



# KodeKloud

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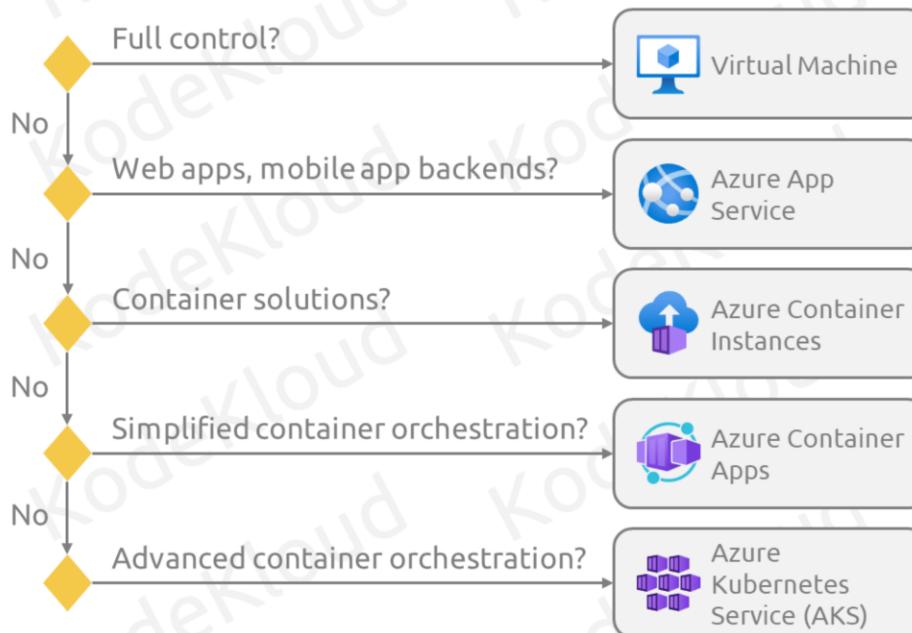
# Administer PaaS Compute Options

# Learning Objectives

- 01 Configure Azure App service plans
- 02 Configure Azure App services
- 03 Configure Azure Container Instances

Moved Lab 03a – Manage Azure resources with the Azure portal into this module. It covers resource locks.

# Administer PaaS Compute Options



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Optional whiteboard slide to introduce the module or review the content. Use the whiteboard diagram directly or recreate the image during the class.



# Configuring App Service Plans

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- A repeatable way to deliver software and infrastructure code to its destination
- Build and test code
- Deploy to on-prem or cloud resources
- CICD isn't just for software developers. It's also for infrastructure pros

# App Service Plans



# App Service Plans

Selected Features	Free	Shared	Basic	Standard	Premium	Isolated
Web, mobile, or API apps	10	100	Unlimited	Unlimited	Unlimited	Unlimited
Disk Space	1 GB	1 GB	10 GB	50 GB	250 GB	1 TB
Auto Scale	–	–	–	Supported	Supported	Supported
Deployment Slots	0	0	0	5	20	20
Max Instances	–	–	Up to 3	Up to 10	Up to 30	Up to 100

## Shared Compute (Free and Shared)

Run apps on the shared Azure VM infrastructure where your app will be placed along with other apps.

## Dedicated Compute (Basic, Standard, and Premium)

Dedicated VMs will be provisioned, and your apps will be running on them.

## Isolated

Dedicated VMs will be provisioned in dedicated virtual networks.

# App Service Plans

The screenshot shows the Azure App Service Plans interface. On the left, there's a sidebar with a search bar and links for Settings, Apps, File system storage, Networking, Scale up (App Service plan) (which is highlighted in orange), and Scale out (App Service plan). The main area is divided into three sections: Dev / Test (for less demanding workloads), Production (for most production workloads), and Isolated (advanced networking and scale). Below these are three recommended pricing tiers: F1 (Shared infrastructure, 1 GB memory, 60 minutes/day compute, Free), D1 (Shared infrastructure, 1 GB memory, 240 minutes/day compute, 915.12 INR/Month (Estimated)), and B1 (100 total ACU, 1.75 GB memory, A-Series compute equivalent, 3050.40 INR/Month (Estimated)). A large orange callout box highlights the 'Scale up' option, with the text: 'Adding more CPU, memory, disk, and features (basically, changing plan tier)'.

