Project Readiness Catalog
March 19th 2024

PR-602: Migrate and secure Windows Server and SQL Server (migrate compute)

ESI Blended learning experience for Project Readiness

Participants, as a project team, will learn what they need to know about Microsoft Azure services to plan and execute a migration of compute and applications to Azure. Learners will gain this comprehensive understanding through a combination of engaging lectures, hands-on activities, Microsoft Learn content, and project-focused discussions. Learners will be able to plan which compute services to consume, which are best for hosting their workloads, how to migrate compute, and how to assess and migrate local .NET and web applications to Azure.

Details

Participants in this course will cover these topics:

- Cloud Adoption Framework and the Well-Architected Framework
- Migrating Compute Resources to Azure
- Migrating Applications to Azure
- Optimize and Operate your Cloud Workloads

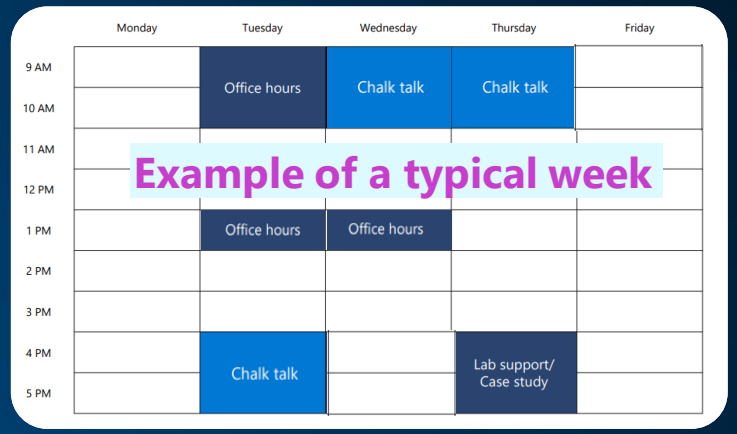
(Source: AZ-305, AZ-800, AZ-801)

Audience

This course is intended for **your IT professionals, Windows administrators, system architects, developers and security engineers** who will work directly in migrating and modernizing infrastructure-based workloads to Azure.

Course format

The ESI blended learning experience empowers learners to choose how and when they learn, across four weeks, regardless of time zone. Learners choose from live or on-demand training, combined with self-study, interactive labs, and chalk talks, within a collaborative community. Learners have two dedicated live sessions per week with our Microsoft Technical Trainers and a Teams course channel that is private to your team.



Prerequisites

Learners attending this course should have the following:

Microsoft Azure Virtual Training Day: Fundamentals

or

Master the basics - Azure Fundamentals (Self-Paced on Microsoft Learn) including:

- Foundational Knowledge of cloud services and how they are implemented in Azure
- Understanding of on-premises virtualization technologies, including virtual machines (VMs), virtual networking, and virtual hard disks
- Understanding of network configurations, including TCP/IP, DNS, firewalls, and encryption technologies
- Understanding of Azure Active Directory (Azure AD) concepts, including users, groups, and role-based access control
- Understanding of resilience and disaster recovery, including backup and restore operations

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Week 1

Foundations: Cloud migration planning
Discover the four main resources used by Microsoft for any development and deployment of a cloud solution and the five pillars of an Azure Well-Architected Framework.

- Getting started with the Microsoft Cloud Adoption Framework for Azure
- Introduction to the Microsoft Azure Well-Architected Framework
- Microsoft Azure Well-Architected Framework - Security
- Microsoft Azure Well-Architected Framework - Reliability
- Microsoft Azure Well-Architected Framework - Performance efficiency
- Microsoft Azure Well-Architected Framework - Operational excellence
- Microsoft Azure Well-Architected Framework - Cost optimization
- Migrate to Azure through repeatable processes and common tools
- Design solutions that align with the Cloud Adoption Framework and Well-Architected Framework
- Design solutions that align with the Microsoft Cybersecurity Reference Architecture (MCRA) and Microsoft cloud security benchmark (MCSB)
- Implement integration between Active Directory Domain Services (AD DS) and Azure Active Directory (Azure AD)
- Overview video: What is MCRA?

