

# E-Commerce Development proposal

Ideas for today and tomorrow

# Agenda

About us

Project overview

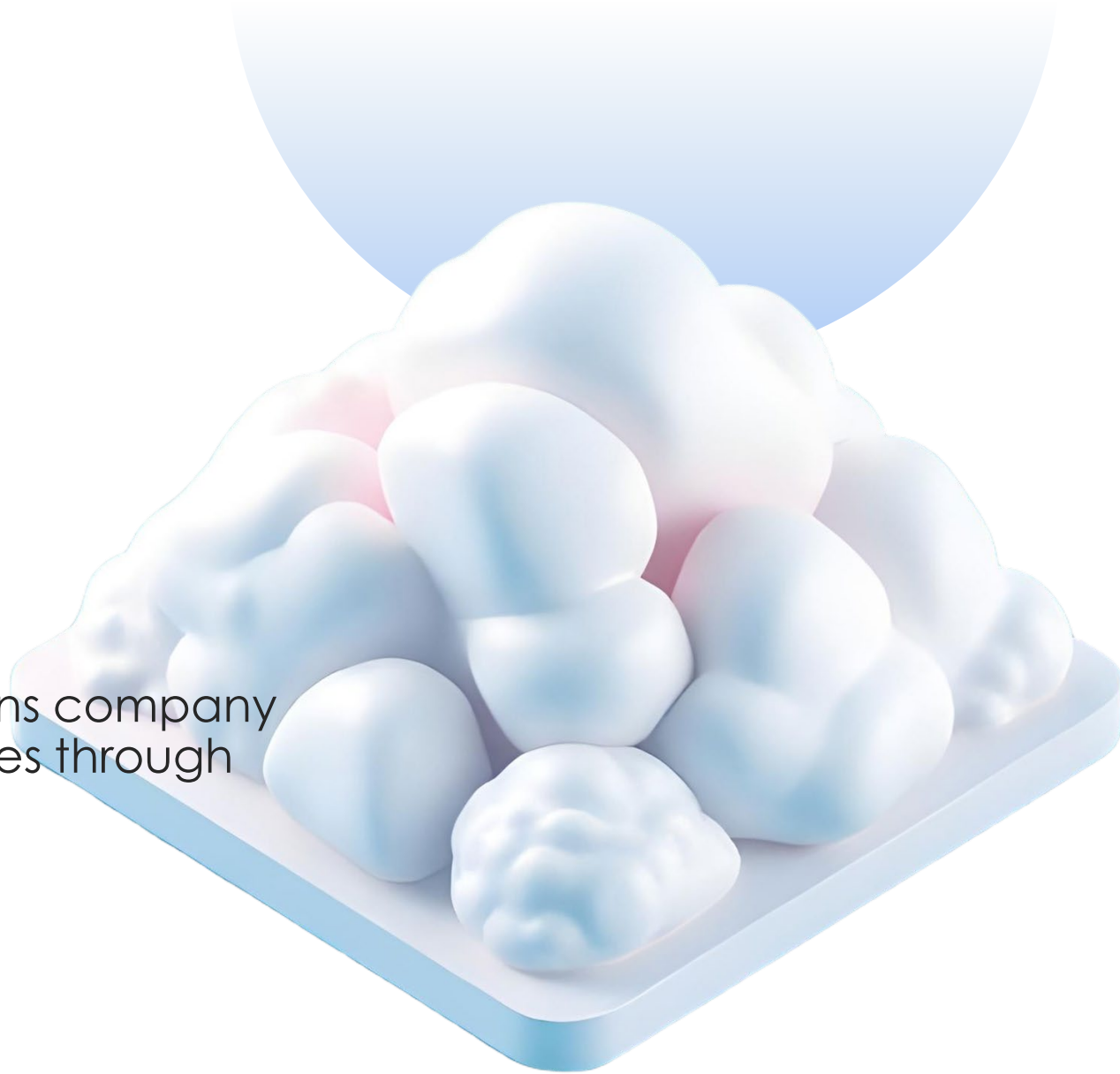
Digital Transformation

Infrastructure

Q&A

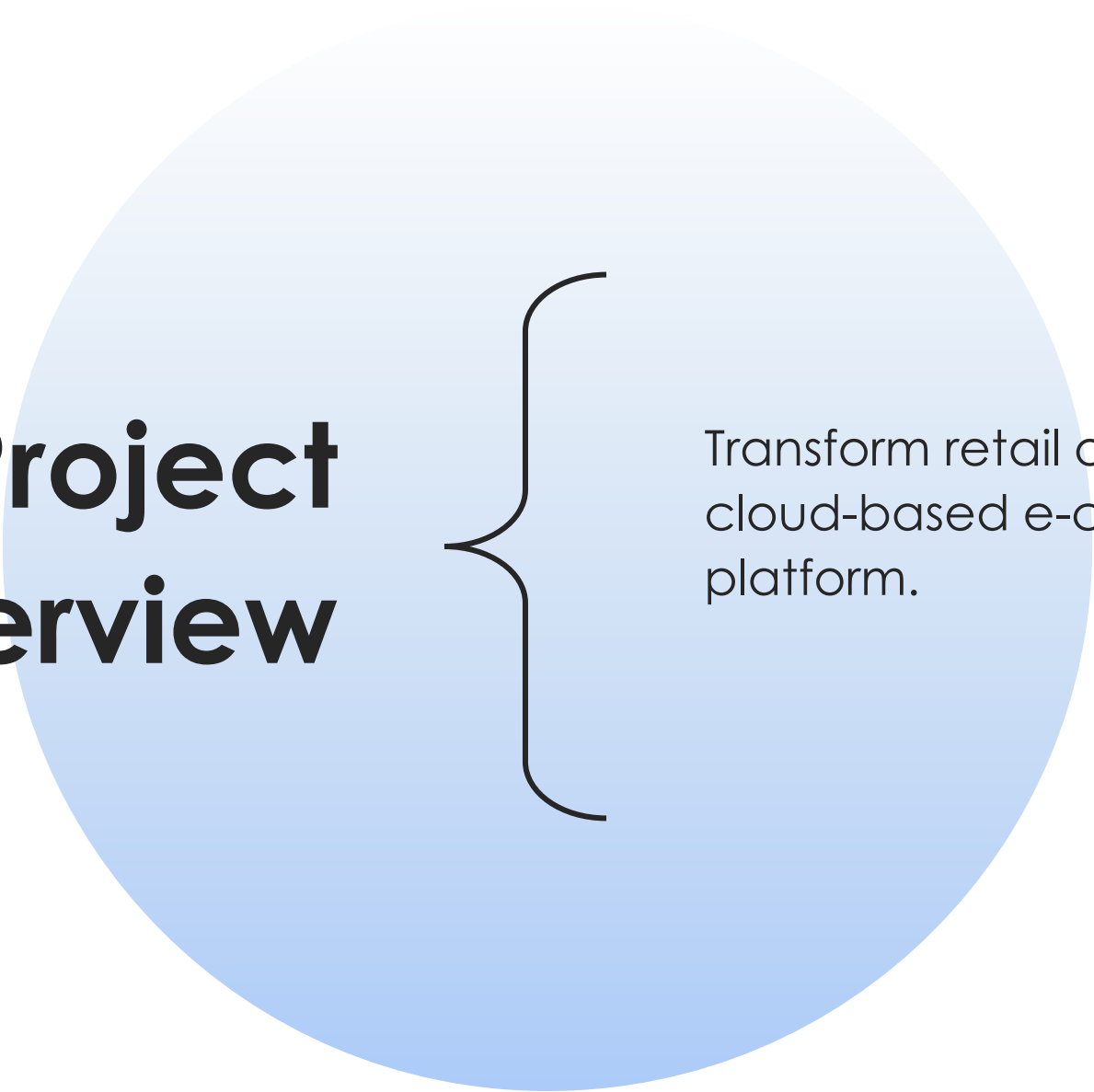
## About us

Cloudia, a pioneering cloud solutions company dedicated to transforming businesses through innovative digital infrastructure.



Ivy Ko | Hasisha Nazir | Aden Saw | Vincent Thong

# **Project overview**



Transform retail operations with a  
cloud-based e-commerce  
platform.

