

## Copyright

Information in this document is subject to change without any notice. Unless otherwise specified, the example companies, products, domain names, email addresses, logos, images, people, places, and events depicted in the document are fictitious, and no association with any real company, product, domain name, email address, logo, image, person, place or event is intended or should be inferred. Complying with copyright law is the responsibility of the user. Without limiting the rights under copyright, this training manual shall not be reproduced, stored in or introduced into a document retrieval system, or transmitted in any form or by any means (mechanical, electronic, recording, photocopying, or otherwise), or for any purpose, without the express written permission of Techmite Inc.

Unless expressly provided in written license agreement from Techmite Inc, the furnishing of this document does not give any license to patents, trademarks, copyrights, or other intellectual property (IP).

The names of manufacturers or products are provided for informational purposes only and Techmite Inc makes no representations and warranties, either expressed, implied, or statutory, regarding these manufacturers or the use of the products with any technologies.

© 2016 Techmite Inc. All rights reserved.

All trademarks are property of their owners.

## **About This Course**

## **Course Description**

In this 1-day course, participants will continue their learning on report writing with Microsoft® SQL Server® Report Builder and SSRS. The focus of this course is enhanced and custom reporting visualizations and the use of Visual Basic in SSRS reporting. Enhanced and custom visualizations present many challenges to the report writer and this course identifies and solves the most common of them. Visual Basic is the required language of Report Builder and there are many options for incorporating the features of the language in a reporting solution. Whether the use of Visual Basic is by design or through inherited reports, this course will assist in resolving questions regarding features, capabilities, and uses of Visual Basic in SSRS reports. To achieve this goal, this course incorporates instructional design with worksheets, practices, demonstrations, and labs. Report Builder is a free download for all supported versions of Microsoft SQL Server.

#### **Audience**

The primary audience for this course are persons who are experienced Report Builder and SSRS report authors.

The secondary audience for this course are experienced Report Designer (SSRS) report authors.

Course participants may be business analysts, program analysts, data analysts, database administrators, or IT professionals.

#### **Prerequisites**

This following prerequisites exist for this course:

Course 55128: Writing Reports with Report Builder and SSRS Level 2

## **Course Objectives**

After completing this course, participants will be able to:

- · Use shapes as an effective medium in reporting.
- Describe the key features of Visual Basic in SSRS.
- Use Visual Basic programming in SSRS reports.

#### **Course Outline**

This section provides an outline of the course:

- Module 1, "Creating Enhanced Visualizations"
- Module 2, "Visual Basic"
- Module 3, "Using Visual Basic in SSRS Reports"

#### **Student Workstation**

This section provides the information for setting up the classroom environment to support the business scenario of the course.

## **Software Configuration**

The following software is installed:

- Microsoft® SQL Server® 2014
- Microsoft® SQL Server® Report Builder
- Microsoft® Office 2013 (Word and Excel)
- Adobe® Reader®
- Printer driver

#### **Course Files**

The lab files are located in the D:\55236 folder in the virtual machine.

#### **Course Hardware Level**

To ensure a satisfactory student experience, Microsoft Learning requires a minimum equipment configuration for trainer and student computers in all Microsoft Certified Partner for Learning Solutions (CPLS) classrooms in which Official Microsoft Learning Product courseware are taught.

## **Hardware Level 6**

- Intel Virtualization Technology (Intel VT) or AMD Virtualization (AMD-V) processor
- Dual 120 GB hard disks 7200 RM SATA or better
- 4 GB RAM expandable (preferably 8GB or higher)
- DVD drive
- Network adapter
- Super VGA (SVGA) 17-inch monitor
- Microsoft Mouse or compatible pointing device
- Sound card with amplified speakers

In addition, the instructor computer must be connected to a projection display device that supports SVGA 1024 x 768 pixels, 16-bit colors.

# **Table of Contents**

Module 1: Creating Enhanced Visualizations	7
The Importance of Shapes in Reporting	7
Why Use Shapes as a Reporting Medium?	8
Create Shapes Using the Rectangle	9
Rectangles	9
Layering	11
Containership	12
Demonstration: Layering and Containership	13
Control the Display of Report Items	13
CanGrow and CanShrink	14
ZIndex	15
Demonstration: Text Box Properties CanGrow and Padding	16
Creating Tiles in a Tablix	17
Width and Height	17
Images	18
Visibility	19
Demonstration: CanGrow, CanShrink, and ZIndex	19
Lab 1: Using Shapes in SSRS Reporting	20
Exercise 1: Creating Tiles in a Report	20
Exercise 2: Create Tiles in a Tablix with Text Boxes	22
Exercise 3: Creating Rectangle Tiles and Tablix Tiles in a Report	24
Module Review	29
Module 2: Visual Basic	30
The Visual Basic Programming Language	30
Visual Basic Language Elements	34
Worksheet 1: Visual Basic Statements	41
Worksheet 2: Understanding Visual Basic Statements	43
Creating Variables, Expressions, and Procedures	46
Worksheet 3: Creating Conditional Logic	52
Worksheet 4: Creating Visual Basic Procedures	55
Lab 2: Working with Visual Basic	59
Exercise 1: Adding Visual Basic Procedures to a Report	59
Exercise 2: Working with Value Types in a Report	62
Exercise 3: Working with Reference Types in a Report	63

Module Review	65
Module 3: Using Visual Basic in Reports	66
Visual Basic in SSRS Reports	66
Memory Allocation in Visual Basic code	68
Function Examples	70
Visual Basic Conversion Functions	71
Demonstration: Using Visual Basic in a Report	72
Calling Visual Basic code from a Report	73
Practice 1: Using Visual Basic in a Report	77
Practice 2: Using Visual Basic in a Report (End to End)	80
Using External Visual Basic code in Reports	82
Demonstration: Calling External Code from a Report	85
Lab 3: Using Visual Basic in SSRS Reporting	87
Exercise 1: Use Conditional Logic with Literals, Fields, and Report Items	87
Exercise 2: Create a Report using Visual Basic	90
Exercise 3: Update a Report to use External Code	94
Exercise 4: Troubleshoot Visual Basic Errors in a Report	96
Module Review	99
Glossary of Terms	100
Module 2, Worksheet 1 Solution: Visual Basic Statements	102
Module 2, Worksheet 2 Solution: Understanding Visual Basic Statements	103
Module 2, Worksheet 3 Solution: Creating Conditional Logic	104
Module 2, Worksheet 4 Solution: Creating Visual Basic Procedures	106
Module 3, Practice 1 Solution: Using Visual Basic in a Report	108
Module 3, Practice 2 Solution: Using Visual Basic in a Report (End to End)	109