Barcode Service

Barcode Generator Software for .NET

Version 1.1.0

Barcodes in Microsoft SQL Server Reporting Services (SSRS) and Crystal Reports

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1 Content

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4 Before You Start

In the following we will show you how to install the Barcode Service in your Internet Information Services (IIS). In addition we show you how to create reports with dynamically added bar codes in Crystal Reports and SQL Server Reporting Services. The method described here is called "URL Integration", the bar code images are generated "on-the-fly" with the Barcode Service.

4.1 Prerequisites

4.1.1 TBarCode .NET

The Barcode Service utilizes the bar code generator component *TBarCode .NET* from the *TBarCode SDK*, which must be installed on your system.

> TBarCode .NET 11.10 or higher.

You can download a free evaluation version of *TBarCode SDK* directly from our web site:

> https://www.tec-it.com/download/tbarcode/windows/Download.aspx

The TBarCode SDK setup will install the *TBarCode .NET* assemblies into the GAC[1].

4.1.2 Additional you need the following applications:

> Microsoft .NET Framework 4.6.1 or higher
>
> Microsoft Visual Studio .NET 2015 or higher

4.1.3 For creating reports in Crystal Reports:

> Crystal Reports 2016

4.1.4 For creating reports in SQL Server Reporting Services (SSRS):

> Microsoft SQL Server Reporting Services
>
> SQL Server Data Tools (SSDT)[2] for Visual Studio

4.1.5 For hosting the Barcode Service in Internet Information Services (IIS):

> Internet Information Services (IIS) 10.0 or higher
>
> Microsoft Web Deploy 3.6[3] or higher

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[1] For alternative assembly locations see here: https://msdn.microsoft.com/en-us/library/ms155034(v=sql.110).aspx
[2] SQL Server Data Tools in Visual Studio 2015: https://msdn.microsoft.com/en-us/mt186501.aspx
[3] Web Deployment Tool Installation: https://technet.microsoft.com/en-us/library/dd569059.aspx

5   Deploy the Barcode Service in IIS

In this chapter we will guide you through the process of installing the Web Deployment Package for the Barcode Service in your Internet Information Services (IIS).

5.1   Precondition

Before starting make sure you have Internet Information Services 10 or higher and Microsoft Web Deploy 3.6 or higher installed. Additionally, you need administrator privileges to complete the installation.

5.2   Installation With Default Path and Application Pool

The simplest way of installing the Web Deployment Package is to use the deploy.cmd we provide for you. If you run it as Administrator, it will install Barcode Service in default mode. The path to Barcode Service will be set to *Default Web Site/barcodeservice* and hosted in the Application Pool *TEC-IT* (set to default configuration). If no errors occur during the deployment, you should be able to connect to the Barcode Service with this link immediately:

http://localhost/barcodeservice/

5.3   Installation With Custom Path and Application Pool

In case you want to specify your own path and application pool, you can also use deploy.cmd. Just pass your values as parameters along like this:

deploy.cmd "Default Web Site/barcodeservice" "TEC-IT"

The deploy.cmd will set the path to your input and create a new Application Pool for it, using your input as name and setting the configuration to default.

If you are not familiar with IIS and Web Deploy we recommend using the default values.

5.4   Advanced Customisation

For a more custom installation please use

- *BarcodeService.deploy.cmd*
- *BarcodeService.SetParameters.xml*

as described in *BarcodeService.deploy-readme.txt*.

Keep in mind that using *BarcodeService.deploy.cmd* will use the *DefaultAppPool* in IIS.

5.5   Verify Installation

Verify the installation by calling the URL for the barcode service configuration page

http://localhost/barcodeservice/BarcodeServer.aspx

6 Insert Barcodes in Crystal Reports

The following chapter describes how bar codes can be integrated into Crystal Reports by using a picture box linked to the Barcode Service. The graphic location of the image to be printed is specified as an http/https-URL to the Barcode Service. The report reads the image data stream and displays the bar codes during runtime.

The advantage of this solution is that the bar codes are always "up to date". The barcode generator service can be hosted on the internet or in your intranet.

