Developer Guide

KA.Barcode for .NET SSRS 2012

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1. Compatibility & Requirements

1.1. Development Environments

- **Visual studio 2010 or later version installed**
- **Microsoft SQL Server 2012**
- Microsoft SQL Server 2012 Business Intelligence Development Studio
- VB.NET, C#.NET, or Borland Delphi

1.2. Compatible Project Types

- Report Server Project (design-time and runtime support)
- ASP.NET Web Site (design-time and runtime support)
- Console Application (runtime support)
- Class Library (runtime support)
- ASP.NET Web Services (runtime support)

1.3. Test Environment

- Microsoft Windows 10
- Microsoft Visual Studio 2010
- Visual C#.NET

2. Deployment & Pre-Configuration

Download and unzip the evaluation, and you will find "KeepAutomation.Barcode. SSRS2012.dll", "KeepAutomation.Barcode.SSRS2012CRI.dll" in the package.

2.1. Deploy Control

- Open directory "\Program Files\Microsoft Visual Studio 10.0\Common7\IDE\PrivateAssemblies\".

- Copy "KeepAutomation.Barcode.SSRS2012CRI.dll" and "KeepAutomation.Barcode.SSRS2012.dll" to the folder.

- Open directory "\Program Files\Microsoft SQL Server\MSRS11.MSSQLSERVER\Reporting Services\ReportServer\bin\".

- Copy "KeepAutomation.Barcode.SSRS2012CRI.dll" to the folder.

2.2. Configure Environment

Below is a sample of SSRS2012 configuration.

- Open "\Program Files\Microsoft Visual Studio 10.0\Common7\IDE\PrivateAssemblies\rsreportdesigner.config" with text editor (notepad).

```
<Configuration>
 <Extensions>
  ...
  <ReportItems>
   <ReportItem Name="BarCodeControl"
               Type="KeepAutomation.Barcode.SSRS2012CRI.BarCodeReportCRI,
KeepAutomation.Barcode.SSRS2012CRI" />
  </ReportItems>
  <ReportItemDesigner>
   <ReportItem Name="BarCodeControl"
               Type="KeepAutomation.Barcode.SSRS2012.BarCodeReport,
KeepAutomation.Barcode.SSRS2012" />
  </ReportItemDesigner>
 </Extensions>
</Configuration>
```

- Open file "\Program Files\Microsoft SQL Server\MSRS11.MSSQLSERVER\Reporting Services\ReportServer\rsreportserver.config" with text editor (notepad).

```
<Configuration>
 <Extensions>
  ...
  <ReportItems>
   <ReportItem Name="BarCodeControl"
               Type="KeepAutomation.Barcode.SSRS2012CRI.BarCodeReportCRI,
KeepAutomation.Barcode.SSRS2012CRI"/>
  </ReportItems>
 </Extensions>
</Configuration>
```

- Open file "\Program Files\Microsoft SQL Server\MSRS11.MSSQLSERVER\Reporting Services\ReportServer\rssrvpolicy.config" with text editor (notepad)

```
<configuration>
 <mscorlib>
  <security>
   <policy>
    <PolicyLevel version="1">
       ...

       <!-- This is the first CodeGroup in the config file -->
       <CodeGroup
         class="FirstMatchCodeGroup"
         version="1"
         PermissionSetName="Nothing">
        <IMembershipCondition
          class="AllMembershipCondition"
          version="1" />

        <!-- Add Following Text just follow the first CodeGroup. -->
        <CodeGroup
          class="UnionCodeGroup"
          version="1"
          PermissionSetName="FullTrust"
Description="This code group grants KeepAutomation.Barcode.
SSRS2012CRI.dll  Full Trust permission. ">
           <IMembershipCondition
             class="UrlMembershipCondition"
             version="1"
             Url="C:\Program Files\Microsoft SQL Server\MSRS11.MSSQLSERVER\Reporting Services\
                        ReportServer\bin\KeepAutomation.Barcode.SSRS2012CRI.dll" />
        </CodeGroup>

        ...

      </CodeGroup>
     </PolicyLevel>
    </policy>
   </security>
  </mscorlib>
</configuration>
```
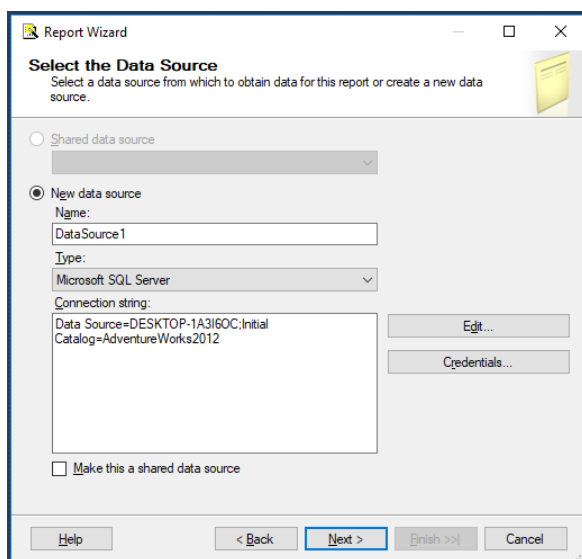
3. How To Insert a Barcode in Report Template

3.1. Generate Barcode on SQL Server Reporting Services (CRI)

- Start Visual Studio and create new "Business Intelligence Projects", then choose "Report Server Project Wizard" template.