Search (Ctrl+ /)

Settings

Apps

File system storage

Networking

Scale up (App Service plan)

Scale out (App Service plan)

**Dev / Test**  
For less demanding workloads

**Production**  
For most production workloads

**Isolated**  
Advanced networking and scale

**Recommended pricing tiers**

Tier	Description	Memory	Compute	Cost
F1	Shared infrastructure	1 GB	60 minutes/day	Free
D1	Shared infrastructure	1 GB	240 minutes/day	915.12 INR/Month (Estimated)
B1	100 total ACU A-Series compute equivalent	1.75 GB	-	3050.40 INR/Month (Estimated)

**Scale up**

Adding more CPU, memory, disk, and features (basically, changing plan tier)

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# App Service Plans

Choose how to scale your resource

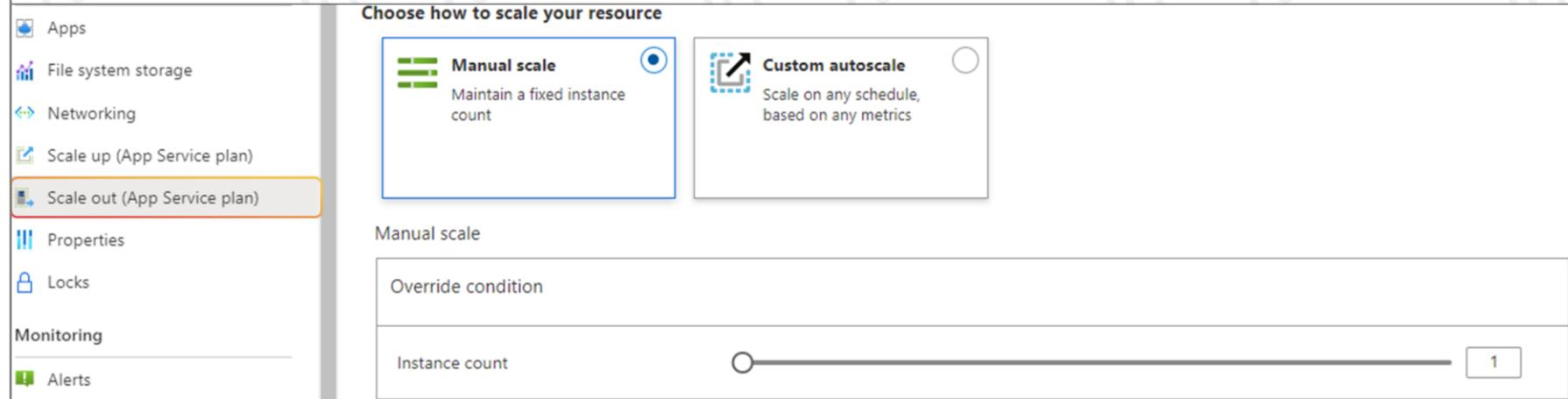
**Manual scale**  
Maintain a fixed instance count

**Custom autoscale**  
Scale on any schedule, based on any metrics

Manual scale

Override condition

Instance count  1



The screenshot shows the 'Scale out' configuration for an App Service Plan. On the left, there's a sidebar with various options like Apps, File system storage, Networking, etc. The 'Scale out (App Service plan)' option is highlighted with an orange border. The main area shows two scaling options: 'Manual scale' (selected) and 'Custom autoscale'. Under 'Manual scale', there's a slider for 'Instance count' set to 1. Below the slider is a 'Override condition' section which is currently empty.

## Scale out

- *Manual* (fixed number of instances)
- *Auto scale* (increasing/decreasing based on metrics or schedule)



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# App Service



Single plan

Support multiple languages

Fully managed PaaS solution

Security and compliance

CI/CD and Visual Studio integration

Marketplace templates

API and mobile features

Run Function apps



# Securing App Service

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# Securing App Service

## Authentication

- Enable App Service authentication
- Supports multiple providers
  - Microsoft, Apple, Facebook, GitHub, Google, Twitter
- OpenID Connect compatibility
- Default: Anonymous access

## Security

- SSL certificates
- Diagnostic settings for troubleshooting
- Network ACL
- Integrate keys with Azure Key Vault

## Add an identity provider ...

Basics Permissions

Choose an identity provider from the dropdown below to start.