6.1 Creating the Report

Start *Crystal Reports* and use the *Report wizard* to generate a new report.
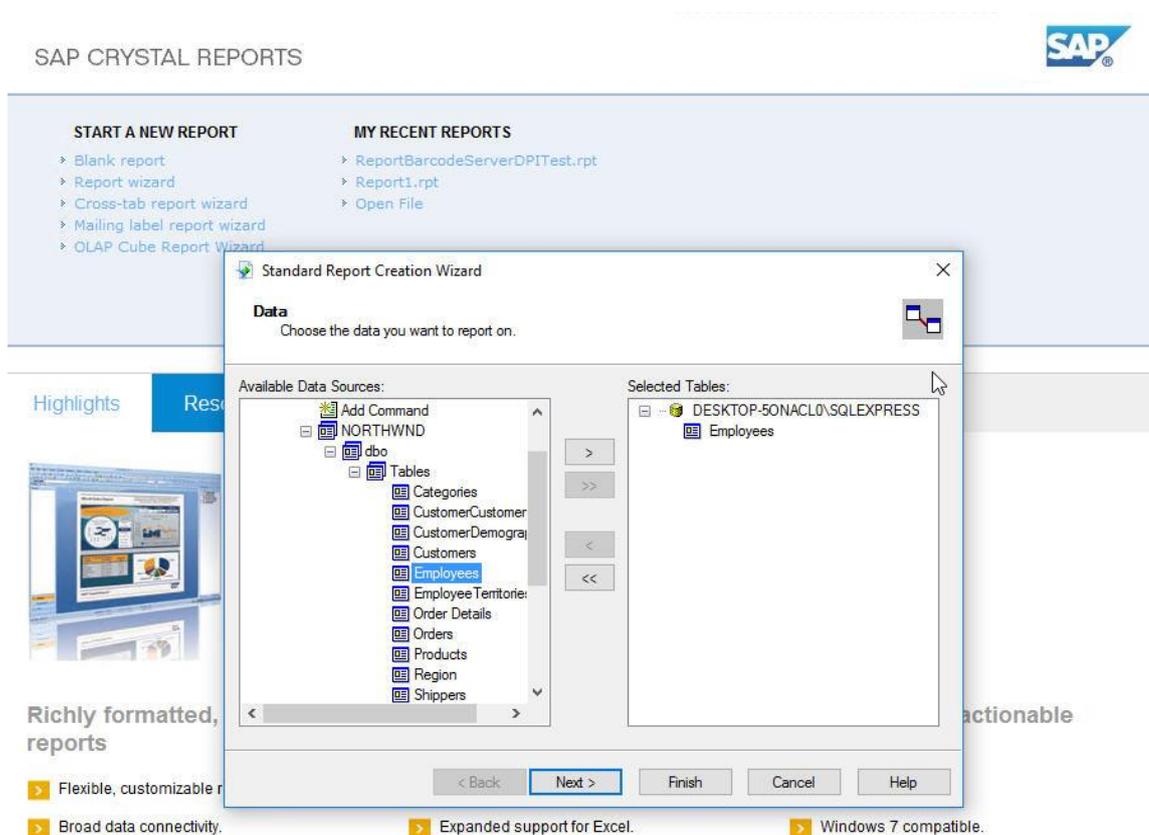
In the project wizard choose your database connection (in the sample the Northwind database[4] is used) and select the fields you want to put into your report (in this sample: *FirstName*, *LastName* and *Title* from the *Employees* table).

