

# Course 80299A:

## What's New - Technical in Microsoft Dynamics AX 2012 for Development

### About this Course

This two-day instructor-led course provides students with an introduction to the new features and functionality in Microsoft Dynamics AX 2012. The purpose of this course is to introduce new features so that participants can learn about the main differences in the software since the last version. This course does not cover functionality that has not changed since the earlier versions of Microsoft Dynamics AX 2012. It assumes course participants have baseline knowledge of the earlier version.

### Audience Profile

This course is intended for experienced systems consultants typically working for a Microsoft Dynamics partner that is selling, consulting, implementing, and supporting Microsoft Dynamics AX 2012.

### At Course Completion

After completing this course, students will be able to:

- Describe the new interface elements in Microsoft Dynamics AX.
- Understand how to use the organization model, and its importance in the implementation process.
- Use and update the help system.
- Describe the Microsoft Office Add-Ins in Microsoft Dynamics AX.
- View work items that are based on specific business documents in one location.
- Discuss improvements made to the document handling feature in Microsoft Dynamics AX 2012.
- Understand how to set up alert rules to work across all organizational structures.
- Understand the different options available when you migrate data between environments.
- Explain the new features and benefits of the Global Address Book (GAB).
- Understand the code upgrade process.
- Demonstrate Models and the SQL Server-based Model repository.
- Discuss the separation of the developer from the application experience as a new workspace.
- Understand the improvements made to the X++ Editor.
- Explain the deployment of label files within a model store.
- Understand how to browse type hierarchies in the application model. This includes table inheritance, by using the Type Hierarchy Browser and Type Hierarchy Context window.
- Discuss the improvements made to the Reverse Engineering Tool.
- Understand the improvements made to the Visual Studio Tools for Microsoft Dynamics AX 2012.
- Write business logic in managed code and integrate with Microsoft Dynamics AX 2012.
- Understand the features that are introduced in Microsoft Dynamics AX 2012 to support the data normalization initiative.
- Discuss date effectiveness and learn how to build date effective forms.
- Discuss the Unit Of Work concept and learn how to enable a group of tables to be treated as a single transaction.
- Discuss the additional improvements made to the data access framework including, Temp DB tables, data caching, query framework, full-text search and effects of disabling tables.
- Explain how the concept of eventing lets the user use a publisher and subscriber model when manifesting changes occurring in the X++ application.
- Understand how services lets the clients interact with and retrieve system information.
- Explain how integration ports help streamlines service deployment.
- Understand the architectural changes in Services and Application Integration Framework (AIF).
- Discuss the improvements made for Enterprise Portal setup and deployment.
- Discuss the improvements for Enterprise Portal security.
- Explain the new user experience and additional user control components in Enterprise Portal.
- Understand how the Business Connectivity Services provides an easy way to integrate Microsoft Dynamics AX business data with SharePoint to provide solutions for end users without writing any code.
- Provide an overview for the improvements made to the security framework and explain Role-based Security.
- Discuss the benefits of the Role-based Security framework.

- Describe the extensible data security framework.
- Explain the improvements made to Microsoft Dynamics AX 2012 Workflow.
- Discuss the new graphical Workflow Editor which is used to model workflows by arranging elements similarly to how a business process is graphically modeled using Microsoft Visio.
- Discuss how to implement a line-item workflow.
- Explain the high-level improvements to Analytics in Microsoft Dynamics AX 2012.
- Understand the developer experience improvements.
- Explain the SQL Server Reporting Services report capabilities in Microsoft Dynamics AX 2012.
- Understand the features added for Visual Studio Reporting Tools for Microsoft Dynamics AX.

### **Course OutlineModule 1: Overview**

This module provides a general overview of the features and benefits of using Microsoft Dynamics AX 2012.

#### **Lessons**

- Introduction
- New User Interface Elements
- Organizational Model
- Help System
- Microsoft Office Add-Ins
- Work Items
- Document Handling
- Alerts
- Global Address Book
- Code Upgrade

After completing this module, students will be able to:

- Describe the new interface elements in Microsoft Dynamics AX.
- Understand how to use the organization model, and its importance in the implementation process.
- Use and update the help system.
- Describe the Microsoft Office Add-Ins in Microsoft Dynamics AX.
- View work items that are based on specific business documents in one location.
- Discuss improvements made to the document handling feature in Microsoft Dynamics AX 2012.
- Understand how to set up alert rules to work across all organizational structures.
- Explain the new features and benefits of the Global Address Book (GAB).
- Understand the code upgrade process.

### **Module 2: MorphX**

This module introduces the new MorphX features in Microsoft Dynamics AX 2012.

#### **Lessons**

- Introduction
- Model Repository
- Development Workspace
- X++ Editor
- Label Files in MorphX
- Type Hierarchy Views
- Reverse Engineering Tool

## Lab : Management of Models

- Create and Use a Model
- Export a Model
- Delete a Model
- Import a Model

After completing this module, students will be able to:

- Demonstrate Models and the SQL Server-based Model repository.
- Discuss the separation of the developer from the application experience as a new workspace.
- Understand the improvements made to the X++ Editor.
- Explain the deployment of label files within a model store.
- Understand how to browse type hierarchies in the application model. This includes table inheritance, by using the Type Hierarchy Browser and Type Hierarchy Context window.
- Discuss the improvements made to the Reverse Engineering Tool.

