Roadmap to Intelligent Apps

Practical guidance for leaders seeking to modernize their apps

Contents

Introduction

For business leaders and developers alike, cloud migration represents an accessible path to creating intelligent apps that help increase efficiency and reduce costs. By migrating to the cloud and taking advantage of cloud-native tools and capabilities, you can accelerate the app development process to deliver AI-powered experiences that drive usage and boost satisfaction.

This e-book will provide an overview of intelligent apps so you can start planning your strategy. It includes descriptions of the different components, solutions, and practices to get your business started on its own app transformation, regardless of your headcount or development team capabilities.

What is an intelligent app?

Intelligent apps aren't just a trend. They pose limitless opportunities for delivering more value to your business through increased efficiency, cost savings, improved customer engagement, and more.

Use the list below to brainstorm how to use intelligent apps to transform your organization.

Use intelligent apps to...

- ✓ **Offer highly personalized and seamless experiences** that encourage engagement.

- ✓ **Build custom agents** to provide personalized and instant assistance to employees and customers.

- ✓ **Speed up app development and workflows** to transform your developers' experience.

- ✓ **Accelerate decision-making processes** using real-time data and analytics.

- ✓ **Gather deeper insights** into customer needs and preferences by analyzing user feedback, behavior, and sentiment to deliver more personalized experiences.

- ✓ **Create engaging and human-like interactions** between people and software by adding generative AI capabilities.

Wherever you are in your app journey, Azure has solutions to help you move to the next level.

Chapter 1

Build, modernize, or both?

The first question that comes up when developing an intelligent app strategy is a complex one. **Do you want to build an intelligent app from the ground up?** Or, do you want to modernize and add AI to one of your existing apps? Many organizations will opt for a strategy that makes room for both options.

When building intelligent apps in the cloud, the development team can design them from scratch with AI in mind. This means they can select the most appropriate AI models and algorithms for the task at hand and design the application architecture to support these models. The team can also choose the most appropriate programming languages and frameworks, ensuring the application is scalable, secure, and reliable.

On the other hand, modernizing a legacy app involves bringing the app and its data tiers to the cloud and adding AI capabilities to optimize and enhance its capabilities further. This approach requires carefully analyzing the existing application architecture, data sources, and business processes. The development team must identify which parts of the application can benefit from AI and which AI models and algorithms are most appropriate for these parts. The team must also ensure that the application is compatible with the chosen AI models and algorithms and can handle the increased computational demands of these models.

⊘ **On-demand video |** Building and scaling cloud-native, intelligent applications on Azure and .NET
Watch the episode > (46 minutes)

⊘ **On-demand video |** Cloud-native apps with .NET 8
Watch the episode > (55 minutes)

⊘ **Guide |** Modernizing existing .NET applications
Read the guide >

Intelligent apps use cases

Another early decision is determining how you plan to use your intelligent apps. Review your organization's most pressing needs to narrow potential intelligent app use cases. Below are some possible use cases to help jumpstart your strategy, but keep in mind that there are many others outside of these.

Use cases

AI chatbots
Improve user experiences by speeding up response times to complex queries on the user's channel of choice.

Safety and performance
Analyze real-time data streams to monitor environmental conditions in industrial settings and identify potential risks.

Connected smart products
Smart products, also called connected products, are internet-connected devices offering added functionality and data insights.

Personalized recommendations
Provide tailored recommendations, offers, and discounts based on individual preferences and behaviors.

Customer-centered service and support
Give call centers fast access to customer information so they can act quickly to provide knowledgeable service.

Automated AI agents
AI agents use generative AI capabilities to serve as virtual assistants that can streamline tasks, speed up workflows, and increase software development agility.

Streamlined product discovery
Use an AI-driven search engine to receive instant answers in a natural, conversational manner and receive product recommendations and insights that align with customer needs.

Expedited processing in real-time
Extract data from structured documents and semi-structured documents to expedite invoice processing, claims processing for healthcare, proof of delivery, and online transaction processing.

Optimize data usage
Ingest data from multiple services and data stores into a single data lake all your workloads can access.