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[4] Download: https://northwinddatabase.codeplex.com/
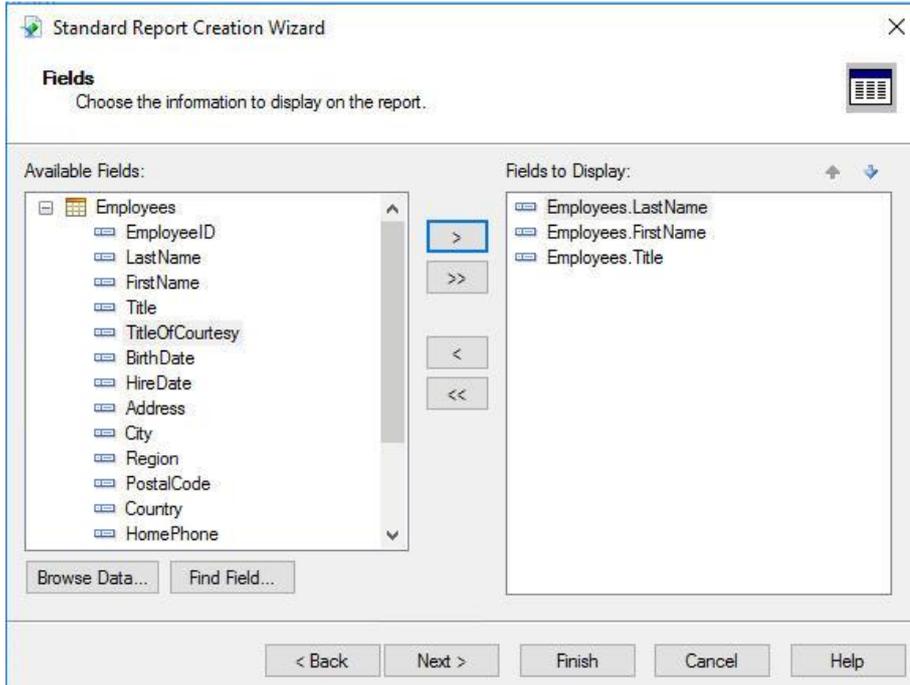
After you finished the *Creation Wizard* insert a picture as placeholder for your bar code.
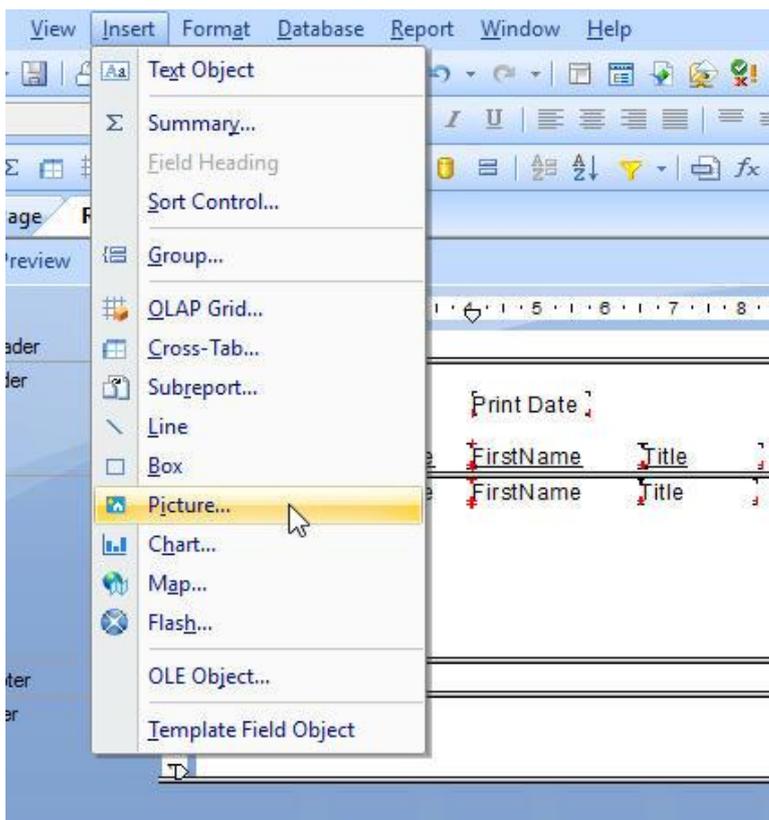
In the screenshot below we used an image from the Barcode Service with default data. Later in this sample we show you how to encode data from the *Employees* table. If you need a bar code for each row, insert the image in the *Details* section.
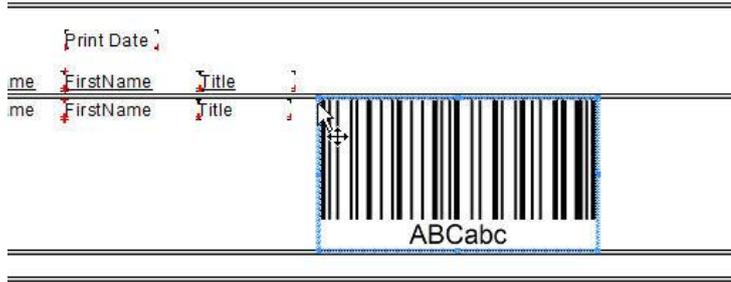
6.2   Creating the Barcode

