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

Audience Profile

Candidates for this exam are developers who work with Finance and Operations apps in Microsoft Dynamics 365 to implement and extend applications to meet the requirements of the business. Candidates provide fully realized solutions by using standardized application coding patterns, extensible features, and external integrations.

Candidates are responsible for developing business logic by using X++, creating and modifying Finance and Operations reports and workspaces, customizing user interfaces, providing endpoints and APIs to support Power Platform apps and external systems, performing testing, monitoring performance, analyzing and manipulating data, creating technical designs and implementation details, and implementing permission policies and security requirements.

Candidates participate in the migration of data and objects from legacy and external systems, integration of Finance and Operations apps with other systems, implementation of application lifecycle management process, planning the functional design for solutions, and managing Finance and Operations environments by using Lifecycle Services (LCS).

Candidates should have a deep knowledge and experience using the underlying framework, data structures, and objects associated with the Finance and Operations solutions.

Candidates should have experience with products that include Visual Studio, Azure DevOps, LCS tools, SQL Server Management Studio.

Candidates should have experience in developing code by using object-oriented programming languages, analyzing and manipulating data by using Transact-SQL code, and creating and running Windows PowerShell commands and scripts.

Plan architecture and solution design (10-15%)

Identify the major components of Dynamics 365 Finance and Dynamics 365 Supply Chain Management

- **select application components and architecture based on business components**
- **identify architectural differences between the cloud and on-premises versions of Finance and Operations apps**
- **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 Finance and Operations user interface layouts and components**
- **design the workspace and define navigation**
- **select page options**
- **identify filtering options**

Implement Application Lifecycle Management (ALM)

- **create 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 Finance and Operations apps 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 Finance and Operations app 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**
- **describe the capabilities of the Electronic reporting (ER) tool**

Describe the differences between using Entity store and Bring your own database (BYOD) as reporting data stores.

Design, create, and revise Dynamics Reports

- **create and modify reports in Finance and Operations apps that use SQL Server Reporting Services (SSRS)**
- **create and modify Finance and Operations apps reports by using Power BI**
- **create and modify Finance and Operations apps reports 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 Finance and Operations apps with Excel by using OData**
- **develop and integrate Power Automate and Power Apps**

Implement data management

- **import and export data using entities between Finance and Operations apps 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**