Week 2

Migrating compute to Azure
Explore types of cloud deployments and dive deeper into various Azure compute services. You learn to make informed decisions as to which services to migrate based on your current workload state.

- Introduction to Azure Migrate
- Set up Azure Migrate for server migration
- Discover and assess your on-premises servers
- Replicate and migrate virtual machine servers
- Migrate on-premises Windows Server instances to Azure IaaS virtual machines
- Upgrade and migrate Windows Server IaaS virtual machines
- Create Azure resources using Azure Resource Manager templates
- Create Azure resources by using Azure CLI
- Implement Bicep
- Implement Desired State Configuration (DSC)
- Explore Azure Automation with DevOps
- Deploy IaaS solutions with Azure SQL
- Explore infrastructure as code and configuration management
- Containerize and migrate ASP.NET applications to Azure App Service
- Using Windows Admin Center in hybrid scenarios
- Upgrade and migrate in Windows Server
- Migrate Hyper-V virtual machines to Azure by using Azure Migrate
- Compute solutions
- Deployment tools
- Providing compute availability

Week 3

Migrating your applications and data to Azure
Planning and migrating applications to the cloud so that they can be more performant and more resilient.

- Introduction to migrating ASP.NET apps to Azure
- Provision an Azure SQL database to store application data
- Migrate an on-premises web application to Azure App Service
- Design your migration to Azure
- Prepare on-premises workloads for migration to Azure
- Migrate on-premises workloads to Azure
- Host a web application with Azure App Service
- Introduction to Azure database administration
- Evaluate strategies for migrating to Azure SQL
- Migrate SQL workloads to Azure Managed Instances
- Migrate SQL Server workloads to Azure SQL Databases
- Choose the right Azure service for deploying your Java application
- Deploy a Java web app to Azure App Service
- Migrate Java web applications to Azure App Service
- Provision SQL virtual machine
- How should I move to Azure? Rehost or migrate

Week 4

Optimize and operate in the cloud
Operations, security, and cost management are fundamental to every business. Build skills necessary to effectively secure, maintain, monitor, and protect what you've deployed to Azure.

- Introduction to Zero Trust and best practice frameworks
- Design solutions for identity and access management
- Design solutions for securing privileged access
- Explore IaaS and PaaS solutions for high availability and disaster recovery
- Describe high availability and disaster recovery strategies
- Back up and restore databases
- Containerize and migrate ASP.NET applications to Azure Kubernetes Service
- Backup and disaster recovery
- Monitoring your applications

Resources

What is blended learning (flyer)

What is blended learning (video)

What is a blended learning schedule

PR-603: Migrate and secure Windows Server and SQL Server (Migrate Databases)

ESI Blended learning experience for Project Readiness

Participants, as a project team, will learn what they need to know about Microsoft Azure services to plan and execute a migration of databases to Azure. Learners will gain this comprehensive understanding through a combination of engaging lectures, hands-on activities, Microsoft Learn content, and project-focused discussions.

Details

Participants in this course can learn how to:

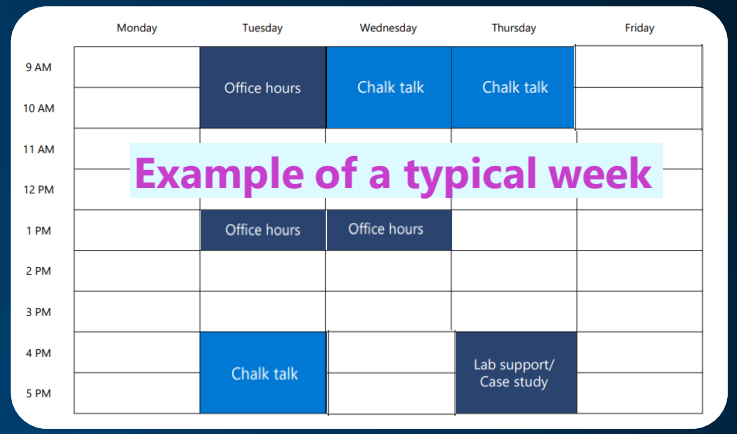
- Compare Azure SQL services.
- Choose tools for migration, including Azure Migrate, Azure Database Migration Service, or Azure Data Factory.
- Plan a database migration effort.
- Migrate to Azure Virtual Machines, Azure SQL, and Azure SQL Managed Instance.
- Secure, monitor, and troubleshoot migrated databases.

Audience

This course is geared toward database administrators, cloud architects and administrators, operations teams, and project managers.

Course format

The ESI blended learning experience empowers learners to choose how and when they learn, across four weeks, regardless of time zone. Learners choose from live or on-demand training, combined with self-study, interactive labs, and chalk talks, within a collaborative community. Learners have two dedicated live sessions per week with our Microsoft Technical Trainers and a Teams course channel that is private to your team.



Prerequisites

Learners who attend this course should have the following skills and experience:

- Completed Course AZ-900: Azure Fundamentals and Course DP-900: Azure Data Fundamentals
- Understanding of common technologies, including virtual machines, virtual networking, TCP/IP, and DNS
- Experience creating resources using the Azure portal
- Understanding of basic SQL language (T-SQL)

PR-603: Migrate and secure Windows Server and SQL Server (Migrate Databases)

ESI Blended learning experience for Project Readiness

Week 1

Foundations: Migration Planning and Tools
explore the Microsoft Azure Well-Architected Framework (WAF) and tooling such as Azure Migrate, Azure Database Migration Service, and Azure Data Factory.

- Getting started with the Microsoft Cloud Adoption Framework for Azure
- Introduction to the Microsoft Azure Well-Architected Framework (WAF)
- AZ-305: Compute Solutions
- Chalk talk #1: Foundational: Getting up to speed
- Microsoft WAF - Security
- Microsoft WAF - Reliability
- Microsoft WAF - Performance efficiency
- Microsoft WAF - Operational excellence
- Microsoft WAF - Cost optimization
- AZ-305: DB Scalability
- Chalk talk #2: Foundational: Cloud Adoption Planning (WAF/CAF)
- Migrate to Azure through repeatable processes and common tools
- Design a SQL Server migration strategy
- Assess SQL Server databases for migration to Azure SQL
- DP-300: SQL Migration Scenarios
- Chalk talk #3: Foundational: Migration Tools for Databases
- Using Windows Admin Center in hybrid scenarios
- Facilitated labs

Week 2

Plan and Migrate SQL Workloads
Use Azure Migrate to directly migrate SQL Servers or virtual machines (VMs) to Azure. You also find out how to assess your database workloads to determine which Azure SQL service best supports their requirements

- Migrate on-premises Windows Server instances to Azure IaaS virtual machines
- Upgrade and migrate Windows Server IaaS virtual machines
- Deploy IaaS solutions with Azure SQL
- DP-300: New Azure SQL Features
- Chalk talk #4: Migrating Server or VM-based SQL
- Evaluate strategies for migrating to Azure SQL
- Migrate SQL workloads to Azure SQL Databases
- DP-300: Ways to deploy SQL in Azure
- Chalk talk #5: Assess and Plan your SQL workload migration
- Deploy PaaS solutions with Azure SQL
- Migrate SQL workloads to Azure Managed Instances
- Chalk talk #6: Migrate to SQL Azure or SQL Managed Instance
- Upgrade and migrate in Windows Server
- Implementing Azure-based recovery services
- Facilitated labs

Week 3

Manage and Optimize Your Azure SQL Environment
Review techniques for Azure SQL Database administration, including performance tuning and automation of repetitive tasks. Includes SQL Agent and data migration using Azure Data Factory.