Intelligent app stories: Real-world examples

1. Capacity creates the next generation of enterprise search.

2. CallRevu delivers real-time insights for auto dealerships.

3. SymphonyAI accelerates app deployments and minimizes downtime.

Architecture

Build a roadmap for hassle-free app building and modernization

Traditional network architecture uses physical data centers to store digital assets and operate network systems for daily functions. In this setup, user access to data, software, or storage is restricted to the device or official network they're connected to. Traditional computing prioritizes data security by storing sensitive data on-premises, safeguarded by measures like firewalls and encryption.

However, with a more modern setup, cloud architecture gives you on-demand access to shared computing resources such as servers, storage, applications, and services via the internet. Cloud architecture lets you scale resources as needed and effectively handle dynamic workloads without running into failures. Cloud-based applications are designed with a focus on infrastructure development based on automation principles and user-friendly interfaces. In contrast, traditional applications adhere to a three-tier structure encompassing the app logic, presentation, and database tiers.

Steps to modernize your architecture

Transitioning to a cloud architecture involves a structured process divided into three key phases: assessment, planning, and execution.

Assessment. Evaluate your current infrastructure, applications, and data to determine their suitability for migration to the cloud. Assess cloud migration's associated risks, costs, and benefits while selecting the most suitable cloud service provider.
Use the Azure Migrate: Discovery and assessment tool >

Planning. Create a comprehensive migration plan outlining the steps to transfer your applications and data to the cloud. This plan should include timelines, budgets, resource allocations, and contingency strategies.
Build a migration plan with Azure Migrate >

Execution. Implement your migration plan by shifting your applications and data to the cloud. This process entails optimizing your applications to include cloud-native features like scalability, elasticity, and fault tolerance. Ensure that your applications meet security and regulatory requirements during this phase.
Find an Azure support plan for your migration >

Event-driven architecture (EDA)

Event-driven architecture (EDA) is a software architecture paradigm in which an application is built as a collection of autonomous services that can communicate with each other by consuming events. Typically implemented through microservices, EDAs operate in real-time, responding to events or changes in state, spanning from user interactions to instantaneous analytics.

Learn how EDAs work >

Containers

Moving applications from one environment to another can cause them to malfunction. These issues often stem from disparities in configurations, underlying libraries, and dependencies. Containers help avoid malfunctioning by bundling an application or service with its dependencies and configuration into a container image. This containerized application can be assessed as a cohesive unit and deployed as an instance of a container image on the host operating system. Containers help developers and IT experts seamlessly deploy applications across diverse environments, requiring minimal to no adjustments.

Learn how to run containers in a hybrid environment >

Kubernetes services on Azure

Azure Kubernetes Service (AKS) is a fully managed container orchestration service that helps simplify the deployment, scaling, and management of Docker containers and container-based applications within cluster environments. It serves as an open-source platform, automating the essential aspects of containerized application management. AKS is accessible on the Azure public cloud, making it a versatile choice for handling Docker containers and container-based apps at scale within cluster environments.

Get started with AKS using this curated journey >

Azure Container Apps

Azure Container Apps is a cloud-native application platform that lets you deploy applications and microservices from code or containers without the need for intricate infrastructure orchestration. It provides support for open-source technologies, including Dapr for runtime portability and KEDA for scalability, and enables flexible deployment of apps from the cloud to the edge.

Follow these how-to guides for using Azure Container Apps >

Microservices

A microservices architecture is a collection of small, autonomous services that are self-contained and meant to implement a single business capability. Unlike traditional monolithic architectures, microservice architectures are scalable, allowing you to scale individual components of an application independently. They're also more resilient, meaning the application can function normally even if one of the components fails. Because microservices are isolated from each other, developers can make changes to one component without impacting the rest of the application so you can update an existing service without rebuilding and redeploying the entire application.

Explore microservice solution architectures >

Integration

Enable a seamless flow of information between your systems and services

Integrations play a pivotal role in developing intelligent apps, allowing you to easily link different services and data sources for more streamlined and efficient workflows. Using modern cloud-based integrations, you can build intelligent apps capable of highly intricate tasks like image recognition, speech-to-text conversion, language translation, text analytics, sentiment analysis, anomaly detection, recommendation systems, predictive modeling, and more.