Right click the image you inserted and go to *Format Graphic...*
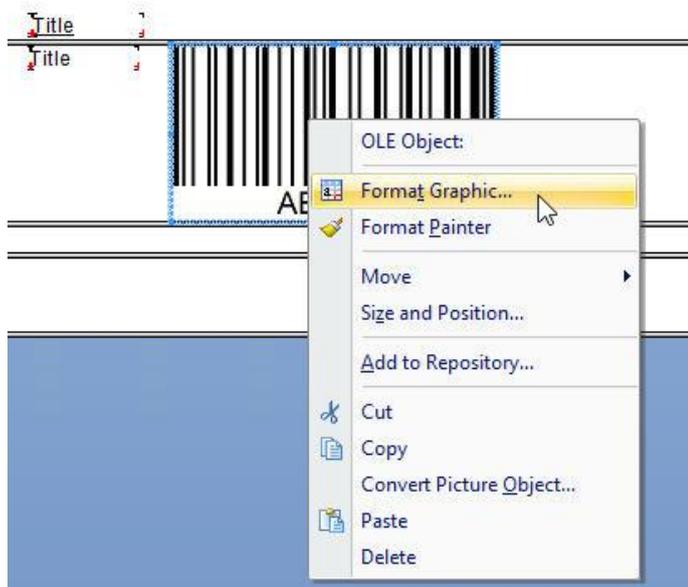
In the *Format Editor* window in the *Common* tab set the checkbox for *Can Grow*.
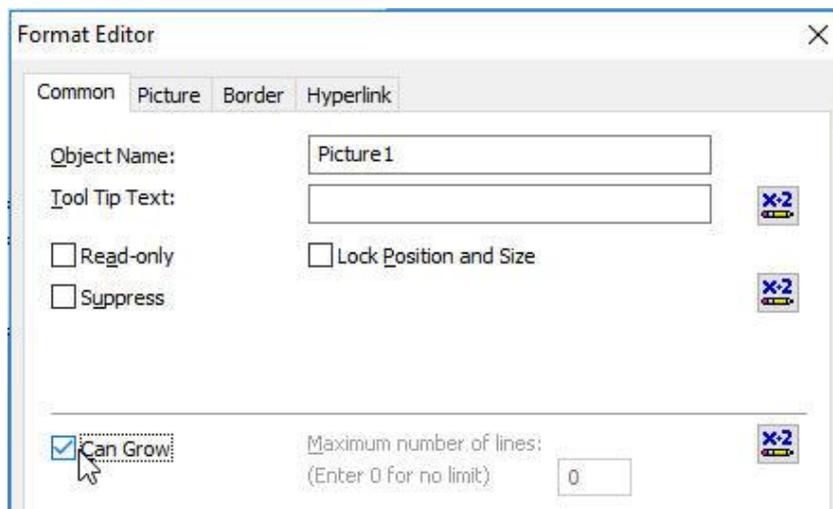
In the Picture tab make sure that *Scaling* is set to 100%, set *Use Original URL* and click the *Formula Editor* button on the right side.
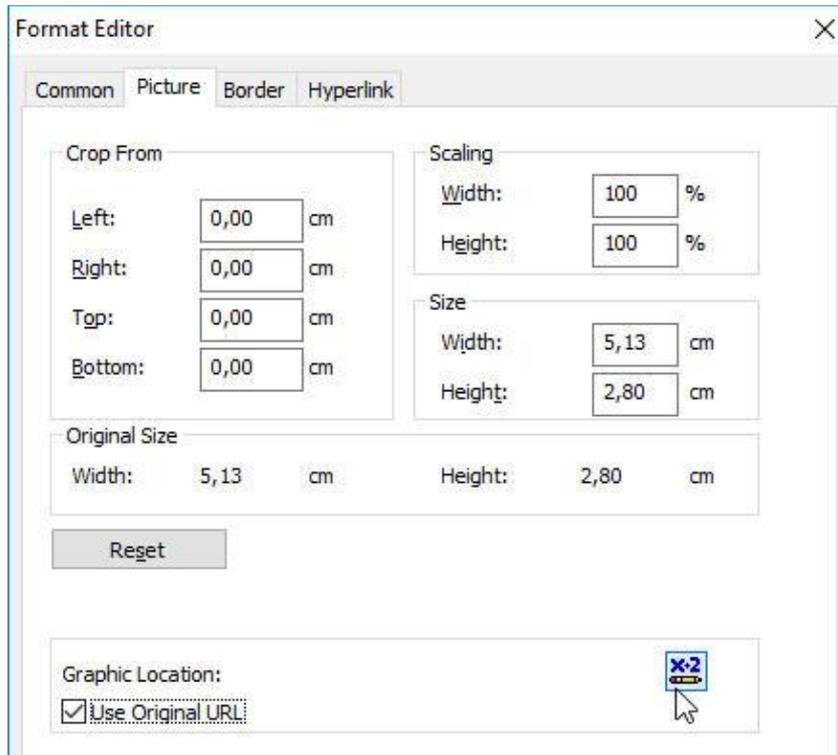
Open the barcode service configuration page