Identity provider \*

Select identity provider



Sign in Microsoft and Azure AD identities and call Microsoft APIs



Sign in Apple users and call Apple APIs



Sign in Facebook users and call Facebook APIs



Sign in GitHub users and call GitHub APIs



Sign in Google users and call Google APIs



Sign in Twitter users and call Twitter APIs

OpenID Connect

Sign in users with OpenID Connect



# Custom Domains

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# Custom Domains in App Service

Home > kodekloud-webapp

 **kodekloud-webapp** | Custom domains ...  
App Service

- [!\[\]\(439c03ca276a335a90a4e7ed2b3945c1\_img.jpg\) Search \(Ctrl+/\)](#)
- [!\[\]\(9d660feeaebc089cd8e2e485fd8370ac\_img.jpg\) Refresh](#)
- [!\[\]\(5f514c333f3598b7b959aece329cc5ce\_img.jpg\) Troubleshoot](#)
- [FAQs](#)
- [!\[\]\(f2d91f8736f984314450f358d5a0c341\_img.jpg\) Overview](#)
- [!\[\]\(eb90e372af58c8891a3479e18d2abe03\_img.jpg\) Activity log](#)
- [!\[\]\(7736b7d7c5a3d504921f10a5aac39243\_img.jpg\) Access control \(IAM\)](#)
- [!\[\]\(586de8a5b88163d5217f217a247c7705\_img.jpg\) Tags](#)
- [!\[\]\(76aeb6a66c833dd6484dbe046460530d\_img.jpg\) Diagnose and solve problems](#)
- [!\[\]\(b1dc1440edbe3e2f9700644c87947a7e\_img.jpg\) Security](#)
- [!\[\]\(7ddc9f1246c68b3694f28afc8a08ed4f\_img.jpg\) Events \(preview\)](#)
- [!\[\]\(ddd8976c52643f53864dad156c587ca0\_img.jpg\) Deployment](#)
  - [!\[\]\(9c93a097fe0495ad8acd60070a51d7a1\_img.jpg\) Quickstart](#)
  - [!\[\]\(5d9e71d42bed1260c883b4d73ef15585\_img.jpg\) Deployment slots](#)
  - [!\[\]\(efeb1b73eb187afc2d864ce01eb83796\_img.jpg\) Deployment Center](#)
- [!\[\]\(562fcfd1d60bd15c3ef1a329a60bc30d\_img.jpg\) Settings](#)
  - [!\[\]\(36d11fd0fff44a072332619bed4230eb\_img.jpg\) Configuration](#)
  - [!\[\]\(79fb9c531b35bd2dbb154da25593c185\_img.jpg\) Authentication](#)



## Custom Domains

Configure and manage custom domains assigned to your app. [Learn more](#)

IP address: [\(i\)](#)

20.49.104.60

Custom Domain Verification ID: [\(i\)](#)

B9EEAC5E07C0F05FB1107136799F9C2E323C11B54802E44D535D261DCDE23F51

HTTPS Only: [\(i\)](#)

Off

+ Add custom domain

Status Filter

[All \(1\)](#) Not Secure (0) Secure (1)

SSL STATE

 Secure

ASSIGNED CUSTOM DOMAINS

kodekloud-webapp.azurewebsites.net

SSL Binding

Branding

Supports A or CNAME mapping

Plan dependent

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## Add custom domain

kodekloud-webapp

Custom domain \*

web.kodekloud.com

**Validate**

Hostname record type

CNAME (www.example.com or any subdomain)



## CNAME configuration

A CNAME record is used to specify that a domain name is an alias for another domain. In your scenario, that would be mapping web.kodekloud.com to custom domain verification id below.