5

## Our Client :



Brick & Mortar Supplement & Wellness Store

Traditional business with zero online presence

Singaporean Small and Medium Sized  
Enterprise (SME)

# Goals

- Transition from a traditional physical operating store to a digitalised platform
- Widen Customer Reach
- Streamline Inventory Management
- Ensure Scalability
- Operational Optimization



# Challenges

## Technical

### System Compatibility

- Existing vs Proposed

### Performance Updates

- Database & Backend optimization for quality site

### Third-Party Service dependencies

- Latency issues due to API system integration & required customizations

## Data Management

### Bringing current AIVHealth data online

- Suppliers, historical sales, customer records, financial records

### Role Assignment & Management

- Transitioning current system into RBAC for multi-user access to different system components

# Industry Risks

Regulatory Compliance & Legal  
Risks - Compliance with GDPR &  
PDPA

Operational & Supply Chain Risks

Data Privacy & Cybersecurity

Third-party Service Dependencies

Technology Failures & Downtime





# Business Requirements & Constraints

- Conservative Budget
  - Small Singaporean SME
- Simple and No-frills
  - Not digitally-inclined
    - Avoid Client Overwhelm

# Digital Transformation



Customer-facing E-commerce Site:  
AlVHealth.com

Azure Web-apps & Portal

E-shopfronts on M-Commerce Platforms

Baseline Cloud Architecture Design

# E-commerce Site

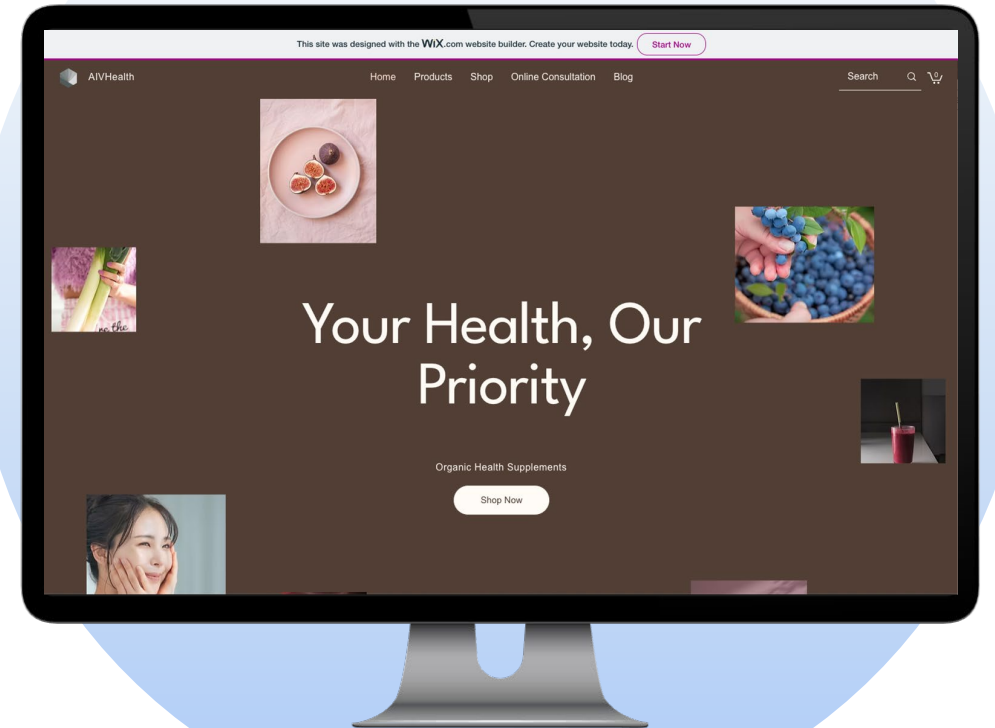
AIVHealth.com

## Key features:

- Admin Dashboard
- Owner can manage portfolio

## Business-enabling features:

- Customer log-in
- Products
- Cart
- Wishlist
- Contact
- & More.



# Azure Web-App for AIVHealth.com

Microsoft Azure

Search resources, services, and docs (G+/)

Home >

Create Web App + Database ...

Basics

Tags

Review + create

This template will create a secure by default configuration where the only publicly accessible endpoint will be your app following the recommended security best practices. [Learn more](#)

### Project Details

Select a subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription \*

Azure subscription 1

Resource Group \*

(New) AIVHealth

[Create new](#)

Region \*

Southeast Asia

### Web App Details

Name

AIVHealth

-bbbyaph7f7b2fcej.southeastasia-01.azurewebsites.net

Secure unique default hostname on.

More about this update

Runtime stack \*

Python 3.12

### Database

Database access will be locked down and not exposed to the public internet. This is in compliance with recommended best practices for security.