http://<host name>/barcodeservice/BarcodeServer.aspx

Now copy the URL for your barcode from the textbox in Barcode Services. Make sure that you have selected *Crystal Reports* as target system.
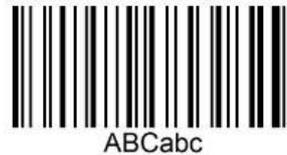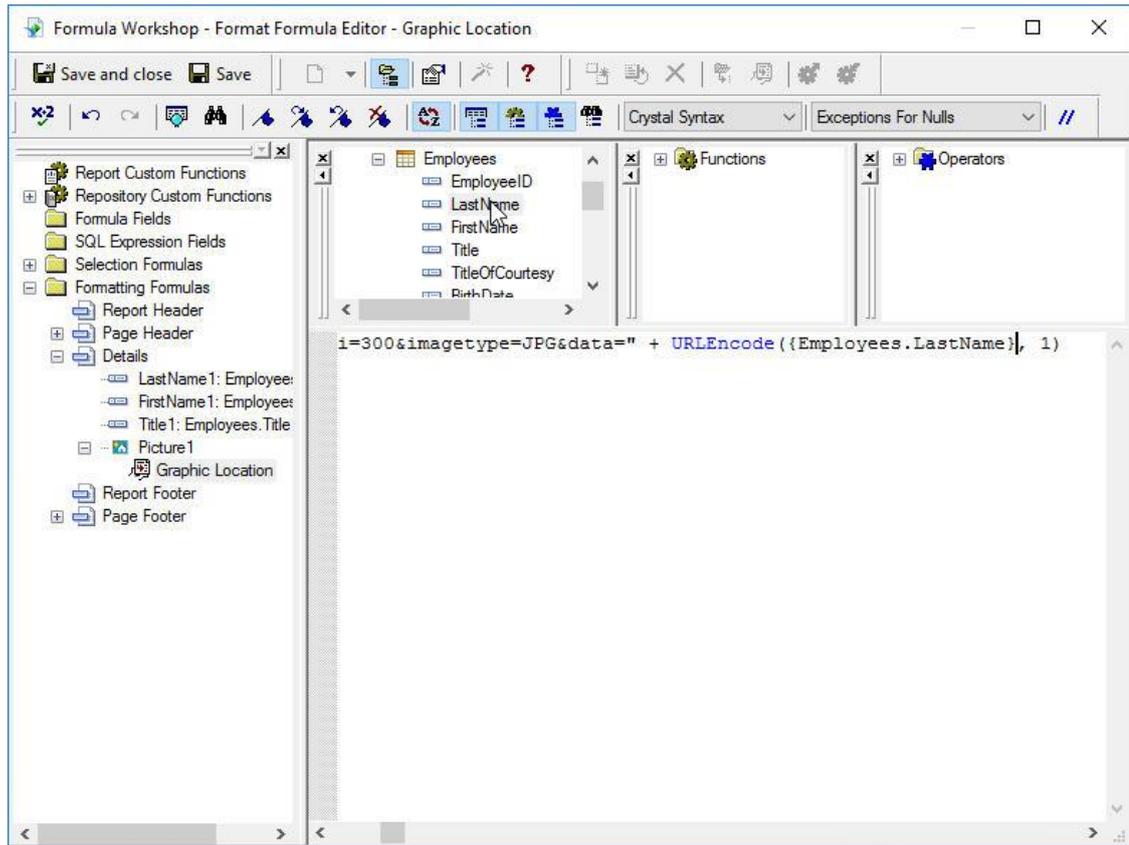
Finally, set the data you want to encode in your barcode. In case of this sample, the *LastName* from the *Employees* table is used.

► Please note that we use the *URLEncode* function in order to support special characters.

6.3 Final result

Afterwards, the generated report should look like this:

7 Insert Barcodes in SQL Server Reporting Services

The following chapter describes how bar codes can be integrated into SSRS report by using an image box linked to the Barcode Service. The image source of the image to be printed is specified as an http/https-URL. The report reads the image data stream and displays the bar codes during runtime.

The advantage of this solution is that you don't have to deal with security during report runtime (no additional code modules required in the report), there are changes in the database and the bar codes are always "up to date". The barcode generator service can be hosted on the internet or in your intranet.

7.1 Creating the Reporting Project

Open Visual Studio 2015 and create a new report project
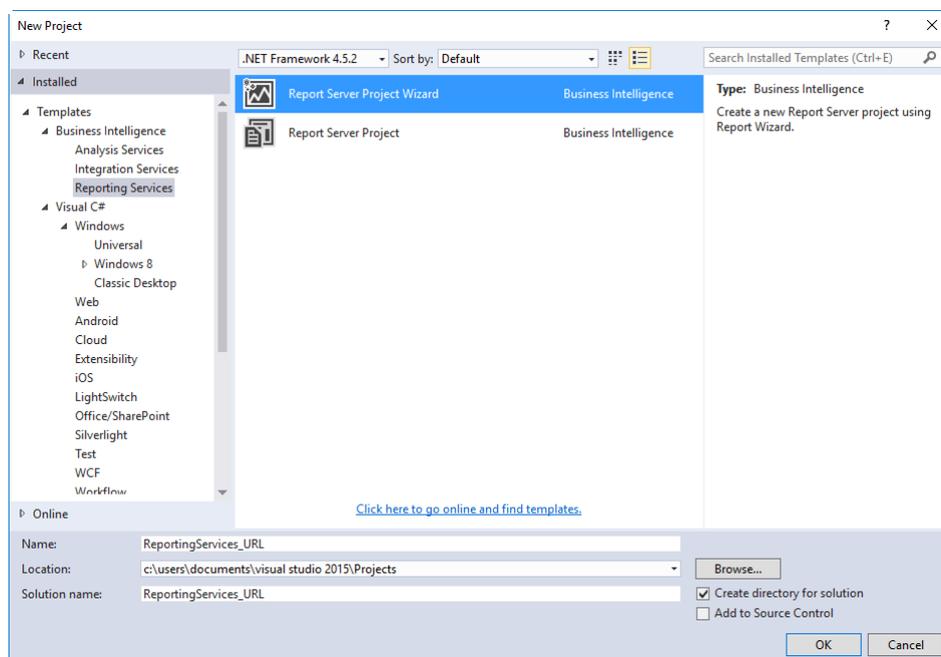
In the project wizard choose your database connection (in the sample the Northwind database[5] is used) and select the fields you want to put into your report (in this sample: *FirstName*, *LastName* and *Title* from the *Employees* table).