[Learn More](#)

Custom Domain Verification ID: [\(i\)](#)

B9EEAC5E07C0F05FB1107136799F9C2E323C11B54802E44D535D261DCDE23F51

CNAME

kodekloud-webapp.azurewebsites.net

+ Add custom domain



# Backup App Service

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# Backup App Service



## Backup Storage

Select the target container to store your app backup.

Storage Settings

Storage not configured



## Backup Schedule

Configure the schedule for your app backup.

Scheduled backup



On

Off



## Backup Database

Select the databases to include with your backup. The backup database list is based on the app's configured connection strings. Note: Individual databases in the backup can be 4GB max but the total max size of the backup is 10GB. If your database is large and growing, use Azure Backup for database backup instead.

Manual and scheduled backups

Filters and multiple restore options

Plan dependent



# CI/CD and Deployment Slots

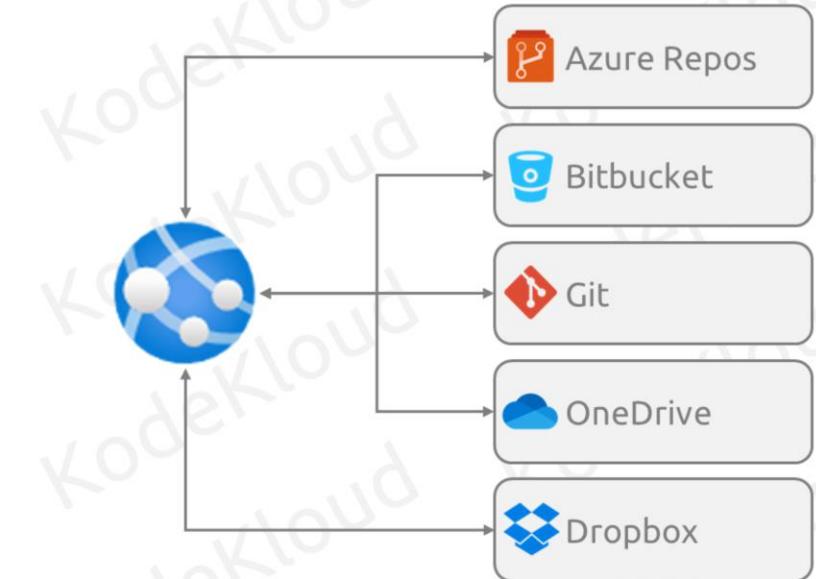
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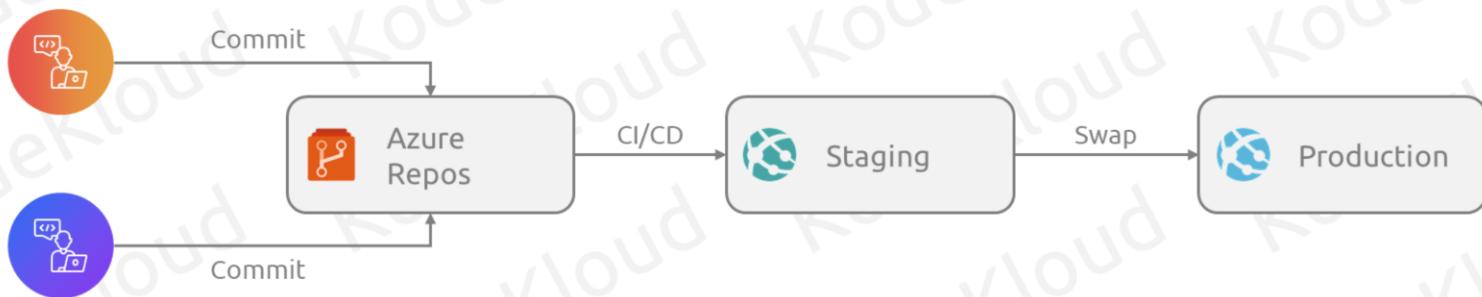
# CI/CD

