



Building Ai Applications and Agents for Microsoft 365

Best Practices Guide

Executive Summary

With its robust ecosystem of cloud-based services, APIs, and integration capabilities, Microsoft 365 provides a powerful platform for building intelligent AI agents that can streamline workflows, enhance decision-making, and transform how we interact with technology.

This book, *Building AI Agents with Microsoft 365*, is your guide to unlocking the potential of AI within the Microsoft 365 environment. Whether you're a developer, IT professional, business leader, or curious innovator, this book will equip you with the knowledge and practical tools to create AI agents that automate tasks, provide actionable insights, and deliver personalized experiences.

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Executive Overview

Microsoft 365 has matured into a powerful platform for AI-driven applications and autonomous agents. Built on Microsoft 365 Copilot and Microsoft Graph, organizations can now create specialized agents using low-code, no-code, and pro-code tools.

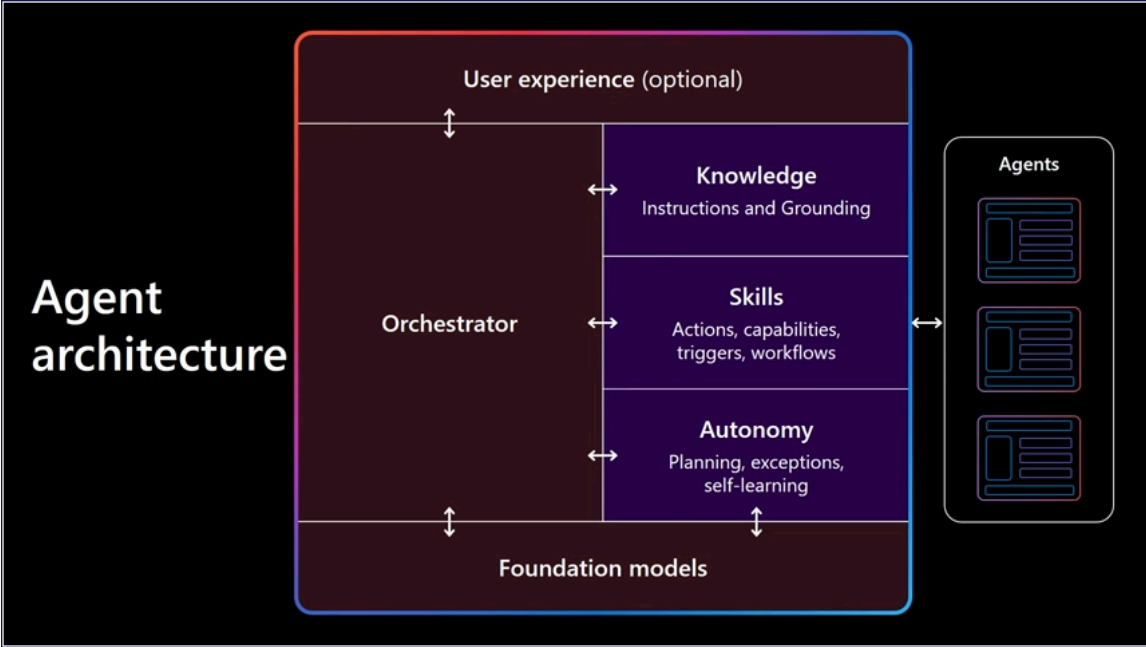
These agents automate workflows, reason over enterprise data, and connect with external systems while maintaining strong security, compliance, and governance.

Custom agents go beyond standard Copilot by delivering specialized knowledge for unique processes, executing actions across Microsoft 365 and third-party tools, supporting multi-step autonomy, and integrating seamlessly into Teams, Outlook, SharePoint, or external channels.

Key benefits include higher productivity, reduced manual work, better decisions, and centralized management of agent fleets through Microsoft Agent 365.

Core Concepts

Agents are specialized AI assistants with three main elements: knowledge (instructions, documents, Graph data, or connectors), actions (APIs, Power Automate flows, or plugins), and an orchestrator powered by models.