Cloud-based integration involves using out-of-the-box connectors and lightweight APIs to connect apps with software as a service, systems, and data. With Azure, you can use pre-built or custom connectors to build or modernize apps using data from on-premises, multicloud, and third-party sources.

Connectors and integrations

1,400

Azure offers **over 1,400 connectors** to connect third-party services with solutions like Microsoft Power Platform, Microsoft Power Query, Microsoft 365, Microsoft Sentinel, and others. **View all published Microsoft connectors >**

Requirement	Azure integration service
You have business processes to orchestrate across multiple systems where you understand their structures well.	**Azure Logic Apps >**
You need to run complex business logic that's better implemented as code instead of workflow expressions. You need to build a centralized utility function that you can access from other integration platform components. You have unique data transformation requirements.	**Azure Functions >**
You need the capability to transform and move large datasets across multiple data sources, such as file systems, databases, SAP, Azure Blob Storage, Azure Data Explorer, and more.	**Azure Data Factory >**
You need a messaging system that supports the publish-subscribe model, ordered delivery, duplicate detection, message scheduling, and message expiration scenarios.	**Azure Service Bus >**
You need an event subscription architecture to stay updated on state changes in one or more applications and systems because your integration solutions depend on events to communicate such changes and make any related data changes.	**Azure Event Grid >**
You want to abstract and protect your underlying service implementation in Azure Logic Apps from end users and consumers.	**Azure API Management >**

▷ Use this video for a quick overview of using the core services mentioned above to integrate your apps with Azure. **Watch now >** (6 minutes)

Data

Manage your data efficiently for rapid app development and deployment

Intelligent apps require data—a lot of it. Today's data comes in different formats, including structured, unstructured, semi-structured, graph data, and more, which complicates app development if you don't have the right tools and processes in place.

Building and modernizing apps requires a strong data management foundation that can collect, store, process, visualize, and integrate data. Fully managed multi-model databases—like Azure Cosmos DB—let you work with data in different formats with limitless scalability, flexibility, and security.

Here's a breakdown of different databases for building and modernizing apps:

Azure Cosmos DB

Azure Cosmos DB is a fully managed, serverless NoSQL and relational database for modern app development. It offers SLA-backed 99.999% availability, single-digit millisecond response times, automatic and instant scalability, and guaranteed speed at any scale. Azure Cosmos DB enables fast, flexible app development with support for multiple SDKs and open-source PostgreSQL, MongoDB, and Apache Cassandra.

Best for building new apps

- ⊘ Single-digit millisecond latency
- ⊘ 99.999% availability
- ⊘ Instant and limitless elastic scalability
- ⊘ Enterprise-grade security
- ⊘ Support for open-source PostgreSQL, MongoDB (including vCore), and Apache Cassandra
- ⊘ Vector search support and integration with Foundry Tools

Azure SQL Database

[Azure SQL Database](#) is a fully managed relational cloud-based database that provides all the features of Microsoft SQL Server with increased scalability and flexibility. It provides a managed environment to simplify provisioning, patching, upgrading, and monitoring.

Best for modernizing .NET applications and SQL Server databases

- ✓ 99.995% availability
- ✓ Always up-to-date
- ✓ Built-in security and compliance
- ✓ Security threat protection
- ✓ Rapid storage scaling up to 100 TB with Hyperscale storage
- ✓ Native support for Azure Functions and Azure App Service

Azure Databases for PostgreSQL

[Azure Database for PostgreSQL](#) is a fully managed, scalable PostgreSQL database service designed for high availability and performance for mission-critical applications. It supports features for geospatial support, rich indexing, and AI-powered intelligent performance optimization and query store.

