

Microsoft Azure Security and Privacy Concepts

INTRODUCING AZURE IDENTITY SERVICES



Mike Brown

SENIOR CLOUD INSTRUCTOR

@mgbleds



Overview



Course overview

Why is this course important to you?

Module overview

Azure Identity Services

- Understand authentication and authorization
- Understand Azure Active Directory
- Understand Azure multi-factor authentication



Course Overview



This Course Includes

**Azure identity
services**

Azure AD

Access control

Role based access
control

Azure Governance

Azure policies and
blueprints

Securing Networks

Network security
groups, firewalls and
routing

**Reporting and
compliance**

Standards, data
protection and
monitoring



Why Is This Course Important to You?

Secure Services

We must understand how to secure services we deploy into the cloud

Authentication

We must understand how to authenticate our staff, contractors, and customers

Monitoring and compliance

We must understand how to monitor access and enforce compliance



Who Should View This Course?

Manages security and compliance

**Thinking of migrating or deploying
workloads to Azure**

**Anyone who is studying for the AZ-900
exam**

Prerequisites

- Familiarity with cloud concepts
- Basic understanding of cloud computing
- Pluralsight course: Fundamentals of cloud computing
- Interest in Microsoft Azure





Globomantics

Global health care organization

Considering move to Azure

Security is the biggest concern

We have been asked to

- Provide details of Azure's security and compliance features
- Highlight features concerned with authentication and access controls
- Provide details on security monitoring tools



Module Overview



We Will Be Covering

Authentication and Authorization

Differences between authentication and authorization

Introduction to Azure Active Directory

What is Azure AD and how important it is to Microsoft cloud services

Demonstration Working with Azure AD

Demonstrate Azure AD by creating users through the console and PowerShell



Authentication vs. Authorization



What Is the Difference?



Authentication

The act of proving who or what something is



Authorization

Granting the correct level of access to a resource or service



Authentication or Authorization?

A user logs in with
a password

A user can create
virtual machines

A user proves she
is a member of
your staff

A user uses the
thumb print
scanner on her
laptop

A user is given
access to some
files

A user is allowed
access to a
building



Can you identify which of the previous six examples are authentication and which are authorization?



Authentication or Authorization?

Authentication

A user logs in with a password

A user uses the thumb print scanner on her laptop

A user proves she is a member of your staff

Authorization

A user can create virtual machines

A user is given access to some files

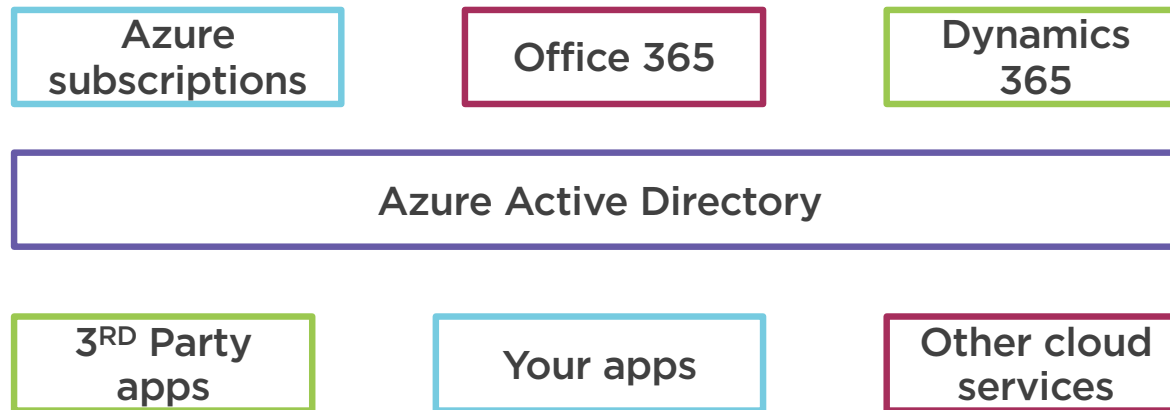
A user is allowed access to a building



Introducing Azure Active Directory



What Is Azure Active Directory?



Comparing Active Directory Versions

Azure AD

User and computer registration
Does not provide group policies
No trust relationships
Application management
Single sign on

Active Directory Domain Services

User and computer registration
Provides group policies
Can create trusts
Application and device management and deployment
Kerberos and NTLM support
Schema management
Hierarchical directory service



What About Azure AD Domain Services?

Azure AD Domain Services is a PaaS offering provided by Microsoft Azure



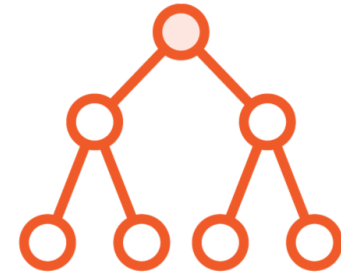
Azure AD

Single sign on and
application integration



Azure AD Domain Services

Application migration,
NTLM and Kerberos
support



Active Directory Domain Services

Full directory service, all
features offered by
active directory



Do We Need Azure AD?

Yes, it is a requirement

**Use Azure AD connect to replicate objects
from Active Directory Domain Services**

No domain controllers

Azure AD provides

- User management
- Application integration
- Single sign on
- Integration with other directory services



Globomantics' Staff



GLOBOMANTICS

Full time IT staff

Full time users

Contractors

We have been asked to

- Identify where the user accounts for these different types of users will be create



Where Will User Accounts Be Created?

Full time IT staff

Created on-premise or
in Azure AD

Full time users

Created on-premise

Contractors

In their own directory
service



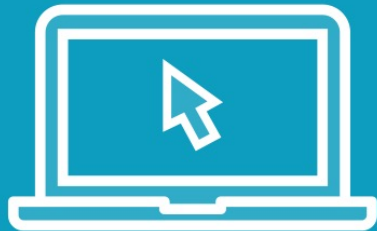
Microsoft Recommends

Multi-Factor authentication

- Something you know
- Something you have
- Something you are



Demo



Work with Azure Active Directory to create a user and a group

We will be enabling multifactor authentication (MFA) for our newly created user

Working with

- Azure console
- Cloud Shell

To follow along you will need an Azure subscription



Azure AD Single Sign-on

Single sign-on is one of the key features of Azure AD

We can integrate with Microsoft provided, 3rd party and custom applications

Users should be asked for their credentials once

Application integration includes the ability to provision users and assign levels of access



Controlling secure access to
all these integrated
applications can be difficult



Questions to Ask

Off site access

Do you want all your applications to be accessible from outside your firewall?

MFA

Are there times that access should only be granted if MFA has been used?

Devices

Should access to applications be restricted to certain secure devices?



Azure AD conditional
access can be used to
secure access to Azure AD
integrated applications



Azure AD Conditional Access

Control access to applications no matter where our users are

We create conditional access policies which at their heart are if-then statements

Signals are used to make decisions

- IP location information
- Risk analysis
- Device information
- Application being accessed



Common Decisions

Block access

Block access if the various policy conditions are met

Grant access

Grant access can be qualified to include requirements like MFA required or an AD joined device required



Demo



Work with Azure Active Directory to enable conditional access

Working with

- Azure console

To follow along you will need an Azure subscription



Summary



We introduced Globomantics

You learned the difference between authentication and authorization

You were introduced to Azure Active Directory

Shown how to create users and groups using Azure Active Directory

Shown how to enable conditional access

In the next module

- Azure role-based access control
- Azure locks