- To choose data source, select "AdventureWorks" in "Connection string" form and then click "Next".

- Create the Query string and input " SELECT CustomerID, TerritoryID, AccountNumber FROM Sales.Customer" to the input box of "Report Wizard" dialog.

- Choose "Tabular" as report type and then click "Next".

- Select default setting of "Design the Table", "Choose the Table Style" and "Choose the Deployment Location" then click "Next".

- Name the report "Barcode in SSRS", click "Finish".

- Display the toolbox, and navigate to "KeepAutomation.Barcode.RS2012CRI.dll" and add it as item on toolbox.

- Add a column to display the barcode images and name it "Barcode", then drag and drop the "LinearBarcodeControl" to the "Barcode" column.

- Select "BarcodeData" in "Properties" window and change it to "=Fields!AccountNumber.Value".

- Users can preview the report with linear or matrix barcode image by clicking "Preview" tab.

4. Barcode Advanced Settings

4.1. 1D / 2D Barcode Basic Properties

Below is a table of linear and 2d barcodes basic properties supported by KA.Barcode for .NET Reporting Services.

4.1.1. Barcode Basic

Class Attribute	HTTP Attribute	Default Value
Symbology	symbology	Code128Auto
Comment: Barcode symoblogy type		
CodeToEncode	code-to-encode	"128"
Comment: Barcode value to encode.		
ChecksumEnabled	checksum-enabled	false
Comment: Set to true, adding barcode checksum digit.		
ImageFormat	image-format	ImageFormat.Png
Comment: Barcode encoded image format.		

4.1.2. Barcode Size

Class Attribute	HTTP Attribute	Default Value
BarcodeUnit	barcode-unit	BarcodeUnit.Pixel
Comment: Unit of measure for all size related settings. 0: pixel; 1: inch; 2: cm.		
X	x	1

Class Attribute	HTTP Attribute	Default Value
Comment: Barcode module width (narrow bar).		
Y	y	50
Comment: Linear barcode bar height / 2D barcode module height.		
LeftMargin	left-margin	0
Comment: Barcode image left margin.		
RightMargin	right-margin	0
Comment: Barcode image right margin.		
TopMargin	top-margin	0
Comment: Barcode image top margin.		
BottomMargin	bottom-margin	0
Comment: Barcode image bottom margin.		
DPI	dpi	72
Comment: Barcode image resolution in dpi.		
Orientation	orientation	Orientation.Degree0
Comment: Barcode rotation angle.		
BarCodeWidth	barcode-width	0
Comment: Whole barcode width.		
BarCodeHeight	barcode-height	0
Comment: Whole barcode height.		

4.1.3. Barcode Text Style

Class Attribute	HTTP Attribute	Default Value
DisplayText	display-text	true
Comment: Set to true, displaying barcode value text, otherwise do not display.		
DisplayChecksum	displace-checksum	true
Comment: Set to true, displaying barcode checksum digit, otherwise do not display.		
TextFont	text-font	new Font(" Arial", 10f, FontStyle.Regular)
Comment: Barcode text font style.		
TextMargin	text-margin	6
Comment: Margin between barcode and text.		

4.2.   1D / Linear Barcode Special Properties

4.2.1.   Codabar

Class Attribute	HTTP Attribute	Default Value
CodabarStartChar	codabar-start-char	CodabarStartStopChar.A
Comment: Barcode Codabar starting char. Options 'A', 'B', 'C', 'D'.		
CodabarStopChar	codabar-stop-char	CodabarStartStopChar.A
Comment: Barcode Codabar stopping char. Options 'A', 'B', 'C', 'D'.		

4.2.2.   Code 2 of 5

Class Attribute	HTTP Attribute	Default Value
WideNarrowRatio	wide-narrow-ratio	2.0f

Class Attribute	HTTP Attribute	Default Value
Comment: Code 2 of 5 wide bar width vs narrow bar width ratio.		

4.2.3. Code 39

Class Attribute	HTTP Attribute	Default Value
DisplayStarStop	display-start-stop	true
Comment: Set to true, displaying Code 39 Start and Stop character (*).		
I	i	1.0f
Comment: Code 39 inter-characters space. It's a multiple of X.		
WideNarrowRatio	wide-narrow-ratio	2.0f
Comment: Code39 wide bar width vs narrow bar width ratio.		