Best for modernizing Java applications and Oracle databases

- ✓ 99.99% availability
- ✓ Interoperability with Azure App Service and AKS
- ✓ Enterprise-grade security and compliance
- ✓ Compatible with the latest community editions
- ✓ Maximized performance for large databases up to 96 vCores, 672 gigabytes of memory, and 16 TB of storage

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Improve data ingestion and usage for faster intelligent app development
Microsoft Fabric is an end-to-end analytics platform that provides a single logical data lake called OneLake. Using OneLake, all workloads can operate on the same data, eliminating the need to ingest and prepare data for each engine separately.
Learn about Fabric integration pathways for software companies >

AI

Infuse your apps with intelligent human-like capabilities

When considering how to incorporate AI into intelligent apps, it's crucial to pinpoint the specific business challenge your app will address. This initial step will guide you in defining the project's scope and the necessary resources. Next, you'll need to identify the data required to train the machine-learning models that power your intelligent app. This involves determining which data sources to tap into and how to gather and store that data effectively.

Once you've got your data sorted, it's time to select the most suitable machine-learning models for tackling your business problem. This decision will guide your choice of algorithms and the training process. Lastly, consider the infrastructure needed to support your intelligent app, which includes hardware, software, and cloud services.

Foundry Tools and integrated solutions

Foundry Tools
Use this set of cloud-based APIs in AI applications for Language, Speech, Vision, and other services, which require no data and no model training.

Microsoft Foundry
Build generative AI apps and custom agents using prebuilt and customizable open-source AI models.

Azure Document Intelligence in Foundry Tools
Use prebuilt models or create custom models to automatically extract text, key-value pairs, and structures from documents.

Azure Machine Learning
Equip your data scientists, developers, and machine-learning engineers with a diverse toolkit for training, deploying, automating, managing, and monitoring ML models.

Azure OpenAI Service
Use today's most advanced AI models for conversational AI, content creation, and data grounding.

Azure AI Bot Service
Construct, link, deploy, and oversee intelligent bots capable of natural interactions with users across various platforms, including websites, apps, Microsoft Teams, Skype, Slack, Facebook Messenger, and more.

Azure Databricks
Unify your workloads and democratize your data to help data scientists, engineers, and analysts collaborate on datasets for effortless large-scale machine-learning model development.

Microsoft Fabric
Enable real-time analytics and simplify data ingestion across applications, websites, devices, and other sources.

GitHub Copilot and GitHub Enterprise Cloud
Streamline development and speed up release cycles with real-time code completion assistance, workflow automation, and native Azure integrations that accelerate deployment.

What's possible with Azure OpenAI Service?

Generative AI has taken over AI conversations—and it's no mystery why. The ability to generate content and code presents limitless opportunities for meeting business challenges, offering solutions where none were previously possible.

Here are some of the ways businesses are using Azure OpenAI Service to transform operations:

- ✓ Generate high-quality content and design
- ✓ Provide automated IT support
- ✓ Create hyper-personalized marketing campaigns
- ✓ Deliver chatbots and virtual assistants
- ✓ Innovate new products and services
- ✓ Assist with real-time, contextual language translation
- ✓ Deploy fraud detection and security capabilities
- ✓ Enhance predictive analysis and forecasting
- ✓ Improve medical research and diagnosis

Get started with Azure AI with these learning resources

AI learning journey for developers and AI engineers >

Introduction to Foundry >
(1 hour)

Introduction to GitHub Copilot >
(19 minutes)

Develop generative AI solutions with Azure OpenAI Service >
(7 hours 29 minutes)

Quickstart guide for building bots with GPT >

Microsoft Fabric overview, tutorials, and resources >

Explore this self-guided experience to get resources and recommendations based on where you're at in your intelligent app development journey.
Launch app advisor on ISV Hub >

Chapter 6

Software delivery

Deliver your intelligent apps quickly and securely

Software delivery covers the entire journey of providing a software product to customers, including conceptualization, design, coding, testing, and deployment. However, the process is never a straight line from start to finish. It's important to remember that there will always be setbacks—the key is to change tactics when necessary and build on those experiences as you go.

Continuous integration and continuous delivery (CI/CD) tools included in Azure DevOps help teams follow a reliable pathway to building, testing, and deploying intelligent applications. DevOps is a suite of services that includes tools designed to improve team collaboration, streamline build procedures, assist in project management, support testing, and more.