Declarative agents customize Copilot’s existing orchestrator with tailored instructions and capabilities, making them fast to build and fully compliant. Custom engine agents let developers bring their own models and logic from Azure AI for advanced scenarios

like complex reasoning or multi-agent systems.

Tools and Platforms

Microsoft Copilot Studio is the main low-code platform for building, testing, and publishing agents using natural language. Agent Builder allows business users to create simple agents directly in Copilot.

Pro-code developers use the Agents SDK, Semantic Kernel for orchestration, and Azure AI Foundry for advanced work. Extensibility comes from OpenAPI plugins, Microsoft Graph Connectors, and Power Automate. Microsoft Agent 365 serves as the central hub for registration, monitoring, security policies, and governance across all agents.

Understanding Microsoft 365 Copilot Extensibility

[Microsoft 365 Copilot Extensibility](#) empowers developers to enhance the AI-driven capabilities of Microsoft 365 Copilot, a powerful productivity tool integrated across applications like Word, Excel, PowerPoint, Outlook, and Teams.

By leveraging advanced large language models, such as GPT-4, and connecting to organizational data through Microsoft Graph, Copilot delivers context-aware assistance, automates tasks, and provides real-time insights while maintaining enterprise-grade security, compliance, and privacy standards.

Extensibility allows organizations to customize Copilot to meet specific business needs, creating tailored experiences that streamline workflows and boost productivity.

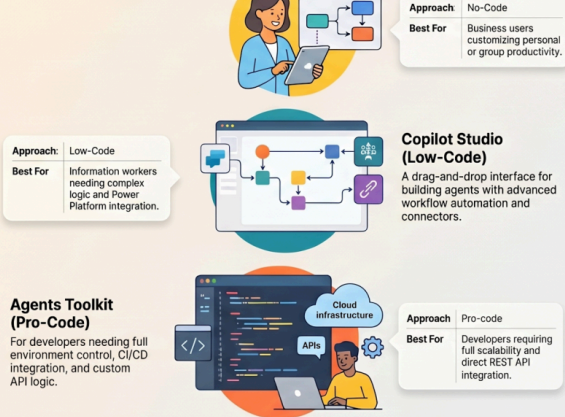
Build Agents, Your Way: The Microsoft AI Agent Ecosystem

Microsoft provides a comprehensive "Agent Factory" enabling users to build intelligent assistants tailored to specific business needs. The ecosystem supports a range of technical expertise—from no-code business tools to pro-code developer kits—all managed through a unified security and governance control plane.

Choosing Your Development Path

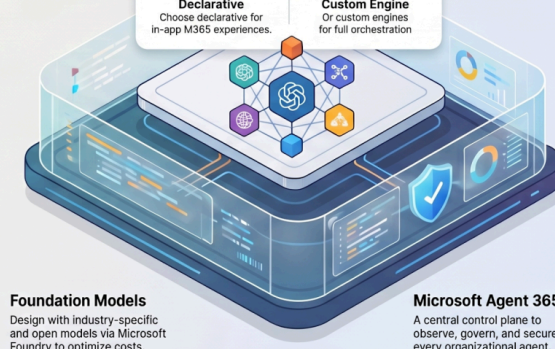
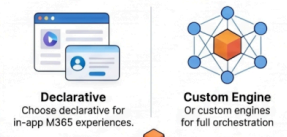
No-Code to Pro-Code Tooling

Select from Agent Builder, Copilot Studio, or the Agents Toolkit based on skill level.



Architecture and Governance

Declarative vs. Custom Engine Agents



Foundation Models
Design with industry-specific and open models via Microsoft Foundry to optimize costs.

Microsoft Agent 365
A central control plane to observe, govern, and secure every organizational agent.

At its core, Copilot extensibility enables the creation of custom agents, connectors, and plugins. Declarative agents, built using low-code platforms like Copilot Studio, allow developers to craft AI assistants that perform tasks or retrieve data based on organizational knowledge, such as SharePoint files or external systems.

