80303+80304: MICROSOFT DYNAMICS AX 2012 DEVELOPMENT I AND II ACCELERATED

40 Hours

Course Objectives

- » Describe the basic features of Microsoft Dynamics AX 2012.
- » Review basic form navigation.
- » Review the architecture of Microsoft Dynamics AX 2012.
- » Describe the options for making development changes in Microsoft Dynamics AX 2012.
- » Describe the theory of Model Driven Architecture in Microsoft Dynamics AX 2012.
- » Review licensing and configuration.
- » Explain the MorphX development environment and the Application Object Tree.
- » Design tables using MorphX.
- » Describe the different data types within Microsoft Dynamics AX.
- » Create a new table.
- » Learn how to create and modify indexes using MorphX.
- » Describe relations on Microsoft Dynamics AX tables.
- » Learn how to create and modify Enumerated data types.
- » Learn how to create and modify views.
- » Design and build Forms in Microsoft Dynamics AX.
- » Join two data sources on a form.
- » Create customized menus and menu items.
- » Create a form using form templates.
- » Know the components of a list page.
- » Create a new FactBox.
- » Describe the elements of Role Based Security in Microsoft Dynamics AX.
- » Setup a new user.
- » Assign roles to a user.

- » Assign a security role to a user.
- » Edit duties assigned to a role.
- » Edit privileges assigned to a duty.
- » Edit permissions assigned to a privilege.
- » Search for roles with access to a menu item.
- » Identify key features of developing with X++.
- » Describe the basic foundation of object-oriented programming.
- » Use the development tools available within Microsoft Dynamics AX 2012.
- » Create object and data models from existing application elements by using the Reverse Engineering tool.
- » Use best practices to instill good programming habits.
- » Declare and use extended data types for variables.
- » Use the various operators available in X++.
- » Control program flow using conditional statements in X++.
- » Repetitively call the same blocks of code by using Loop statements.
- » Use standard functions that are built in to the application.
- » Use output commands to display data and messages to the user.
- » Use the classes within Microsoft Dynamics AX 2012 X++ development.
- » Control access to methods using Access Control Method Modifiers.
- » Extend a class using the concept of inheritance.
- » Describe the differences between an object and a class.
- » Initialize variables in the appropriate place according to scoping rules.
- » Call methods within the same class.
- » Use the different method types available.
- » Describe the similarities and differences between tables and classes.
- » Use the eventing publisher and subscriber model when modifying code in the application.
- » Retrieve data from the database using a select statement.
- » Create, update and delete data in the database.
- » Use and build queries using kernel classes.
- » Examine the exception handling mechanism in Microsoft Dynamics AX.
- » Use the Try, Catch, and Retry statements.

- » Throw an exception from code.
- » Identify and create code used to handle optimistic concurrency exceptions.
- » Set permissions on application elements.
- » Design and create security policies.
- » Secure unsafe Application Programming Interfaces (APIs) using the Code Access Security framework.
- » Authenticate data returned from display methods.

Course Outline

- Architecture
    a. Introduction
    b. Features of Microsoft Dynamics AX
    c. Architecture
    d. Development Environment
    e. Model Driven Architecture
    f. Licensing and Configuration
- Data Dictionary
    a. Introduction
    b. MorphX and the Application Object Tree
    c. Tables
    d. Data Types: Primitive and Extended
    e. Creating Tables
    f. Indexes
    g. Relations
    h. Base Enumerations
    i. Views
- User Interfaces
    a. Introduction
    b. Forms
    c. Joining Data Sources
    d. Menus Items
    e. Form Templates
    f. List Pages
    g. FactBoxes
- Security
    a. Introduction
    b. Definitions

    c. Set Up a New User
    d. Assign a User to a Role
    e. Change Duties on a Role
    f. Change Privileges on a Duty
    g. Assign a Permission to a Privilege
    h. Investigate Access
- Introduction to X++
    a. Introduction
    b. Characteristics of X++
    c. Development Tools
    d. Reverse Engineering
    e. Best Practices
- X++ Control Statements
    a. Introduction
    b. Introduction to Variables
    c. Operators
    d. Conditional Statements
    e. Loops
    f. Built-in Functions
    g. Communication Tools
- Classes and Objects
    a. Introduction
    b. Classes
    c. Method Access Control
    d. Inheritance
    e. Objects
    f. Scoping and Parameters in X++
    g. Methods
    h. Referencing Object Methods
    i. Method Types
    j. Table as Classes
    k. Eventing
- Accessing the Database
    a. Introduction
    b. Retrieving Data
    c. Data Manipulation
    d. Queries
- Exception Handling

a. Introduction
b. Exceptions
c. Try and Catch Exceptions
d. Throwing Exceptions
e. Optimistic Concurrency Exceptions

- Security for Developers
  a. Introduction
  b. Permissions
  c. Security Policies
  d. Code Access Security
  e. Display Method Authorization