When building and modernizing intelligent apps, follow these basic DevOps principles to avoid setbacks so you can go to market faster:

Automate pipelines with CI/CD
Automation includes release pipelines with DevOps practices like continuous integration (CI), automated testing, and continuous delivery (CD). Automated CI/CD allows teams to release new features and updates to customers without downtime while reducing manual testing and deployment costs.

Deploy frequently
Longer intervals between deployments can lead to a buildup of issues, resulting in what's often referred to as "deployment debt." Instead, divide work into smaller, more frequent deployments and prioritize creating more efficient and reliable deployment tools and pipelines.

Use microservices
Microservices help simplify delivery and provide boundaries for team ownership, allowing them to prioritize features and extend functionalities without affecting other parts of the application.

Chapter 7

Performance monitoring and optimization

Keep intelligent apps running smoothly with every update

Performance monitoring and optimization for cloud applications serve several crucial purposes. Firstly, they ensure the reliability and availability of cloud-based services by helping to identify and address issues before they lead to downtime. Optimization also improves the user experience, offering faster response times and smoother interactions. Moreover, it helps reduce costs by finding resource inefficiencies.

Performance monitoring helps scale applications effectively, understand how they behave under different workloads, and make informed capacity planning decisions. Additionally, it facilitates troubleshooting by providing visibility into application behavior and metrics, reducing downtime during issue resolution. It also promotes resource utilization optimization, enhancing the value derived from cloud infrastructure. Furthermore, performance monitoring plays a role in security by detecting anomalies that may indicate security breaches.

Azure Monitor

Azure Monitor is a comprehensive solution that helps you collect, analyze, and respond to monitoring data from your cloud and hybrid environments so you can maximize the availability and performance of your applications and services. It helps you understand your applications' performance and allows you to manually and programmatically respond to system events.

Azure Monitor collects and aggregates the data from every layer and component of your system across multiple Azure and non-Azure subscriptions and tenants. Then, it stores that data in a common platform for consumption using a common set of tools that can correlate, analyze, visualize, and respond to the data. You can also integrate additional Microsoft and non-Microsoft tools.

Azure Monitor monitors these types of resources in Azure, other clouds, or on-premises environments:

- ✓ Applications
- ✓ Virtual machines
- ✓ Guest operating systems
- ✓ Containers, including Prometheus metrics
- ✓ Databases
- ✓ Security events in combination with
- ✓ Azure Sentinel
- ✓ Networking events and health in combination with Network Watcher
- ✓ Custom sources that use the APIs to get data into Azure Monitor

You can also export monitoring data from Azure Monitor into other systems to integrate with third-party and open-source monitoring and visualization tools, ticketing, and other ITSM systems.

Learn the basics of tracking resource performance with Azure Monitor.
Start the learning module >
(49 minutes)

Chapter 8

Security

Maintain trust and enable confident app innovation with multilayered security

Fraud and security are significant problems in modern app development, from user-facing interfaces to APIs and secured infrastructure.

Multilayered security offers a proactive protection strategy involving different components that each serve a specific function to safeguard operations, IT infrastructure, and services. If one layer of security is breached, other layers are in place to prevent further damage.

Furthermore, fraud detection via machine learning is widely used in banking, e-commerce, and insurance industries. These algorithms learn from training data to recognize suspect behavior at any level of app development and use.

As you build and modernize intelligent cloud-based applications, multilayered security and fraud detection become paramount in defending against cyberthreats and data breaches.

Microsoft Defender for Cloud

Microsoft Defender for Cloud is a cloud-native application protection platform (CNAPP) that protects code-to-cloud against cyberthreats and vulnerabilities. It includes capabilities for protecting cloud servers and databases and uses advanced Microsoft Threat Intelligence data to help identify threats to your storage resources.

Microsoft Defender includes plans that cover a range of needs, including:

① A development security operations (DevSecOps) solution that unifies security management at the code level across multicloud and multiple-pipeline environments.

② A cloud security posture management (CSPM) solution that surfaces actions that you can take to prevent breaches.