4.2.4. Code 128 / EAN-128

Class Attribute	HTTP Attribute	Default Value
FNC1	fnc1	FNC1.None
Comment: Apply to encode GS1 compatible Code 128.		
TildeEnabled	tilde-enabled	false
Comment: Set to true, specifying special characters in Code 128 / EAN-128 data.		

4.2.5. EAN-8 / EAN-13 / UPC-A/ UPC-E / ISBN / ISSN

Class Attribute	HTTP Attribute	Default Value
SupplementCode	supplement-code	-
Comment: EAN, UPC, ISBN, or ISSN supplement barcode value to encode.		
SupplementHeight	supplement-height	0.8f
Comment: EAN, UPC, ISBN, or ISSN supplement barcode height.		
SupplementSpace	supplement-space	15
Comment: EAN, UPC, ISBN, or ISSN supplement barcode space.		

4.2.6. ITF-14

Class Attribute	HTTP Attribute	Default Value
BearerBarLeft	bearer-bar-left	1
Comment: ITF-14 left and right bearer bars. It's a multiple of X.		
BearerBarTop	bearer-bar-top	1
Comment: ITF-14 top and bottom bearer bars. It's a multiple of X.		
WideNarrowRatio	wide-narrow-ratio	2.0f
Comment: ITF-14 wide bar width vs narrow bar width ratio.		

4.2.7. Identcode / Leitcode / Interleaved 2 of 5

Class Attribute	HTTP Attribute	Default Value
WideNarrowRatio	wide-narrow-ratio	2.0f
Comment: Identcode, Leitcode, or Interleaved 2 of 5 wide bar width vs narrow bar width ratio.		

4.2.8. PLANET / POSTNET

Class Attribute	HTTP Attribute	Default Value
ShortTallRatio	short-tall-ratio	0.4f
Comment: POSTNET and PLANET short bar height vs tall bar height ratio.		

4.3. 2D / Matrix Barcode Special Properties

Class Attribute	HTTP Attribute	Default Value
GroupEnabled	group-enabled	false
Comment: Set to enable Data Matrix, PDF417, or QR Code group function.		
GroupItemCount	group-item-count	0
Comment: Data Matrix, PDF417, or QR Code group count.		
GroupItemId	group-item-id	0
Comment: Data Matrix, PDF417, or QR Code group item id.		
GroupId	group-item-id	0
Comment: Data Matrix, PDF417, or QR Code group item.		

4.3.1. Data Matrix

Class Attribute	HTTP Attribute	Default Value
DataMatrixDataMode	data-matrix-data-mode	DataMatrixDataMode.Auto
Comment: Set Data Matrix data encoding mode.		
DataMatrixFormatMode	data-matrix-format-mode	DataMatrixFormatMode. FM_12X12
Comment: Set Data Matrix format mode, including 24 square and 6 rectangle formats.		

Class Attribute	HTTP Attribute	Default Value
FNC1	fnc1	FNC1.None
Comment: Apply to encode GS1 compatible Data Matrix.		
TildeEabled	application-indicator	false
Comment: Set to true, specifying special characters in Data Matrix data.		

4.3.2. PDF417

Class Attribute	HTTP Attribute	Default Value
PDF417DataMode	pdf417-data-mode	PDF417DataMode.Text
Comment: Set PDF417 data encoding mode.		
PDF417ECL	pdf417-ecl	PDF417ECL.ECL_2
Comment: Set PDF417 error correction level, from L0 to L8.		
PDF417RowCount	pdf417-row-count	3
Comment: Set PDF417 row count, from 3 to 90.		
PDF417ColumnCount	pdf417-column-count	5
Comment: Set PDF417 column count, from 1 to 30.		
PDF417Truncated	pdf417-truncated	false
Comment: Apply to encode Truncated PDF417.		
PDF417TXtoYRatio	pdf417-x-y-ratio	0.33333f
Comment: PDF 417, bar width vs bar height ratio.		
TildeEabled	application-indicator	false
Comment: Set to true, specifying special characters in PDF417 data.		

4.3.3. QR Code

Class Attribute	HTTP Attribute	Default Value
FNC1	fnc1	FNC1.None
Comment: Apply to encode GS1 compatible QR Code		
QRCodeDataMode	qrcode-data-mode	QRCodeDataMode.Auto
Comment: Set QR Code data encoding mode.		
QRCodeECL	qrcode-ecl	QRCodeECL.L
Comment: Set QR Code error correction level, including L, M, Q, H.		
QRCodeVersion	qrcode-version	QRCodeVersion.V1
Comment: Set QR Code version, from V1 to V40.		
QRCodeECI	qrcode-eci	3
Comment: QR Code column Extended Channel Interpretations.		
TildeEabled	tilde-enabled	false
Comment: Set to true, specifying special characters in QR Code data.		

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