For more complex scenarios, custom engine agents offer advanced customization by incorporating proprietary orchestrators and models, ideal for specialized workflows like financial approvals or multimodal integrations.

Connectors

Connectors play a vital role by linking Copilot to external data sources, such as CRM platforms or custom databases, enabling seamless access to enterprise information.

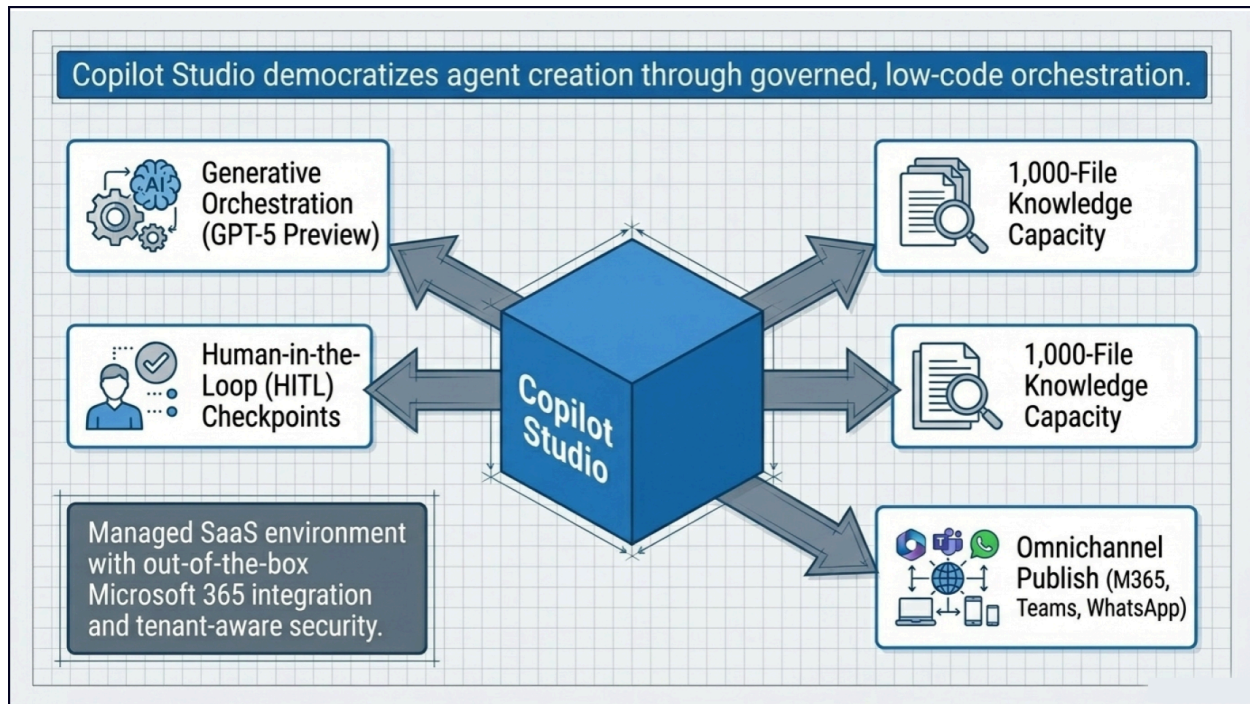
Additionally, Copilot APIs, including the prerelease Copilot Retrieval API, allow developers to integrate Copilot's capabilities into bespoke applications, enhancing functionality with real-time data retrieval and automation.

This extensibility framework supports both low-code and pro-code development, making it accessible to beginners and experienced developers alike. Tools like Copilot Studio simplify agent creation, while the Microsoft 365 Agents Toolkit and Visual Studio Code cater to advanced integrations. By adhering to Microsoft's security and compliance standards, developers can ensure safe and scalable solutions.

Copilot Studio

[Microsoft Copilot Studio](#) is a low-code, conversational AI platform designed to create and manage custom AI agents that enhance productivity across Microsoft 365 applications like Teams, Word, Excel, and Outlook.

It enables both non-technical users and developers to build tailored agents for tasks such as automating customer support, HR queries, or IT assistance.