## Module 3: Development with Visual Studio

This module provides a general overview of the new features and benefits of the Visual Studio Tools in Microsoft Dynamics AX 2012.

### Lessons

- Introduction
- Visual Studio Tools
- Managed Code

### Lab : Visual Studio Tool

- Add a new Model project in Visual Studio

### Lab : Managed Code

- Create X++ Object
- Managed Code
- Research Object Relations

After completing this module, students will be able to:

- Understand the improvements made to the Visual Studio Tools for Microsoft Dynamics AX 2012.
- Write business logic in managed code and integrate with Microsoft Dynamics AX 2012.

**Module 4: Data Access** This module introduces the concept of relational modeling, date effectiveness, Unit of Work, evening and provides a general overview of the new data access features in Microsoft Dynamics AX 2012. **Lessons**

- Introduction
- Relational Modeling
- Date Effectiveness
- Unit of Work
- Data Access Framework

- Eventing

#### **Lab : Create a Date Effective Form**

- Create a Date Effective Table
- Demonstrate Date Gap
- Demonstrate Date Overlap

After completing this module, students will be able to:

- Understand the features that are introduced in Microsoft Dynamics AX 2012 to support the data normalization initiative.
- Discuss date effectiveness and learn how to build date effective forms.
- Discuss the Unit Of Work concept and learn how to enable a group of tables to be treated as a single transaction.
- Discuss the additional improvements made to the data access framework including, Temp DB tables, data caching, query framework, full-text search and effects of disabling tables.
- Explain how the concept of eventing lets the user use a publisher and subscriber model when manifesting changes occurring in the X++ application.

#### **Module 5: Service and Application Integration**

This module provides a general overview of the new features and benefits of the Services and Application Integration module in Microsoft Dynamics AX 2012.

##### **Lessons**

- Introduction
- Services
- Inbound and Outbound Ports
- Architecture

#### **Lab : Create a Service**

- Create the Service
- Create the C# Project

After completing this module, students will be able to:

- Understand how services enable clients to interact with and retrieve system information.
- Explain how integration ports help streamlines service deployment.
- Understand the architectural changes in Services and Application Integration Framework (AIF).

#### **Module 6: Enterprise Portal Framework**

This module provides a general overview how the Enterprise Portal framework has been improved to use several of the infrastructure features added in Microsoft Dynamics AX 2012.

##### **Lessons**

- Introduction
- Deployment and Setup
- Security
- User Experience

- Enterprise Search and Business Data Connectivity Service

### **Lab : Create a List Page**

After completing this module, students will be able to:

- Discuss the improvements made for Enterprise Portal set up and deployment.
- Discuss the improvements for Enterprise Portal security.
- Explain the new user experience and additional user control components in Enterprise Portal.
- Understand how the Business Connectivity Services provides an easy way to integrate Microsoft Dynamics AX business data with SharePoint to provide solutions for end users without writing any code.

### **Module 7: Security**

This module provides a general overview of the new security framework in Microsoft Dynamics AX 2012.

#### **Lessons**

- Introduction
- Role-based Security Overview
- Role-based Security Benefits
- Extensible Data Security Framework

### **Lab : Assign Permission**

- Assign security permissions by using the new Role-based Security framework

After completing this module, students will be able to:

- Provide an overview for the improvements made to the security framework and explain Role-based Security.
- Discuss the benefits of the Role-based Security framework.
- Describe the extensible data security framework.

### **Module 8: Workflow**

This module provides a general overview of the new features and benefits of the workflow module in Microsoft Dynamics AX 2012.

#### **Lessons**

- Introduction
- Overview
- Workflow Editor
- Line-Item Workflows

### **Lab : Create a Work Item Queue**

After completing this module, students will be able to:

- Explain the improvements made to Microsoft Dynamics AX 2012 Workflow.
- Discuss the new graphical Workflow Editor which is used to model workflows by arranging elements similarly to how a business process is graphically modeled using Microsoft Visio.
- Discuss how to implement a line-item workflow.

### **Module 9: Analytics**

This module provides a general overview of the improved administration, setup, and deployment of Analytics in Microsoft Dynamics AX 2012.

#### **Lessons**

- Introduction
- Overview
- Development Information

After completing this module, students will be able to:

- Explain the high-level improvements to Analytics in Microsoft Dynamics AX 2012.

#### **Module 10: Reporting**

This module provides a general overview of the SQL Server Reporting Services report capabilities in Microsoft Dynamics AX 2012.

#### **Lessons**

- Introduction
- Overview
- Development Information

#### **Lab : Create a Simple ReportLab : Create an Advanced Report**

After completing this module, students will be able to:

- Explain the SQL Server Reporting Services report capabilities in Microsoft Dynamics AX 2012.
- Understand the features added for Visual Studio Reporting Tools for Microsoft Dynamics AX.