Automated Deployment

Manual Deployment



# Deployment Slots



Slots representing different environments

Test before swapping

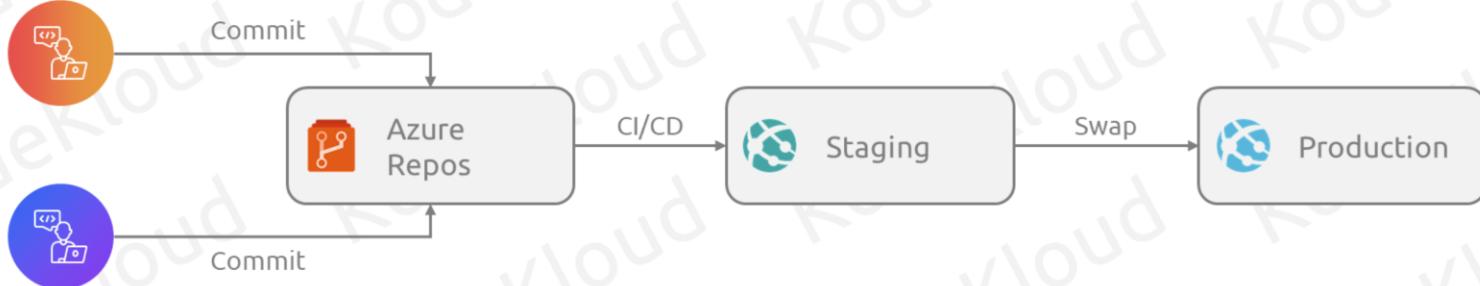
Unique URLs

Auto swap

Reduces downtime and rollback strategy

Plan dependent

# Deployment Slots – Considerations



## Decision

### Settings that can be swapped

General settings	WebJobs contents
App Settings & Path mappings	Hybrid connections*
Connection strings	Service Endpoints*
Handler mappings	Azure CDN*

### Understand what will be swapped or not

### Settings that aren't swapped

Publishing endpoints	Scale settings	CORS
Custom domain names	IP restrictions	VNet integration
Non-public certificates	Always On	Managed identities
TLS/SSL settings	Diagnostic settings	Settings that end with _EXTENSION_VERSION suffix

