COURSE OVERVIEW

Course Name:
(MS-600) Building Applications and Solutions with Microsoft 365 Core Service

COURSE DURATION: 5 Days

Gauteng:
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INTRODUCTION

The Building applications and solutions with Microsoft 365 core services course is designed for persons who are aspiring to the Microsoft Teams Application Developer role. In this course, students will learn how to build collaboration solutions leveraging 4 central elements of the Microsoft 365 platform: implementing Microsoft identity, working with Microsoft Graph, extending and customizing Microsoft 365 with SharePoint Framework, and building applications for Microsoft Teams. In Implement Microsoft identity, students will learn to implement Microsoft identity including registering an application, implementing authentication, configuring permissions to consume an API, and creating a service to access Microsoft Graph. In Work with Microsoft Graph, students will learn how to access user data, explore query parameters, manage a group lifecycle, access files, and optimize network traffic using Microsoft Graph. In Extend and customize Microsoft 365 with SharePoint Framework, students will learn about SharePoint Framework web parts, extensions, and how to package and deploy a SPFx solution. In Build apps for Microsoft Teams, students will look at the components of a Teams App, work with webhooks, tabs, conversational bots, and other Microsoft Teams app capabilities. They will also learn to deploy Microsoft Teams apps.

INTENDED AUDIENCE

Students in this course are interested in the Microsoft 365 development platform or in passing the Microsoft Teams Application Developer Associate certification exam. Students should also have 1-2 years experience as a developer. This course assumes students know how to code and have a basic understanding of REST APIs, JSON, OAuth2, OData, OpenID Connect, Microsoft identities including Azure AD and Microsoft accounts, Azure AD B2C, and permission/consent concepts.

PREREQUISITES

Learners should start this course already having the following skills:

- Basic conceptual understanding of Microsoft Azure.
- Experience with Windows 10 devices.
- Experience with Office 365.
- Basic understanding of authorization and authentication.
- Basic understanding of computer networks.
- Working knowledge of managing mobile devices.

COURSE CONTENT

Getting Started with Microsoft Identity

Microsoft identity platform is an evolution of the Azure Active Directory (Azure AD) developer platform. It allows developers to build applications that sign in users, and access resources in both external applications such as Microsoft Office 365, the Azure portal, and thousands of other SaaS applications as well as internal resources, such as apps on your corporate network and intranet, along with any cloud apps developed by your own organization. In this module, you will learn the basics of Microsoft identity including the different types of tokens, account types, and supported topologies.

Application types in Microsoft identity

The Microsoft Identity platform enables developers to build many different types of applications to satisfy diverse business requirements and different scenarios. By supporting multiple OAuth 2.0 standard authentication protocols, developers can create different types of applications that meet business needs including single page applications, web apps, mobile or native apps, and services or daemon apps. In this module, you'll learn how you can implement different OAuth 2.0 protocol grant types (flows) in popular application types.

Permissions and Consent Framework

The Microsoft identity platform implements the OAuth 2.0 authorization protocol. This protocol is a method that a third-party app can access web-hosted resources on behalf of a user. The web-hosted resources can define a set of permissions that you can use to implement functionality in smaller chunks. Developers can leverage one of two types of permissions supported by the Microsoft identity platform depending on the app scenario. In this module, you'll learn the different types of permissions and consent framework models for obtaining permissions from users to use them in apps.

Secure custom APIs with Microsoft Identity

Many solutions involve creating web APIs to expose functionality to different clients and consumers. Developers can secure these APIs using Microsoft identity to ensure only approved apps can access the web APIs provided they've been granted the necessary permissions. In this module, you'll learn how to secure a web API with Microsoft identity and how to call it from another application.

Work with users, groups, and roles in custom apps and APIs

Role-based access control (RBAC) is a popular mechanism to enforce authorization in applications. The administrator assigns roles to different users and groups to control who can access to what content and functionality. Using RBAC with Application Roles and Role Claims, developers can securely enforce authorization in their apps with little effort on their part. Another approach is to use Azure AD Groups and Group Claims. In this module, you'll learn how to use both Azure AD Groups and Application Roles to provide fine grained access control to an application.

Optimize data usage when using Microsoft Graph with query parameters

Microsoft Graph provides a unified programmability model that you can use to build apps for organizations and consumers that interact with the data of millions of users. The Microsoft Graph REST APIs implements many of the OData protocol's query parameters. In this module, you'll learn how to manipulate queries using query parameters.

Optimize network traffic with Microsoft Graph

Microsoft Graph provides a unified programmability model that you can use to build apps for organizations and consumers that interact with the data of millions of users. In this module, students will learn how Microsoft has implemented throttling to Microsoft Graph to limit the overuse of Microsoft Graph resources. Students will learn how to avoid requests from being throttled, and how to properly handle scenarios when Microsoft Graph throttles high user traffic in a graceful way.

Access User Data from Microsoft Graph

Users are the core of most operations in Microsoft 365. Microsoft Graph enables developers full control over the lifecycle of users in Microsoft 365 including creating, updating, and deleting users and to listing users in the organization. In this module, you'll learn how to use Microsoft Graph to work with users in Microsoft 365 including the required permissions.