Engine \*

Cosmos DB API for MongoDB

Account name \*

aivhealth-server

Database name \*

aivhealth-database

# Azure Portal for Management

Microsoft Azure

Search resources, services, and docs (G+/)

Copilot

Home > Recent >

AIVHealth

Web App

Group by none

Name ↑

ASP-AIVHealth-bf41

AIVHealth

AIVHealthDbEndpoint

AIVHealthDbEndpoint.nic.482ee78

AIVHealth

aivhealth-server

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Microsoft Defender for Cloud

Events (preview)

Recommended services (preview)

Deployment

Deployment slots

Deployment Center

Settings

Environment variables

Configuration

Authentication

Identity

Backups

Custom domains

Certificates

Networking

Properties

Monitoring

Logs

Capabilities

Notifications

Recommendations

Web app

Name

AIVHealth

Publishing model

Code

Runtime Stack

Python - 3.12

Domains

Default domain

aivhealth-bbbyaph7f7b2fcej.southeastasia-01.azurewebsites.net

Custom domain

[Add custom domain](#)

Hosting

Plan Type

App Service plan

Name

ASP-AIVHealth-bf41

Operating System

Linux

Instance Count

1

SKU and size

Basic (B1) [Scale up](#)

Deployment Center

Deployment logs

[View logs](#)

Last deployment

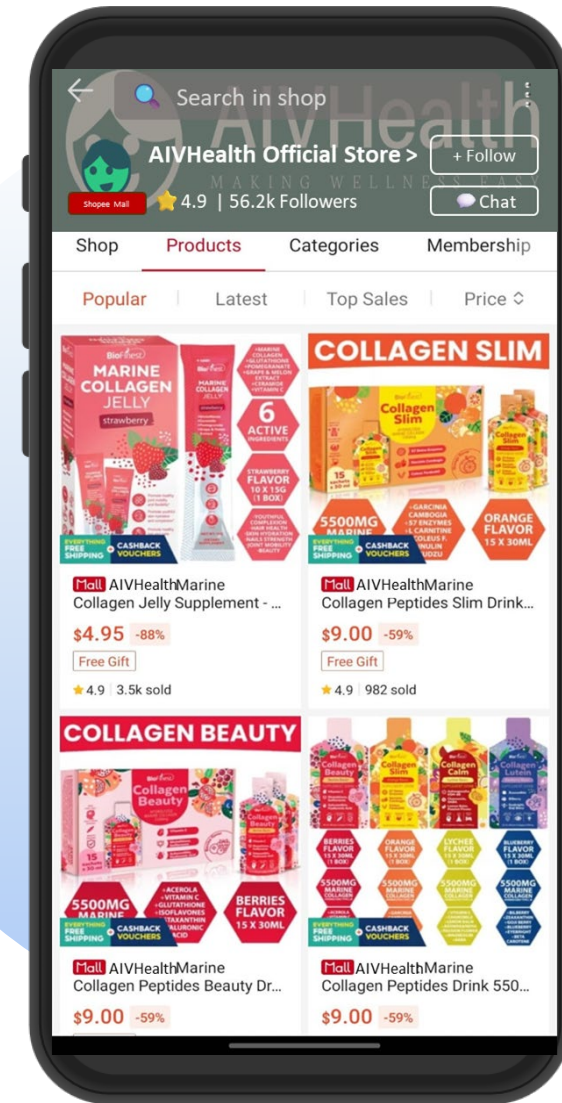
Loading deployments...