- Introduction to Azure database administration
- Explore performance-based design
- Automate deployment of database resources
- DP-300: Optimize Query Performance
- Chalk talk #7: Azure Database Administration and Performance Management
- Evaluate performance improvements
- Explore query performance optimization
- DP-300: Monitor and Optimize
- Chalk talk #8: Improving Query Performance/SQL Agent jobs
- Manage Azure PaaS tasks using automation
- Create and manage SQL Agent jobs
- Move data into and out of Azure Cosmos DB for NoSQL
- Data integration with Azure Data Factory
- Execute existing SSIS packages in Azure Data Factory
- Chalk talk #9: Advanced Topics and Data Integration
- Provision SQL virtual machine
- Facilitated labs

Week 4

Optimize and operate in the cloud
Explore and determine whether your migration requires use of Azure compliance features to protect sensitive data. Learn about solutions to reduce downtime or data loss through high availability and disaster recovery planning

- Implement compliance controls for sensitive data
- Explore IaaS and PaaS solutions for high availability and disaster recovery
- Describe performance monitoring
- DP-300: Implement a secure Azure SQL
- Chalk talk #10: Protect Sensitive Data
- Describe high availability and disaster recovery strategies
- Protect data in-transit and at rest
- Configure database authentication and authorization
- DP-300: Implement Effective HA and DR
- Chalk talk #11: Business Continuity - Availability and Recovery
- Configure databases for optimal performance
- Configure SQL Server resources for optimal performance
- Back-up and restore databases
- Chalk talk #12: Security and Authentication
- Facilitated labs

Resources

What is blended learning (flyer)

What is blended learning (video)

What is a blended learning schedule

PR-801: Build and Modernize AI Apps

ESI Blended learning experience for Project Readiness

Learners, as a project team, will gain an understanding of Azure AI services through a combination of Microsoft-delivered lectures, self-study assignments, and hands-on exercises within the ESI blended learning experience. They will learn how to use these Azure AI services to rapidly create intelligent, cutting-edge, and market-ready applications using APIs, large language models, and generative AI solutions in a secure and responsible way. Team members will explore design elements to develop secure code and API usage with Azure features of managed identities, key vault, and API management services.

Details

Participants in this course will cover these topics:

- Gear Up with Azure AI and Developer Services
- Cognitive and Language Services
- Large Language Models (LLMs) and Generative AI
- Prompt Engineering and Advanced Development Tools

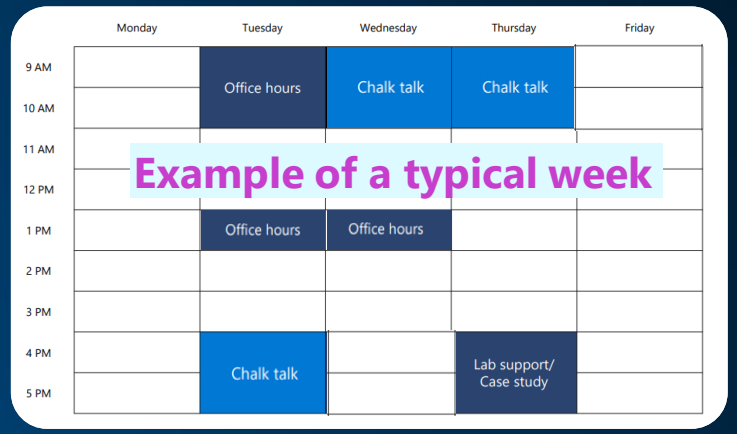
(Source: AI-102, AI-050, AZ-204)

Audience

This course is geared to a multi-disciplinary team **of Azure AI Engineers**, Azure Developers, **Azure Solution Architects**, and **Azure Administrators** who will design, develop, and deploy applications which integrate various Azure AI services

Course format

The ESI blended learning experience empowers learners to choose how and when they learn, across four weeks, regardless of time zone. Learners choose from live or on-demand training, combined with self-study, interactive labs, and chalk talks, within a collaborative community. Learners have two dedicated live sessions per week with our Microsoft Technical Trainers and a Teams course channel that is private to your team.