Manage Group Lifecycle with Microsoft Graph

Groups are collections of users who share access to resources in Microsoft services or in your apps. Developers can use Microsoft Graph to create and manage different types of groups. In this module, you'll learn how to manage the lifecycle of groups, the different types of groups and obtain information about the users associated with a group using Microsoft Graph.

Access Files with Microsoft Graph

OneDrive is the files hub for Office 365. OneDrive enables users to access and collaborate on files no matter where they're stored. Microsoft Graph enables developers to use a single API to work with the files in OneDrive. Files in Office 365 are stored in drives. Users can store files in a personal drive, their OneDrive, or in a shared drive powered by a SharePoint document library. In this module, you'll learn how to access files in OneDrive, both reading and writing files, and how to traverse relationships between files and users.

Use Change Notifications and Track Changes with Microsoft Graph

Microsoft Graph enables developers to consume user information stored in Microsoft 365 in custom applications. Data is retrieved from Microsoft Graph through a REST API or using one of the various native SDKs provided by Microsoft. In this module, you'll learn how to work with change notifications (webhooks) & track changes (delta query) in the Microsoft Graph.

Introduction to customizing and extending SharePoint

SharePoint is an extensible platform you can customize and extend with the SharePoint Framework and multiple APIs available to developers. In this module, developers learn what customizations and extensibility points are available to them with the SharePoint Framework, and determine if it's right for you.

Introduction to building apps for Microsoft Teams

Microsoft Teams is an extensible platform you can build custom apps on. Understand what is possible with a Microsoft Teams custom app, and determine if it's right for you.

Task-oriented interactions in Microsoft Teams with messaging extensions

In this module, you'll learn how to create different types of messaging extensions in a custom Microsoft Teams app.

Create embedded web experiences with tabs for Microsoft Teams

Tabs are Microsoft Teams-aware webpages embedded in Microsoft Teams. They can be added as part of a channel or a group chat inside a team or as a personal app for an individual user. As part of your app, you can add custom tabs to embed your own web content in Teams. Two types of tabs are available in Teams, channel/group and personal. In this module, you'll learn how to create tabs and add them to your Microsoft Teams app.

Create interactive conversational bots for Microsoft Teams

Conversational bots allow users to interact with your web service through text, interactive cards, and task modules. Conversational bots can be scoped to handling a few simple commands or complex, artificial intelligence powered and natural language processing virtual assistants. They can be one aspect of a larger application, or completely stand alone. In this module, you'll learn how to create and add bots to custom Microsoft Teams apps.

Collect Input in Microsoft Teams with Task Modules

Task modules are modals that you can populate with either an Adaptive Card or an embedded web/content page for use in your custom Microsoft Teams app's user experience for workflows that require data input. Task modules allow you to gather information in a Teams-aware popup. In this module, you'll learn how to create and add task modules to your Microsoft Teams app.

Connect web services to Microsoft Teams with webhooks and Office 365 Connectors

Webhooks and connectors are a simple way to connect your web services to channels and teams inside Microsoft Teams. Outgoing webhooks allow your users to send text messages from a channel to your web services. Connectors allow users to subscribe to receive notifications and messages from your web services. There are two types of connectors available in Microsoft Teams: incoming webhooks and Office 365 connectors. In this module, you'll learn about webhooks and connectors and how to implement them in Microsoft Teams channels.

Microsoft Teams – Use the teamwork Microsoft Graph endpoint

Microsoft Teams is the ultimate hub for teamwork & intelligent communications. Microsoft Teams delivers chat-based collaboration, meetings, calling, and enterprise voice features. Developers can tap into the power of Microsoft Teams with Microsoft Graph to integrate your custom applications. In this module, you'll learn how to use Microsoft Graph to interact with Microsoft Teams.

Microsoft Teams – Authentication and Single Sign-on

Developers can create Microsoft Teams apps to create new experiences for their users and integrate with existing business solutions. When custom applications need to access user information protected by Azure AD, and data from other services, apps will need to establish a trusted connection with these providers. In this module, you'll learn about the different authentication flows supported by Microsoft Teams that you can use in your custom apps.

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Create interactive meeting apps for Microsoft Teams

Meetings enable collaboration, partnership, informed communication, and shared feedback. The meeting app can deliver a user experience for each stage of the meeting lifecycle. Meeting lifecycle includes pre-meeting, in-meeting, and post-meeting app experience, depending on the attendee's status. In this module, you'll learn how to create custom apps to be used in Microsoft Teams meetings.

Distribute your Microsoft Teams app

Use the Developer Portal to modify app definitions and manage app packages. Leverage the Microsoft Teams Framework (TeamsFx) to set up CI/CD pipelines and automate deployment.

Monitor and maintain Microsoft Teams solutions

Leverage Microsoft Purview's risk and compliance solutions and Application Insights to understand how users are interacting with your app. Use Azure Log Analytics and other Azure Monitor tools to analyze log data from your application.

DELIVERY METHOD

Our courses have flexible delivery options:

- In-person classroom training at the Impactful training facilities
    - Johannesburg, Durban, Cape Town
- Virtual instructor-led training
- Nationally: on-site at the client

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