The platform's intuitive interface supports natural language input and drag-and-drop functionality, making agent creation accessible, while offering advanced customization through integration with Azure AI, Power Platform connectors, and over 1,800 AI models, including DeepSeek R1, for complex scenarios.

Key capabilities of Copilot Studio center on agent creation and customization. Users can describe agents in plain language or leverage a visual designer to define instructions, conversation topics, knowledge sources, and available tools.

AI assists throughout the process by generating and refining topics. Agents draw from documents, websites, databases, and APIs, and they can invoke flows, prompts, code interpreters, or collaborate with other agents in multi-agent orchestration scenarios.

Building Autonomous Ai Agents

Microsoft Copilot Studio enables organizations to [build autonomous AI agents](#) that

perceive events, reason, plan, and execute complex workflows with minimal human intervention. Using low-code tools, triggers, knowledge grounding, and multi-agent orchestration, businesses can automate processes like lead handling and IT operations efficiently and securely.

The Role of the Microsoft 365 Agents Toolkit in Enterprise AI Agent Development

The [Microsoft 365 Agents Toolkit](#) is a pro-developer suite for building, testing, and deploying production-grade AI agents. It complements Copilot Studio by offering full-code control, custom orchestration via the Agents SDK, and seamless integration across Microsoft 365, enabling sophisticated autonomous and multi-agent solutions.

Microsoft 365 Agents Toolkit is the evolution of the Teams Toolkit. It supports two types of agents: **Declarative agents:** Low-code solutions that use Copilot's built-in orchestration for rapid development, and **Custom engine agents:** Pro-code agents for complex scenarios requiring custom logic and deep integrations.

These agents connect to SharePoint, OneDrive, and external systems via Copilot connectors, and integrate with Microsoft Graph and Power Platform. They enable intelligent automation for IT support, HR queries, customer service, and other workflows with rich context across Microsoft 365. The toolkit's flexibility drives adoption.

Develop in Visual Studio or VS Code using C#, JavaScript, or Python. Use declarative agents for fast, minimal-code deployment—or custom agents for bespoke solutions, easily hosted on Azure for scale.

Power Flow

Microsoft 365 Copilot and Power Automate share a synergistic relationship in AI app development, as both are integral to enhancing productivity and automation within the Microsoft 365 ecosystem.

Copilot, an AI-powered assistant, leverages large language models and Microsoft Graph to provide context-aware assistance and task automation across applications like Word, Excel, and Teams.

Power Automate, a low-code automation platform, enables users to create workflows that connect apps, services, and data, streamlining repetitive tasks. Together, they empower developers to build intelligent, automated solutions tailored to organizational needs.

In Copilot AI app development, Power Automate enhances extensibility by enabling custom actions within Copilot agents. Developers can use Copilot Studio to create

declarative agents that integrate Power Automate flows as actions, allowing Copilot to trigger automated processes, such as generating reports, sending emails, or updating CRM records, based on user prompts.

For example, a Copilot agent could respond to “Create a support ticket” by invoking a Power Automate flow to log the ticket in an external system. This integration is facilitated through connectors, with Power Automate offering over 1,000 prebuilt connectors to services like SharePoint, Salesforce, or custom APIs, which Copilot can leverage to access and act on data.

Conversely, Copilot enhances Power Automate by providing AI-driven insights and natural language interaction. Users can initiate flows through Copilot’s chat interface, making automation more accessible.

For instance, a user might ask Copilot to “schedule a meeting and notify the team,” prompting a Power Automate flow to create calendar events and send notifications.

Connectors

The relationship between Microsoft 365 Copilot AI app development and Power Automate is deeply integrated, as Power Automate’s connectors and automation capabilities enhance Copilot’s ability to create intelligent, workflow-driven applications within the Microsoft 365 ecosystem.

Copilot, an AI-powered assistant, leverages large language models and Microsoft Graph to provide context-aware assistance across applications like Word, Excel, PowerPoint, Outlook, and Teams. Power Automate, a low-code platform, automates repetitive tasks by connecting apps, services, and data through a vast library of connectors.