③ A cloud workload protection platform (CWPP) with specific protections for servers, containers, storage, databases, and other workloads.

▷ Use this interactive guide for a step-by-step walkthrough of Microsoft Defender for Cloud. **Take the walkthrough >**

Defender for Cloud capabilities:

Security posture monitoring
Visualize and improve security posture proactively

Regulatory compliance
Get compliance benchmarks mapped to industry standards

Fraud detection
Use AI and machine learning to catch fraud throughout your app infrastructure

Attack-path analysis
Discover and prioritize critical risks and contextual threat analysis

Workload protection
Protect workloads from malware across virtual machines, containers, databases, and storage

Vulnerability scanning
Use an agentless or agent-based approach to scanning for vulnerabilities

DevOps posture visibility
Unify visibility into DevOps inventory across multicloud and multiple-pipeline environments

Infrastructure-as-code security
Secure configurations throughout the development lifecycle

Code security guidance
Speed up remediation of critical issues in code

GitHub Advanced Security

GitHub Advanced Security for Azure DevOps is an application security testing service that provides enhanced security to DevSecOps teams so they can innovate quickly and confidently. It includes tools for secret scanning, dependency scanning, and code scanning, and also provides a high-level overview of the security status your repositories' security status.

Cost optimization

Reduce costs across the entire development lifecycle

When building and modernizing applications in the cloud, it's important to keep tight control of expenses. According to a recent Forrester study, a composite customer using Azure solutions was able to get to market up to 1.5 months faster, increase developer efficiency up to 25% and reduce app downtime up to 25%.[1]

Furthermore, using productivity tools like GitHub Copilot has significantly accelerated development, helping developers complete tasks up to 55% faster.[2] Accelerated timelines help reduce development costs and gain early entry into the market.

These results lead to real business benefits by supporting real innovation that helps a company stay competitive in rapidly evolving markets. Other benefits include significant ROI on optimized processes and infrastructure while reducing costs.

Here are some Azure tools designed to help you manage spending and reduce costs:

Microsoft Cost Management helps you monitor and optimize your cloud spending, providing visibility into your usage and costs and helping identify areas where you can save money.

Azure Cost Management

- ✓ Visualize and take control of expenses with cost analysis

- ✓ Implement accountability by creating budgets

- ✓ Use industry best practices for cost optimization

Azure Advisor is a free cloud service that offers personalized guidance for optimizing your Azure deployments. Analyzing your resource configuration and usage data provides actionable recommendations to enhance reliability, security, operational excellence, performance, and cost-effectiveness.

Azure Advisor simplifies remediation with step-by-step guidance and quick actions, assesses your workload architecture with a cloud score, and informs you of available recommendations through alerts. You can prioritize these recommendations based on their relevance to your specific environment and easily share them with your team or stakeholders.

Azure Hybrid Benefit is a licensing offer that reduces the costs of running your workloads in the cloud by allowing you to use your existing on-premises Windows Server and SQL Server licenses with Software Assurance. Using adjacent Azure services and benefits, you can use Azure Hybrid Benefit with Azure benefits and offers such as reservations, Azure savings plan for compute, and Extended Security Updates to maximize cost savings while optimizing business applications.

Azure resources for controlling costs

- ⊘ **Cost optimization checklist >**
- ⊘ **Autoscaling documentation >**
- ⊘ **Resizing virtual machines >**
- ⊘ **Estimate costs for AI and machine learning >**

Discover more opportunities to optimize costs and resources by publishing solutions on the Microsoft commercial marketplace. Earn rewards and credits that can be applied to different benefit tiers like co-selling, demand generation, and sales enablement.

Learn more about Marketplace Rewards >

IT talent and culture

Prepare your teams to embrace intelligent AI app innovation

In your journey to creating intelligent apps, it's important not to overlook the human component. Everyone in your organization will have a different attitude towards AI at the onset, and its leadership's task is to clear the air and set a positive outlook for others.