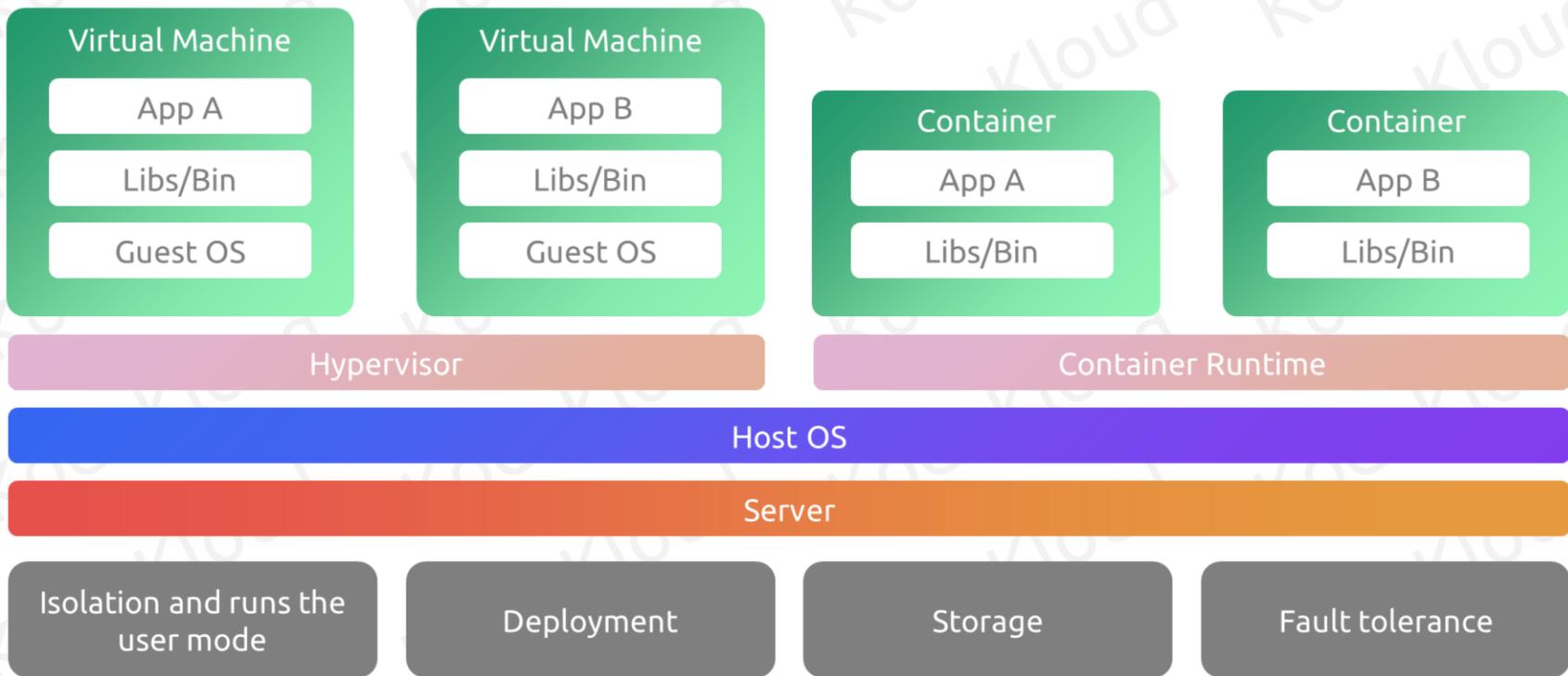


# Azure Container Instances

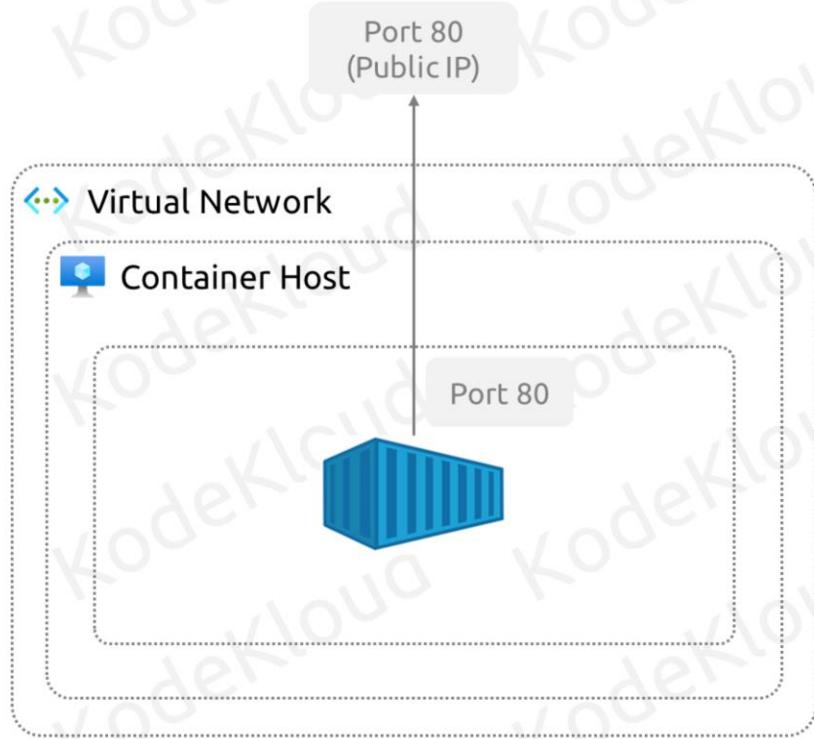
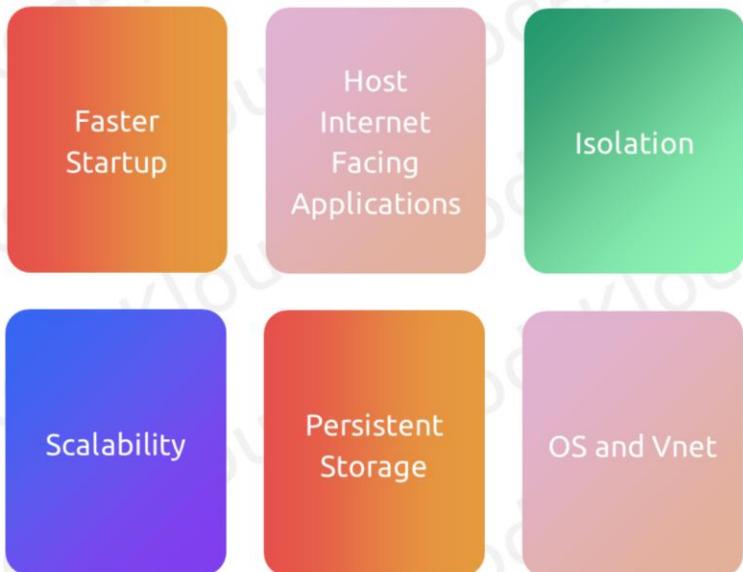
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# Virtual Machines vs Containers