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[5] Download: https://northwinddatabase.codeplex.com/

7.2 Report Design

Use the wizard to design your report as you want.

Insert an extra column for the generated barcode.

Insert an image object into the new column, where you want to create the barcode in.
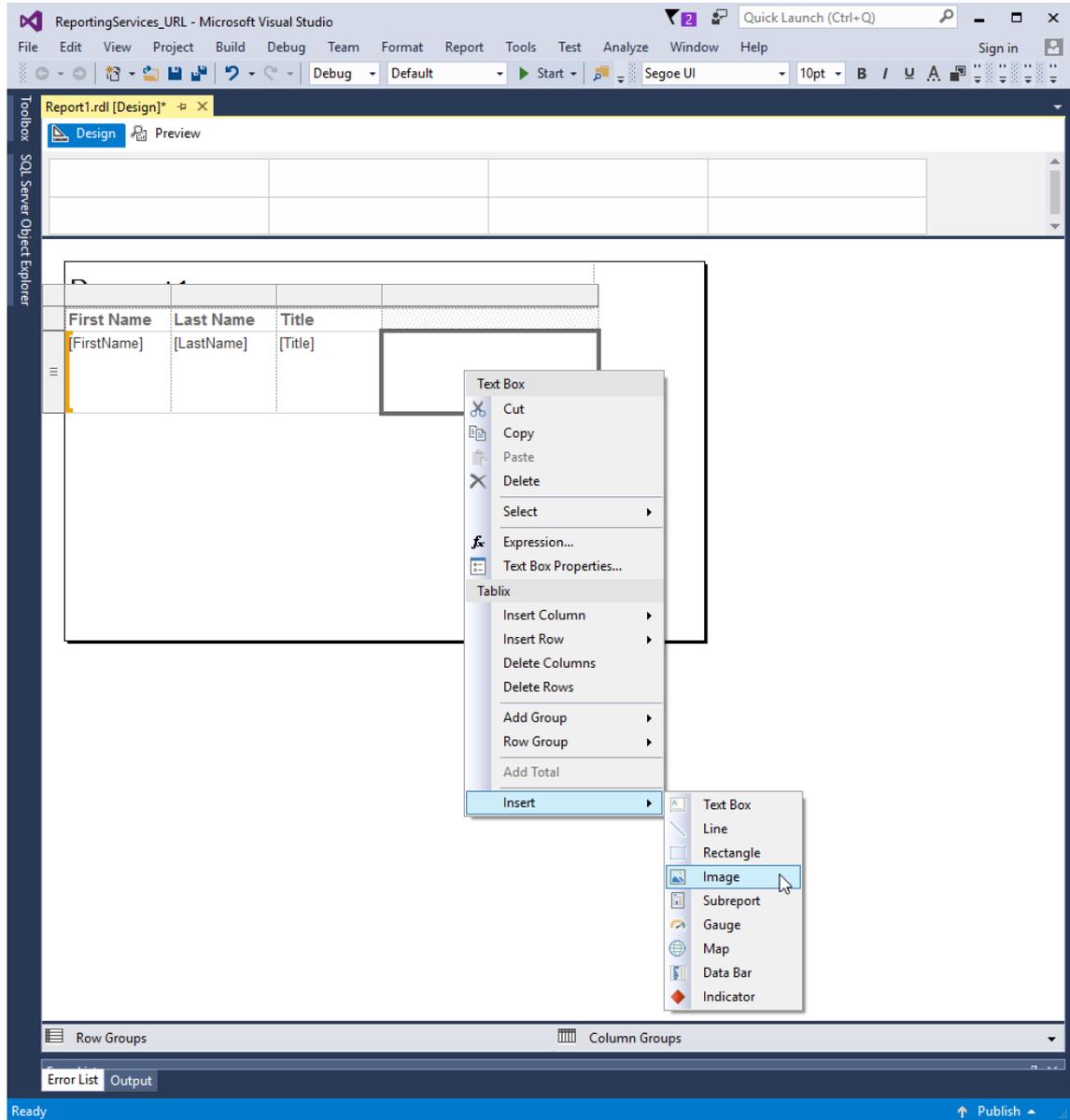
7.3   Creating the Barcode

In the image properties window select *External* as image source.