An AI-ready culture is one where curiosity, experimentation, and continuous learning are encouraged. It involves breaking down traditional silos and promoting cross-functional collaboration between IT professionals, data scientists, and AI specialists. Furthermore, it necessitates a mindset shift, replacing AI hesitancy with an eagerness to explore its potential. Organizational leaders play a pivotal role in driving this cultural transformation by championing AI adoption, providing training and skill development resources, and emphasizing AI's value. Ultimately, embracing AI as an integral part of the IT landscape requires a cultural shift that views AI as an enabler of human innovation rather than a replacement for human talent.

Discover how Foundry simplifies generative AI development and custom agent building.
Learn more >

Change management strategies to establish an AI-ready culture

Effective change management is crucial for a smooth transition to building and modernizing intelligent apps. Strategies involve assessing the impact, communicating benefits, providing training and support, and integrating changes into the culture.

Use these approaches to help foster an innovation-ready culture:

Demonstrate the benefits of AI.
Begin by ensuring everyone on your team understands why they're integrating AI and how it benefits them and the organization. Actively showcase AI's potential to build trust and help ensure IT teams are fully engaged and aligned with your organization's AI-driven goals.

Evaluate existing skill levels.
Begin by assessing existing skill levels and identifying areas lacking expertise. From there, establish a plan for developing skills, like writing effective prompts for LLMs and incorporating the OpenAI programming interface (API) into an intelligent app.

Encourage continuous training.
The AI field will always be evolving. Continuous learning keeps teams up-to-date with the latest AI advancements. It helps them implement, troubleshoot, and optimize their solutions, ultimately leading to more successful and impactful intelligent app development.

Overcome AI hesitancies by listening to concerns. IT team leaders can address concerns regarding AI adoption by embracing Responsible AI standards. Responsible AI is a framework that helps steer the creation and deployment of AI systems to guarantee their safety, reliability, and fairness.

Expand your team's skills and build a culture of AI-readiness

- ✓ Read about the benefits of Azure OpenAI

- ✓ Browse Microsoft assessments

- ✓ Build an AI learning journey with the AI skilling for developers collection on Microsoft Learn

- ✓ Learn more about cultivating a culture for intelligent apps

Using AI systems and capabilities can blur the lines between humans and machines, contributing to hesitancy. Follow these steps to implement responsible AI standards and instill confidence across the board:

- ✓ Clearly define the AI system's scope, identifying potential risks and benefits.

- ✓ Involve stakeholders affected by the AI system in the development process.

- ✓ Make sure the AI system is easily explainable to end users.

- ✓ Test the AI system for bias and discrimination to ensure fairness.

- ✓ Implement appropriate security measures to safeguard user privacy.

- ✓ Establish clear lines of accountability for the AI system's decisions.

Take the next steps: Enable rapid innovation with Azure

Azure offers a complete solutions stack for cloud computing, data analytics, and AI, so you can outshine competitors with differentiating apps and experiences. Just as importantly, itprovides a huge collection of constantly updated resources for learning so your teams cancontinually level up their AI and cloud skills for modern app development.

By combining infrastructure, data, AI, and app solutions from Azure, you can empower your teams to deliver AI-powered experiences while reducing development timelines. Plus, by selling on the Microsoft commercial marketplace, you can extend your solution's reach to more customers and broaden your partner network.

Modernize, customize and Scale AI apps using industry leading models

Try Azure for free >

Learn how to simplify migration and modernization with Azure Migrate

Get started >

Fuel transformation with Microsoft experts and investments

Learn more about Azure Accelerate >

Azure is the trusted partner for companies that want to transform their business with intelligent apps:

25%

Up to 25% increased developer efficiency[3]

40%

40% reduction in application-development-related infrastructure costs[3]

1.5 months

Up to 1.5 months faster time-to-market for new applications[3]

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[1] The Total Economic Impact™ Of Microsoft Azure App Innovation, a commissioned study by Forrester Consulting, June 2023
[2] Research: quantifying GitHub Copilot's impact on developer productivity and happiness. The GitHub Blog, September 2022
[3] The Total Economic Impact Of Microsoft Azure PaaS, a commissioned study by Forrester Consulting, November 2022