Together, they enable developers to build AI-driven apps that combine Copilot’s natural language processing with Power Automate’s robust automation, streamlining business processes.

Power Automate Connectors in Copilot Development

Power Automate connectors are prebuilt or custom integration points that link Power Automate to various services, enabling data exchange and task automation.

Power Automate offers over 1,000 connectors, categorized as Standard (included with Microsoft 365 subscriptions) and Premium (requiring additional licensing), covering Microsoft 365 apps (e.g., SharePoint, OneDrive, Teams), third-party services (e.g., Salesforce, Dropbox), and custom APIs. In Copilot AI app development, connectors are critical for extending functionality:

- **Integration with Copilot Agents:** In Copilot Studio, developers can embed Power Automate flows as actions within declarative agents. For example, a Copilot agent handling “Submit expense report” can trigger a Power Automate flow to validate data, update a SharePoint list, and send approval notifications. This integration allows Copilot to execute complex workflows via natural language prompts.
- **Data Grounding:** Connectors enable Copilot to access external or organizational data, such as CRM records or SharePoint files, ensuring AI responses are contextually relevant. For instance, a sales agent can use a Salesforce connector to fetch customer data, grounding Copilot’s responses in real-time information.
- **Custom Connectors:** When prebuilt connectors don’t suffice, developers can create custom connectors for proprietary APIs or niche services, expanding Copilot’s reach. These connectors, built using REST or SOAP APIs, integrate with Copilot Studio or pro-code environments, supporting tailored workflows. Recent enhancements, like Azure Key Vault integration for secure credential storage and environment variables for easier management, simplify custom connector deployment.

How Connectors Enhance Copilot Apps

- **Automation:** Connectors automate tasks like document approvals, data updates, or notifications, reducing manual effort. For example, a Copilot agent can use the SharePoint connector to update lists or the Teams connector to post messages, triggered by user queries.
- **Cross-Platform Compatibility:** Connectors work across Power Automate, Power Apps, and Copilot Studio, enabling consistent data flow. A custom connector built for a proprietary system can be reused in a Copilot agent or a Power App, enhancing scalability.
- **Security and Compliance:** Connectors leverage Microsoft Entra ID for secure authentication, ensuring data transfers align with Microsoft 365’s enterprise-grade security. Data loss prevention (DLP) policies and on-premises data gateways further safeguard sensitive information.

Developers can start with Copilot Studio to integrate Power Automate flows into agents, using prebuilt connectors for quick setup or custom connectors for unique needs. For advanced scenarios, Visual Studio Code with the Microsoft 365 Agents SDK supports custom engine agents that incorporate Power Automate flows for complex automation.

Key considerations include testing connectors for authentication (e.g., OAuth 2.0) and ensuring compliance with Conditional Access policies, which may restrict data access. Resources like Microsoft Learn and the Power Platform Community provide tutorials

and best practices for connector integration.

By combining Copilot's AI capabilities with Power Automate's connectors, developers can create intelligent, automated apps that enhance productivity, integrate diverse systems, and deliver tailored user experiences within the Microsoft 365 environment.

MCP

MCP (Model Context Protocol) plays a pivotal role in modern 365 App development by enabling declarative agents in Microsoft 365 Copilot to connect securely to external data sources, tools, and business logic.

Developers define agents primarily through manifests and instructions, then integrate MCP servers as actions. These servers expose capabilities that go beyond text responses, delivering rich interactive UI widgets—like dashboards, forms, charts, and kanban boards—directly inside the Copilot chat interface.

This approach accelerates development, enhances user experiences with dynamic, app-like interactions, and supports enterprise security while allowing modular, reusable components across Microsoft 365 solutions.

In [this tutorial](#) Rabia Williams documents how to build declarative agents powered by MCP servers and rich interactive UI widgets, showing how to create dynamic dashboards, forms, and visualizations directly in Microsoft 365 Copilot chat for enhanced, app-like AI experiences.