Click on the expression icon to open the expression window.
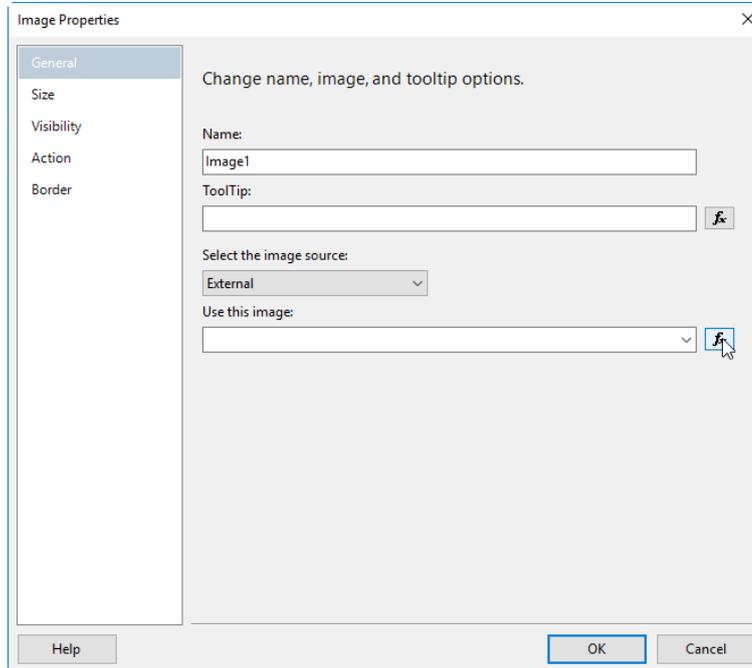
Open the barcode service configuration page

http://<host name>/barcodeservice/BarcodeServer.aspx

Now copy the URL for your barcode from the textbox in Barcode Services. Make sure that you have selected *SQL Server Reporting Services* as target system.