# Azure Container Instances





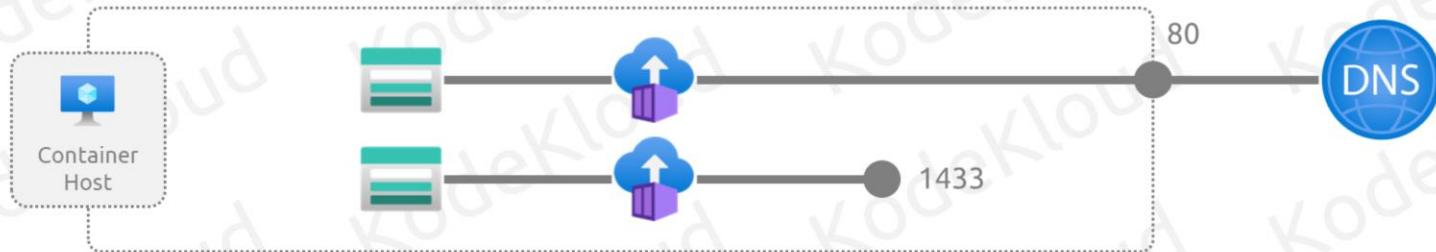
# Container Groups

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# Container Groups

Collection of containers that get scheduled on the same container host machine they share resources, lifecycle, local network, and storage volumes.



Deployment options

Resource allocation

Shared networking



# Manage Containers With Azure Container Apps

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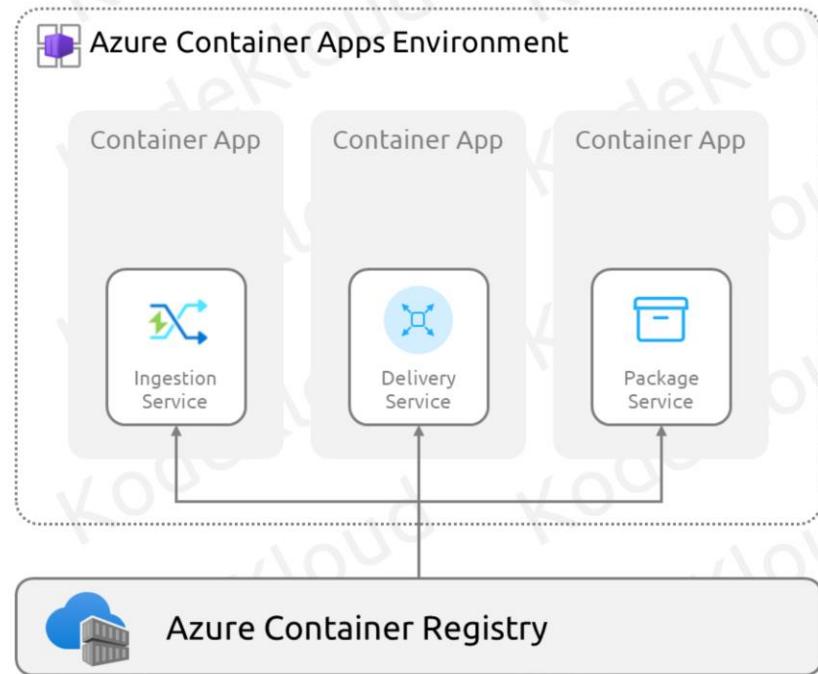
# Manage Containers With Azure Container Apps (new)

Alternative to Azure Kubernetes Service

Integrates With Azure Container Registry

Simplifies Complex Infrastructures

Manages Container Orchestration





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