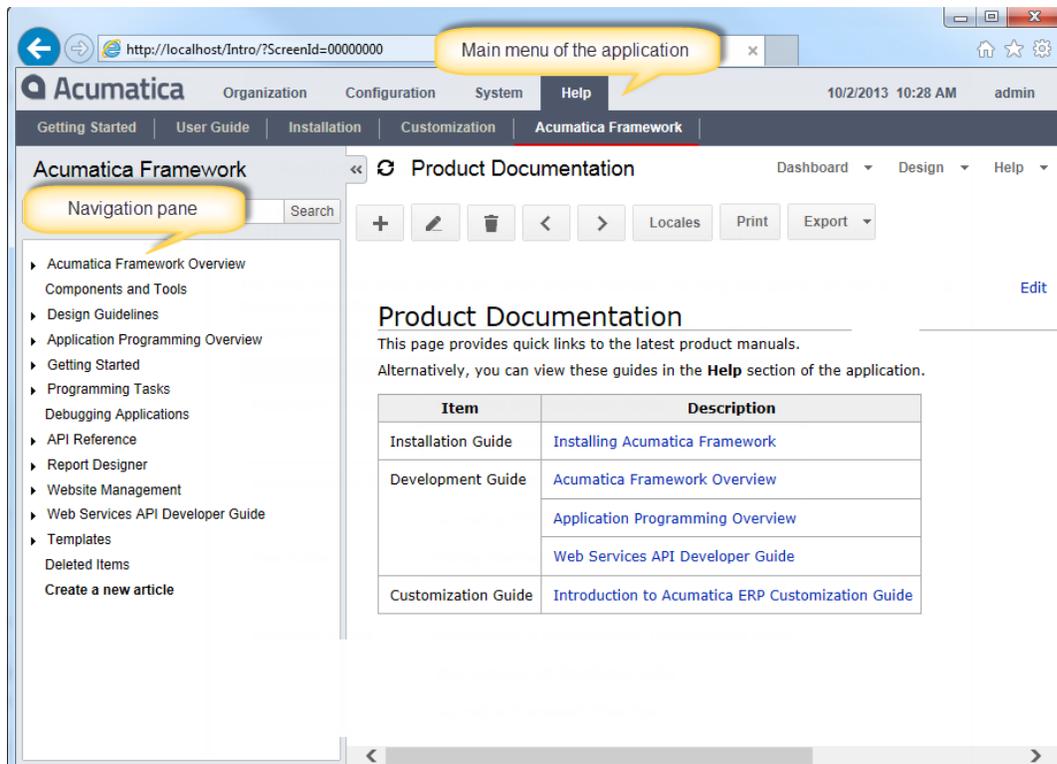


The default administrator user account of each newly installed application instance has this username and password combination. You will be prompted to change the password on the first logon. We recommend that you use a simple password during training (at least three characters are required, such as *123*). However, for security reasons, you should use only strong passwords in production.



**Figure: Log in to the site for the first time**

Now that you have logged in, you can see the default pages of the Acumatica Framework template application. The application contains system pages, including pages for configuring the site map and managing user access rights. The template also includes the documentation about Acumatica Framework, which you can find in **Help > Acumatica Framework** (see below). Later in the course, you will add a new main menu item for the RapidByte application pages.



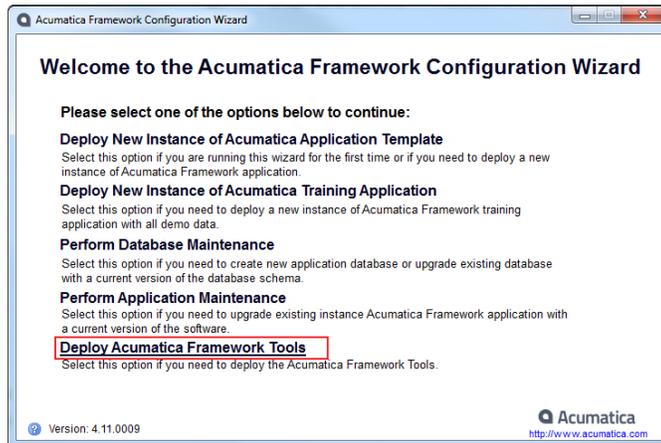
**Figure: View the template application content**

## Installing the Visual Studio Templates

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To add pages and graphs to the application project, you use the special Acumatica Framework templates for Visual Studio. To install the templates, do the following:

1. Start the Acumatica Framework Configuration Wizard, and click **Deploy Acumatica Framework Tools** on the **Welcome** screen of the wizard, as shown in the following screenshot.