Prerequisites

This course is geared to a multi-disciplinary team of Azure AI Engineers, Azure Developers, Azure Solution Architects, and Azure Administrators who are participating on a project team to design, develop, and deploy applications which integrate various Azure AI services

Learners attending this course should have the following skills and experience:

- Familiarity with cloud concepts, Azure management tools and basics of software engineering; AZ-900 and AI-900 recommended.
  - Level Up with Azure Fundamentals
- Programming Experience with C# or Python:
  - Take your first steps with C#
  - Python for beginners

PR-801: Build and Modernize AI Apps

ESI Blended learning experience for Project Readiness

Week 1

Gear Up with Azure AI and Developer Services
Introduction to Azure AI services, Azure OpenAI Services, developer tools and methodologies to maintain secure code and API usage.

- Get started with AI on Azure
- Introduction to GitHub
- Introduction to Docker containers
- Improve performance of an API by adding a caching policy in Azure API Management
- Prepare to develop AI solutions on Azure
- AI tools and resources for your business
- Create business value from AI
- Responsible AI principles and practices
- Scale AI in your organization
- Create and consume Azure AI Services
- Secure Azure AI Services
- Monitor Azure AI Services
- Deploy Azure AI services in containers
- Implement Azure Key Vault
- Implement managed identities
- Explore API Management
- Monitor app performance
- Get Started with Cognitive Services [AI-102]
- Manage Cognitive Services Security [AI-102]
- Monitor Cognitive Services [AI-102]
- Use a Cognitive Services Container [AI-102]
- Implement secure Azure Solutions [AZ-204]
- Implement API Management [AZ-204]
- Troubleshoot solutions by using Application Insights [AZ-204]
- Secrets and Configuration Stores [AZ-204]
- Monitoring [AZ-204]

Week 2

AI Services and Natural Language Processing
Dive into the most used Natural Language Processing (NLP) services from Azure AI services and Azure OpenAI services generative AI capabilities using native tools and REST APIs

- Introduction to Azure OpenAI Service
- Get started with Azure OpenAI Service
- Build natural language solutions with Azure OpenAI Service
- Extract insights from text with the Azure AI Language service
- Translate text with the Azure AI Translator service
- Create speech-enabled apps with Azure AI services
- Translate speech with the Azure AI Speech service
- Build a conversational language understanding model
- Publish and use an Azure AI Language Understanding app
- Build a question answering
- Analyze Text [AI-102]
- Translate Text [AI-102]
- Recognize and Synthesize Speech [AI-102]
- Translate Speech [AI-102]
- Create a language understanding model with the Language service [AI-102]
- Create a Conversational Language Understanding Client Application [AI-102]
- Create a Question Answering Solution [AI-102]

Week 3

Large Language Models (LLMs) and Generative AI - the new frontier!
Exploring the various large language models (LLMs) available in Azure services and use cases/applications of text analytics and related technologies within your applications.

- Generate code with Azure OpenAI Service Fundamentals of Generative AI
- Analyze images
- Classify images
- Detect objects in images
- Generate images with Azure OpenAI Service
- Read Text in Images and Documents with the Azure AI Vision Service
- Extract data from forms with Azure Document Intelligence - Training | Microsoft Learn
- Use your own data with Azure OpenAI Service - Training | Microsoft Learn
- Analyze Images with Computer Vision
- Classify Images with Custom Vision
- Detect Objects in Images with Custom Vision
- Read text in Images [AI-102]
- Extract Data from Forms [AI-102]

Week 4

Prompt Engineering and More
To get the most out of the services, understanding approaches to prompt engineering, computer vision, and advanced development tools is a must. This focus area explores a variety of advanced concepts.