Use Cases and Tutorials

Sharepoint Agents

You can build [Sharepoint agents](#) to turn your organization's knowledge into instant, actionable insights.

Agents utilize your existing content to provide accurate and efficient outputs, saving you time and ensuring consistency. Integrate them into Microsoft Teams to facilitate real-time information sharing and collaboration.

How to Build an HR Copilot AI Agent

In [this tutorial](#) Shervin Shaffie, Copilot Principal Technical Specialist at Microsoft, offers a great practice example, where he walks through how to create a powerful HR Copilot AI Agent.

AI agents can provide new hires with essential information, answer common questions, and facilitate a smoother onboarding experience, conduct surveys, analyze feedback, and suggest improvements to enhance employee engagement and satisfaction levels, and recommend personalized training programs based on individual employee performance and development needs.

Encourage a culture of continuous improvement and innovation to leverage AI technology for ongoing HR enhancements. By embracing AI agents in HR functions, organizations can unlock new levels of efficiency, productivity, and employee satisfaction. The future of HR lies in harnessing the power of artificial intelligence to create a more agile and responsive workforce.

In this detailed tutorial, you'll learn:

- ❖ How to build an HR Copilot Agent from scratch.
- ❖ Best practices for sharing and editing AI agents within your organization.
- ❖ How to integrate HR knowledge sources in SharePoint for Copilot.
- ❖ Accessing and using the HR Copilot Agent effectively.
- ❖ Copilot licensing requirements and considerations for automation.

Build Microsoft Teams Collaborative Agents as Virtual Colleagues

This [comprehensive tutorial](#) guides developers on building intelligent AI agents as

virtual team members directly within Microsoft Teams.

Using Visual Studio and the new Microsoft 365 Agents Toolkit, it demonstrates how to create powerful custom agents powered by Copilot. The guide covers integrating knowledge from SharePoint, OneDrive, and external data sources, leveraging Microsoft Graph, and connecting via Copilot connectors.

It explores both low-code declarative agents in Copilot Studio and pro-code custom engine agents with Power Automate for advanced automation. Ideal for enhancing team productivity, the article walks through IT support bots, HR assistants, and workflow automation, making AI collaboration seamless inside the Microsoft 365 ecosystem.

Enterprise Deployment

Agent 365

Microsoft [Agent 365](#) serves as a dedicated control plane for managing, securing, and governing AI agents at enterprise scale, rather than another chatbot or standalone productivity tool.

For developers and citizen developers, Agent 365 is an enabler rather than a replacement for building tools. It provides the enterprise “last mile” that turns prototypes into trusted, scalable solutions.

Key roles and benefits:

- **Enterprise-readiness:** Custom agents built in Copilot Studio or other frameworks gain Entra identities, enhanced observability, MCP tooling, and IT-approved templates when extended via Agent 365.
- **Secure deployment:** Developers focus on logic, knowledge, and actions; Agent 365 handles identity, access control, auditing, and policy enforcement at runtime.
- **Governance integration:** Agents can be registered, sponsored, and monitored centrally. This supports compliance teams while allowing innovation.
- **Interoperability:** It works across Microsoft-built, partner, and custom agents, creating a consistent management experience regardless of the underlying framework.
- **Scalability and collaboration:** Agents with their own presence can participate in Teams, handle emails, access approved data, and work in parallel with humans using familiar M365 tools.

This separation of concerns is powerful: development teams accelerate building specialized agents (e.g., a procurement agent, research agent, or industry-specific analyst), while IT/security ensures they operate safely within organizational boundaries.

MCP

Agent 365 serves as the control plane that makes MCP integrations enterprise-ready. It doesn't replace Copilot Studio's MCP capabilities but adds centralized governance, security, identity, observability, and lifecycle management for agent fleets.

Key elements of MCP integration via Agent 365 include Work IQ MCP servers (preview as of mid-2026).

Work IQ is Microsoft's intelligence layer for real-time organizational context (data, memory, inference across M365 and business systems). These MCP servers expose standardized, governed tools for agents.