**Figure: Install Acumatica Framework tools**

2. On the next screen, confirm the installation by clicking **Finish**.

When you click **Finish**, the wizard installs the Acumatica Framework templates in Visual Studio, including the `PXGraph` class and ASP.NET page templates. You have to install the templates before you start the development of the application in Visual Studio.

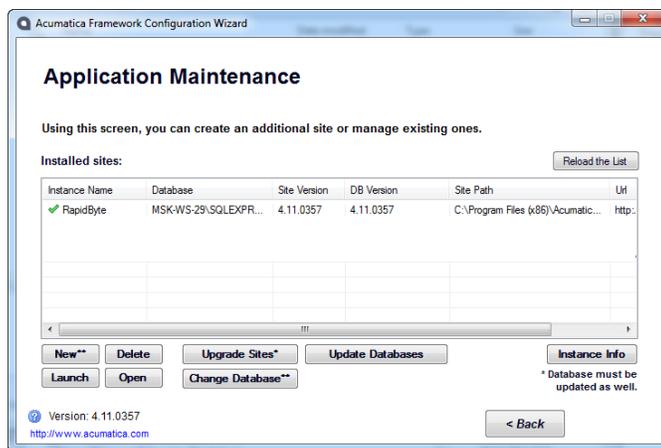
## Preparing the Solution in Visual Studio

The solution of an Acumatica Framework-based application consists of two parts: the application project (or multiple application projects) and the website folder. This topic shows how to locate and organize the solution that is created for the application once you configure it in the Acumatica Framework Configuration Wizard.

### Finding the Solution

You can use the Acumatica Framework Configuration Wizard as follows to locate the solution in the file system:

1. Go to the **Application Maintenance** screen of the Acumatica Framework Configuration Wizard.
2. Find your instance in the list and see the **Site Path** column for it. The Visual Studio solution file is located in the folder where *Site\* is, so the solution path is *C:\Program Files (x86)\Acumatica Framework\RapidByte\RB.sln*, as shown in the screenshot below.



**Figure: Find the solution path**

### Preparing the Solution

To prepare the solution structure for development, open the solution in Visual Studio and do the following:

1. Create the following new folder in the *Site\Pages* folder (see item 1 in the screenshot below):

- **RapidByte**

The existing **SM** folder contains system pages of the website; do not modify this folder or the files in it.

2. Create the following new folders in the *RB* application project:

- **RapidByte**
- **RapidByte > DAC**

The *DAC* folder is required for Data Access Class Generator, which will create data access classes in this folder.



*RapidByte* is the name of the Acumatica Framework-based application which you will create in the training courses. There may be several folders on the same level as *RapidByte* and *SM* representing other business modules of your application.

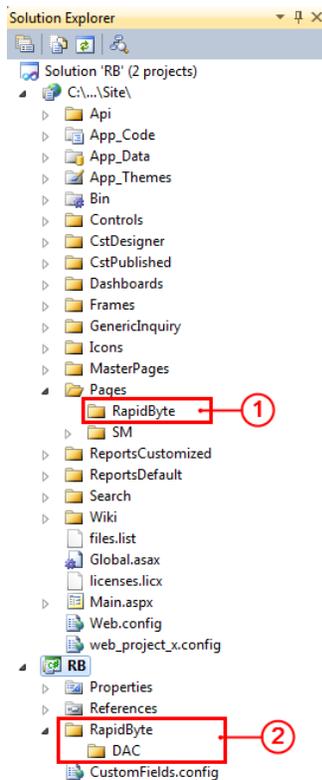
3. Set the *Site* folder as the startup project of the solution (right-click the folder and select **Set as StartUp Project**).

With this option, you can debug the application on the ASP.NET Development Server by clicking **Start Debugging** in Visual Studio.



We recommend to clear the **Build** check box for the *Site* project in the solution properties. By clearing this option, you can build only the application project (and skip the building of the site directories) when you build the solution. Building of the site may take significant amount of time and is not required when you work on the application project.

As a result, you should have the solution structure as the screenshot below shows. Now you can go to the last part of the lesson and see how the application menu is configured in the site map.



**Figure: Confirm the Visual Studio solution structure**

Now the solution is ready for application development.