Active Directory

* a database that organises your company’s users and computers
* provides authentication and authorization to applications, file services, printers, and other resources
  + Kerberos and NTLM for authentication
  + LDAP to query and modify items in the AD databases
* Domain Controller
  + server on the network that centrally manages access for users, PCs, and servers on the network using AD
* Key Functions-
  + secure Objects store, including Users, Computers, and Groups
  + object organization- Organisational Units (OU), Domains, and Forests
  + common Authentication and Authorization provider
  + secure authentication between domain joined devices using LDAP, NTLM, and Kerberos
  + Group Policy – for fine grained control and management of PCs and Servers on the domain
* AD has a record of all Users, PCs, and Servers and authenticates the users signing in (network logon)
* once signed in, AD governs what the users are and are not allowed to access (authorization)
* allows control and management of PCs and Servers on the network via Group Policy
  + ex prevent users from installing other software

Azure Active Director

* secure online authentication store which contains Users and Groups
  + Users have a username and password which are required for signing into an application that uses Azure AD for authentication
    - all Microsoft Cloud services use Azure AD for authentication
* manages access to applications that work with modern authentication mechanisms like SAML and OAuth
  + applications are an object that exist in Azure AD and this allows for an identity to be created for applications that you can grant access to users
  + can connect to thousands of SaaS applications using a single sign-on (SSO)
* sdaf

AWS SAM Template

* required
  + Transform
    - identifies the file as a SAM template file
    - Transform: AWS::Serverless-2016-10-31
  + Resources
    - can contain combo of CloudFormation and SAM resources
    - ex- handler function
* optional
  + Globals
    - AWS::Serverless::Function
    - AWS::Serverless::Api
    - AWS::Serverless::SimpleTable
      * also Application, HttpApi, LayerVersion, StateMachine (last word)
  + Metadata
    - objects that provide additional information about the template
  + Parameters
    - values to pass to your template at runtime
  + Mappings
    - key/value pairs to specify conditional parameter values
  + Conditions
    - controls whether certain resources are created or whether certain resource properties are assigned a value during stack creation or update
    - ex- conditionally create a resource that depends on whether the stack is for a production or test environment
  + Outputs
    - values that are returned whenever you view your stack’s properties
    - ex- declare an output for an S3 bucket, and then call the $ *aws cloudformation describe-stacks* AWS CLI command to view the name