

# Exam MB-500: Microsoft Dynamics 365: Finance and Operations Apps Developer – Skills Measured

## Plan Architecture and Solution Design (10-15%)

### Identify the major components of Dynamics 365 Finance and Operation

- select application components and architecture based on business components
- identify architectural differences between the cloud and on-premises versions of Dynamics FO
- prepare and deploy the deployment package
- identify components of the application stack and map them to the standard models
- differentiate the purpose and interrelationships between packages, projects, models, and elements

### Design and implement a user interface

- describe the Dynamics 365 FO user interface layout and components
- design the workspace and define navigation
- select page options
- identify filtering options

### Implement Application Lifecycle Management (ALM)

- create overlayered and extension models
- configure the DevOps source control process
- describe the capabilities of the Environment Monitoring Tool within Lifecycle Services (LCS)
- select the purpose and appropriate uses of LCS tools and components
- research and resolve issues using Issue Search
- identify activities that require asset libraries

## Apply Developer Tools (10-15%)

### Customize Dynamics 365 FO by using Visual Studio

- design and build projects
- manage metadata using Application Explorer
- synchronize data dictionary changes with the application database
- create elements by using the Element Designer

### Manage source code and artifacts by using version control

- create, check out, and check in code and artifacts
- compare code and resolve version conflicts

### **Implement D365 FO framework functionality**

- implement the SysOperation framework
- implement asynchronous framework
- implement workflow framework
- implement the unit test framework
- identify the need for and implement the Sandbox framework

## **Design and Develop AOT Elements (20-25%)**

### **Create forms**

- add a new form to a project and apply a pattern (template)
- configure a data source for the form
- add a grid and grid fields and groups
- create and populate menu items
- test form functionality and data connections
- add a form extension to a project for selected standard forms

### **Create and extend tables**

- add tables and table fields to a project
- populate table and field properties
- add a table extension to a project for a table
- add fields, field groups, relations, and indices

### **Create Extended Data Types (EDT) and enumerations**

- add an EDT to a project and populate EDT properties
- add an enumeration to a project
- add or update enumeration elements
- add or update enumeration element properties
- add an extension of EDT and enumerations

### **Create classes and extend AOT elements**

- add a new class to a project
- create a new class extension and add new methods
- add event handler methods to a class

## **Develop and Test Code (10-15%)**

## **Develop X++ code**

- identify and implement base types and operators
- implement common structured programming constructs of X++
- create, read, update, and delete (CRUD) data using embedded SQL code
- identify and implement global functions in X++
- ensure correct usage of Display Fields
- implement table and form methods

## **Develop object-oriented code**

- implement X++ variable scoping
- implement inheritance and abstraction concept
- implement query objects and QueryBuilder
- implement attribute classes
- implement chain of command

## **Implement Reporting (10-15%)**

### **Describe the capabilities and limitations of reporting tools in Dynamics 365 FO**

- create and modify report data sources and supporting classes
- implement reporting security requirements
- describe the report publishing process

### **Design, create, and revise Dynamics Reports**

- create and modify reports in Dynamics 365 FO that use SQL Server Reporting Services (SSRS)
- create and modify reports in Dynamics 365 FO by using Power BI
- create and modify reports in Dynamics 365 FO by using Microsoft Excel

### **Design, create, and revise Dynamics workspace**

- design KPIs
- create drill-through workspace elements
- implement built-in charts, KPIs, aggregate measurement, aggregate dimension, and other reporting components

## **Integrate and Manage Data Solutions (10-15%)**

### **Identify data integration scenarios**

- select appropriate data integration capabilities
- identify differences between synchronous vs. asynchronous scenarios

## **Implement data integration concepts and solutions**

- develop a data entity in Visual Studio
- develop, import, and export composite data entities
- identify and manage unmapped fields in data entities
- consume external web services by using OData and RESTful APIs
- integrate Dynamics 365 FO with Excel using OData
- develop and integrate Microsoft Flow and Power Apps

## **Implement data management**

- import and export data using entities between D365 FO and other systems
- monitor the status and availability of entities
- enable Entity Change Tracking
- set up a data project and recurring data job
- design entity sequencing
- generate field mapping between source and target data structures
- develop data transformations

## **Implement Security and Optimize Performance (10-15%)**

### **Implement role-based security policies and requirements**

- create or modify duties, privileges, and permissions
- enforce permissions policy
- implement record-level security by using Extensible Data Security (XDS)

### **Apply fundamental performance optimization techniques**

- identify and apply caching mechanisms
- create or modify temp tables for optimization
- determine when to use set-based queries and row-based queries
- modify queries for optimization
- modify variable scope to optimize performance
- analyze and optimize concurrency

### **Optimize user interface performance**

- diagnose and optimize client performance by using browser-based tools
- diagnose and optimize client performance by using Performance Timer