Now set the data you want to encode in your barcode. In case of this sample, the *LastName* from the *Employees* table is used.
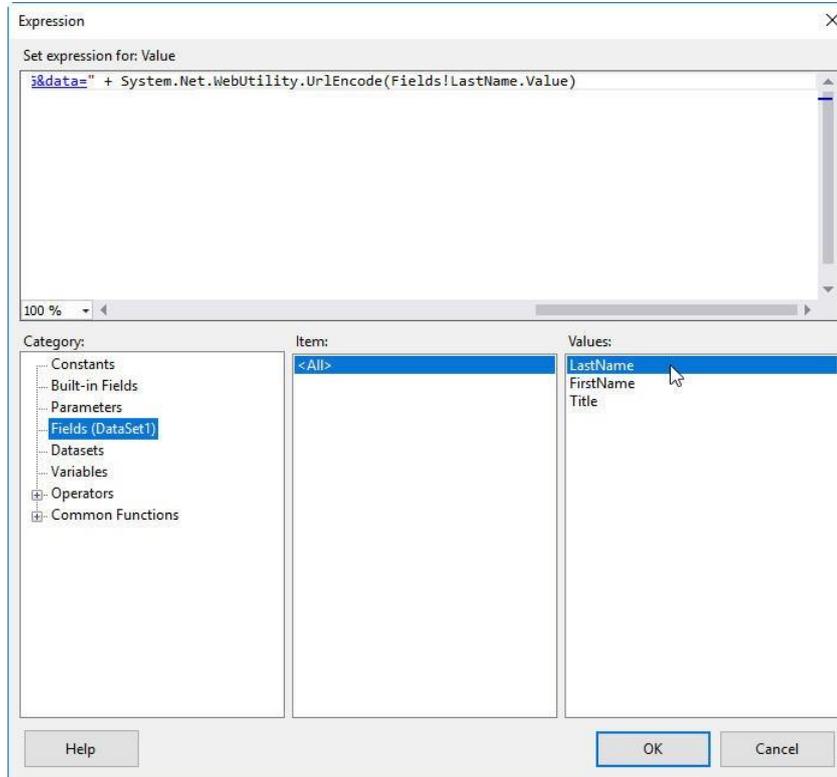
Since SSRS ignores the DPI value stored in a picture (the default value of 96 DPI is too low for printing) we have to fix this manually. Therefore, we have to select *Fit proportional* in the *Size* tab.
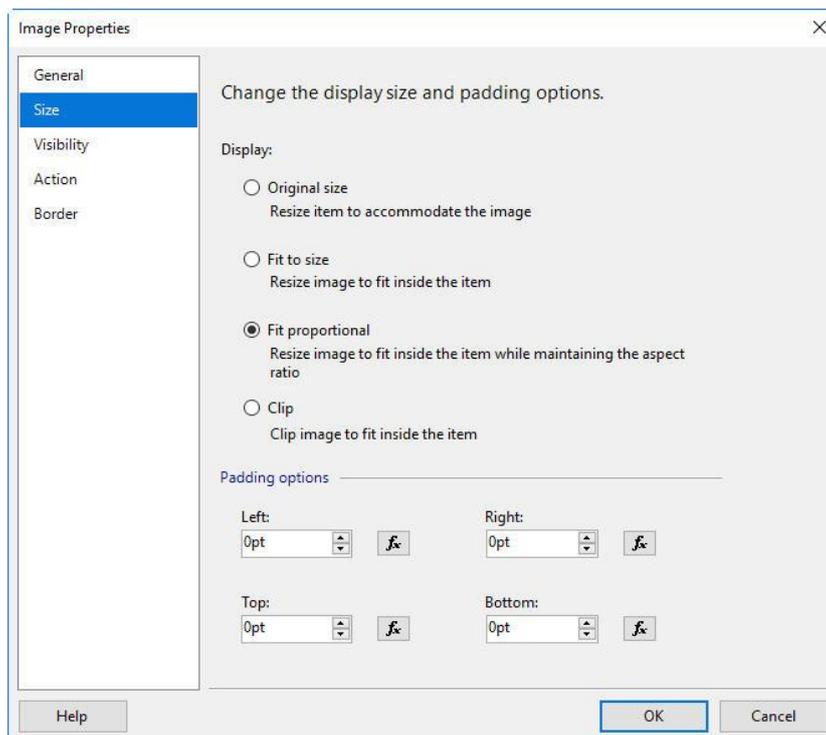
Afterwards we have to select the image box and edit the *Size* values in the Properties.

Because in this sample a Code 128 with a height of 25.4 mm and a given module width is used, we set the *Height* value of the image box to 25.4mm.

Depending on the type of your barcode, the width of the barcode may grow according to number of encoded characters, so make sure to select a suitable width (no clipping). If you generate a bar code with a fixed, given width, use this value as *Width*.
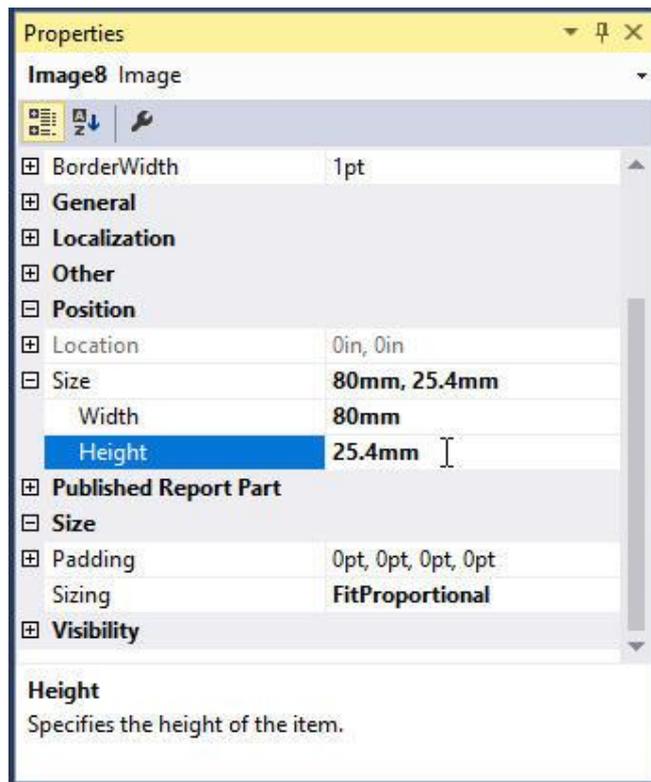
►	Barcodes need fine tuning according to the printing resolution (DPI).
►	Please contact our Support (see section 8) in case you have advanced requirements (like thermal transfer printers) or problems with bar code quality.

7.4 Final result

Afterwards, the generated report should look like this:

8   Contact and Support Information

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