- Fine-tune a foundation model from the model catalogue in Azure Machine Learning
- Apply prompt engineering with Azure OpenAI Service
- Responsible Generative AI
- Generate text and conversations with .NET and Azure OpenAI Completions
- Understand the Transformer architecture and explore large language models in Azure Machine Learning
- AI-050-01 Get Started
- AI-050-02 Integrate
- AI-050-03 Prompt Engineering

Resources

What is blended learning (flyer)

What is blended learning (video)

What is a blended learning schedule

PR-701 | Migrate Enterprise Applications

ESI Blended learning experience to drive project readiness

This course serves as a comprehensive guide for IT professionals seeking to master the intricacies of migrating enterprise applications to Azure's Platform as a Service (PaaS) while incorporating virtual machines (VMs) and containerization techniques. By addressing the unique challenges and opportunities presented by enterprise-level migrations, this course empowers participants to lead successful and impactful application transformations

Details

Participants in this course will explore

- Migration Planning with Cloud Adoption Framework, Migration Tools, and migration options
- Deep dive into Azure App Service
- Decouple and optimize applications
- Monitor and Optimize

(Sources: AZ-204, AZ-305)

Products/Services

This course focuses on adoption of:

- Azure App Service
- Azure Key Vault
- Azure App Migration tools
- Azure Container Apps / Services
- Event Grid / Messaging Services
- CDN and Cache services

Course format

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Resources

What is blended learning (flyer)

What is blended learning (video)

What is a blended learning schedule

BL_PR_701_Syllabus

Audience and Prerequisites

This course is intended for Enterprise Software Architects, System and Security Admins, Developers and DevOps engineers who will be planning and performing application migrations and modernization efforts.

Learners attending this course should have the following:

- Foundational knowledge of cloud services and how they are implemented in Azure
- Familiarity with the Azure Portal and usage
- Understanding of enterprise application architecture and infrastructure
- Experience with software design and development and Visual Studio Code
- Basic programming skills or experience with SQL, Python, Scala, and DAX
- Successfully completed Microsoft Azure Fundamentals (AZ-900)

Microsoft Azure

PR-802 | Power Business Decisions with Cloud Scale Analytics

ESI Blended learning experience to drive project readiness

This course offers a learning experience that explores the domain of cloud-scale analytics, equipping participants with the knowledge and skills required to leverage Azure Synapse Analytics, Azure Databricks, and the extensive and robust Microsoft Fabric in the age of AI. It's designed to deliver practical value by connecting advanced analytics tools and real-world business applications.

Details

Participants in this course will explore

- Foundational elements of data analytics, data engineering, and data warehousing.
- Azure Databricks and Azure Synapse Analytics to enable seamless data flows.
- The integration capabilities of Azure Fabric to enable scalability and efficiency.
- Plus, techniques to visualize and monitor with Power BI, Synapse, and Purview.

(Sources: DP-203, DP-600)

Products/Services

This course focuses on adoption of:

- Azure Databricks
- Microsoft Fabric
- Power BI
- Azure Synapse Analytics
- Microsoft Purview

Course format

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Resources

What is blended learning (flyer)

What is blended learning (video)

What is a blended learning schedule

BL_PR_802_Syllabus

Audience and Prerequisites

This course is intended for Data Analysts/Scientists/Engineers, Business Intelligence Professionals, and any project team member interested in Advanced Analytics and Data Analysis

Learners attending this course should have the following:

- An understanding of data fundamentals (types, databases, data modeling, data ingestion)
- Basic analytical tooling experience (Excel, Power BI)
- Basic programming skills or experience with SQL, Python, Scala, and DAX
- Successfully completed Microsoft Azure Data Fundamentals (DP-900)

Microsoft Azure