Deployment provider

None

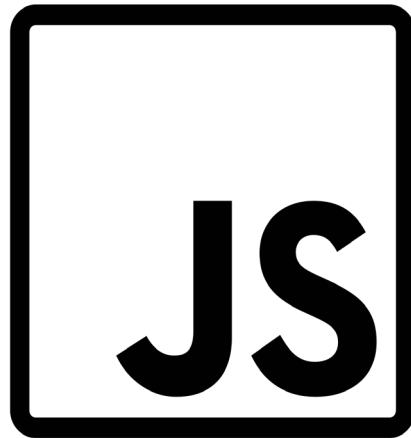
Showing 1 - 6 of 6. Display count: auto

# E-Shopfronts on Platforms

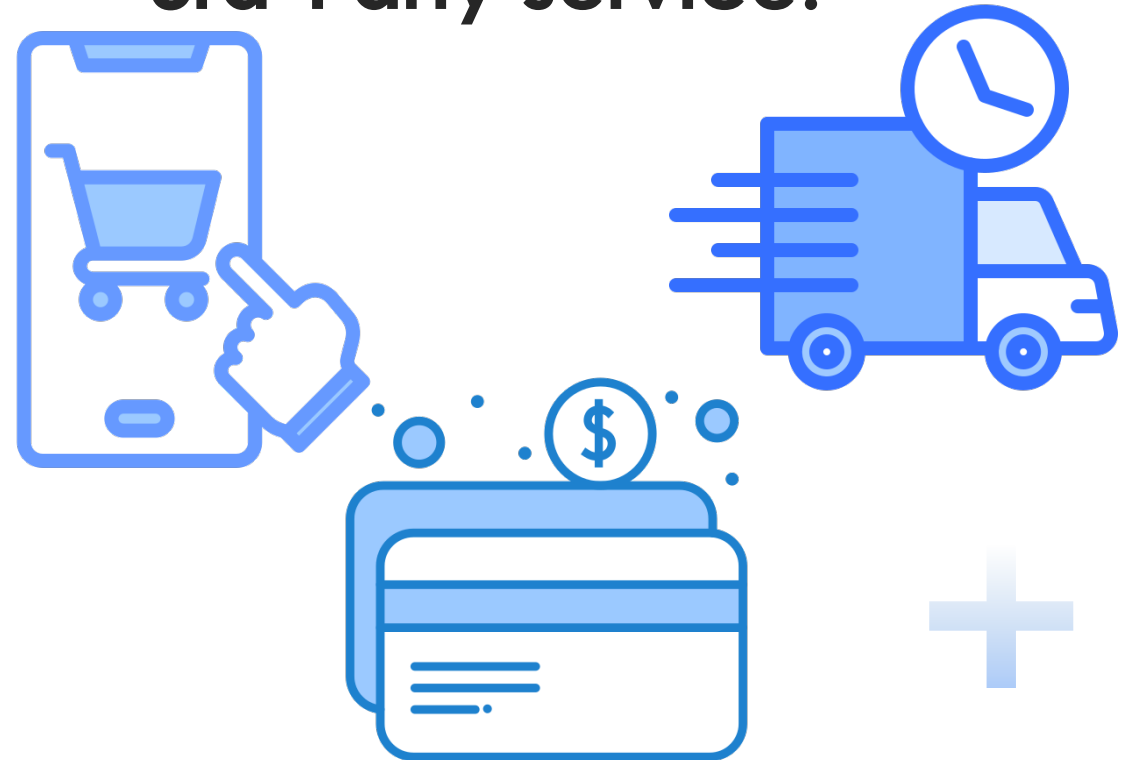


# Storefront stack

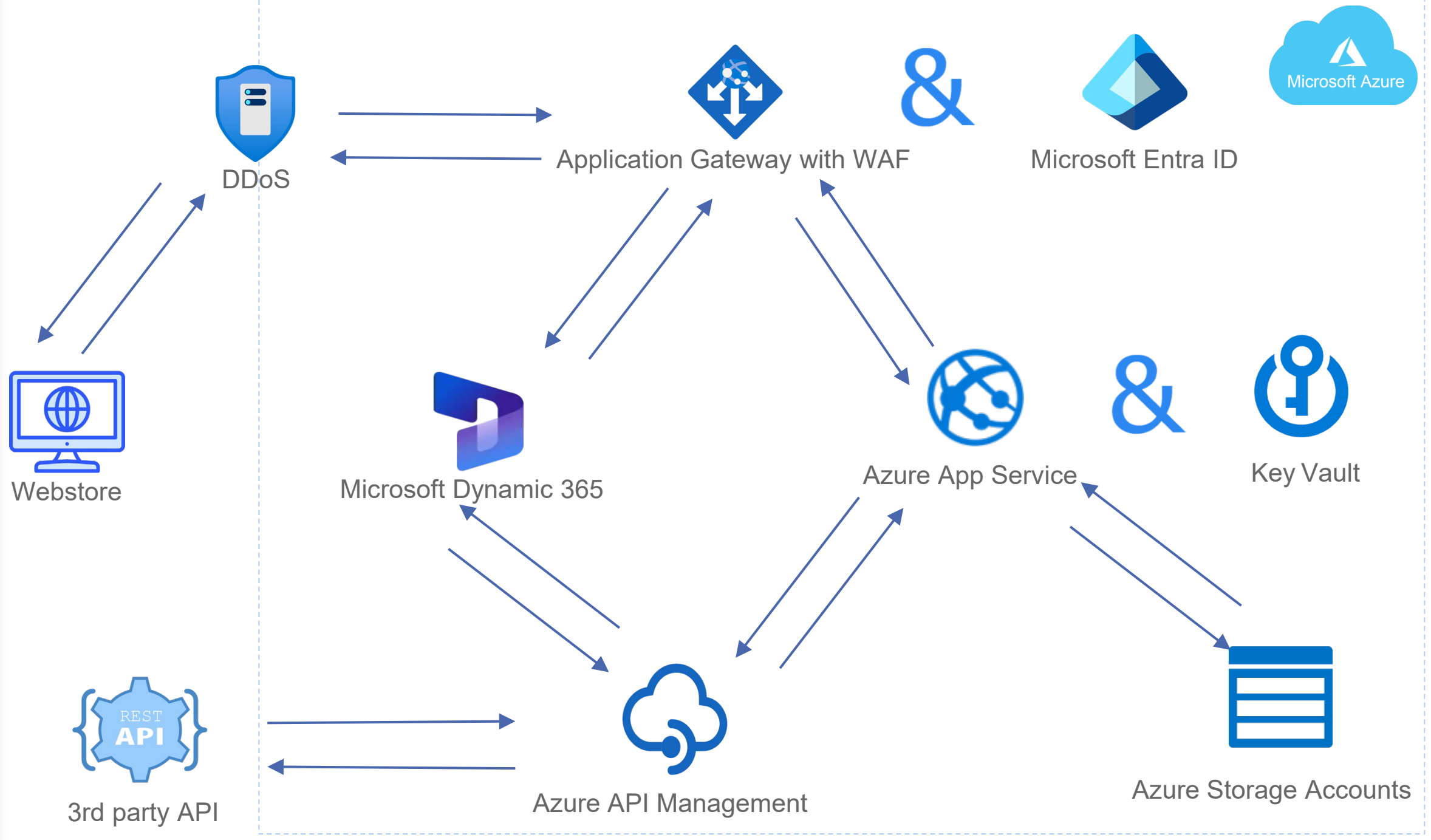
UI/UX:



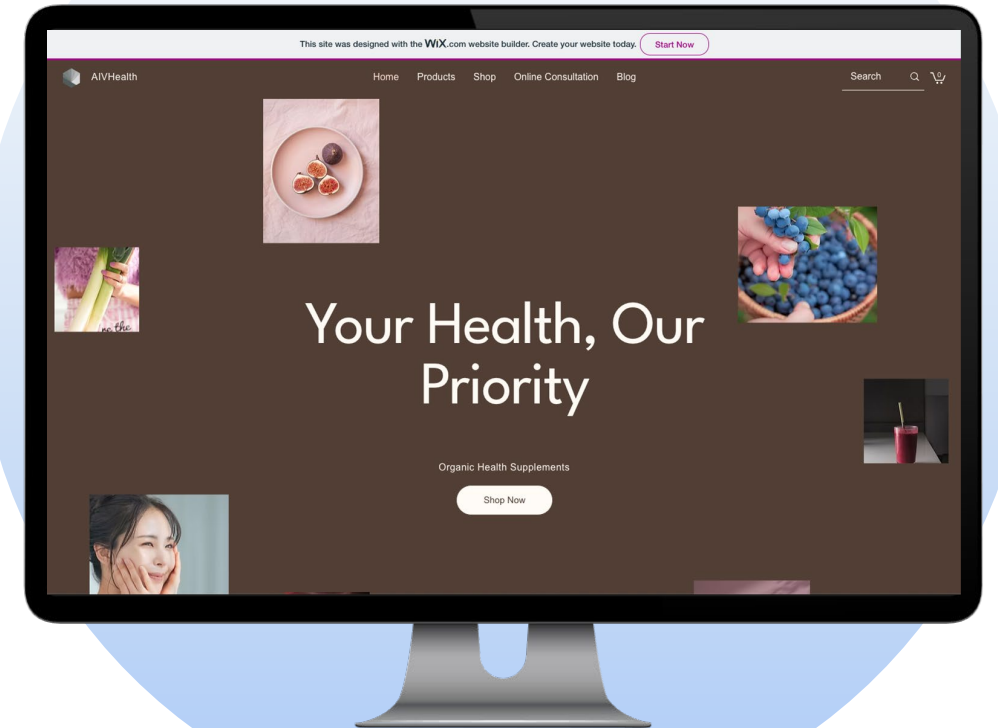
3rd-Party service:



-  SLA
-  Policy
-  Dev Ops
-  Monitor



# E-commerce Simulation

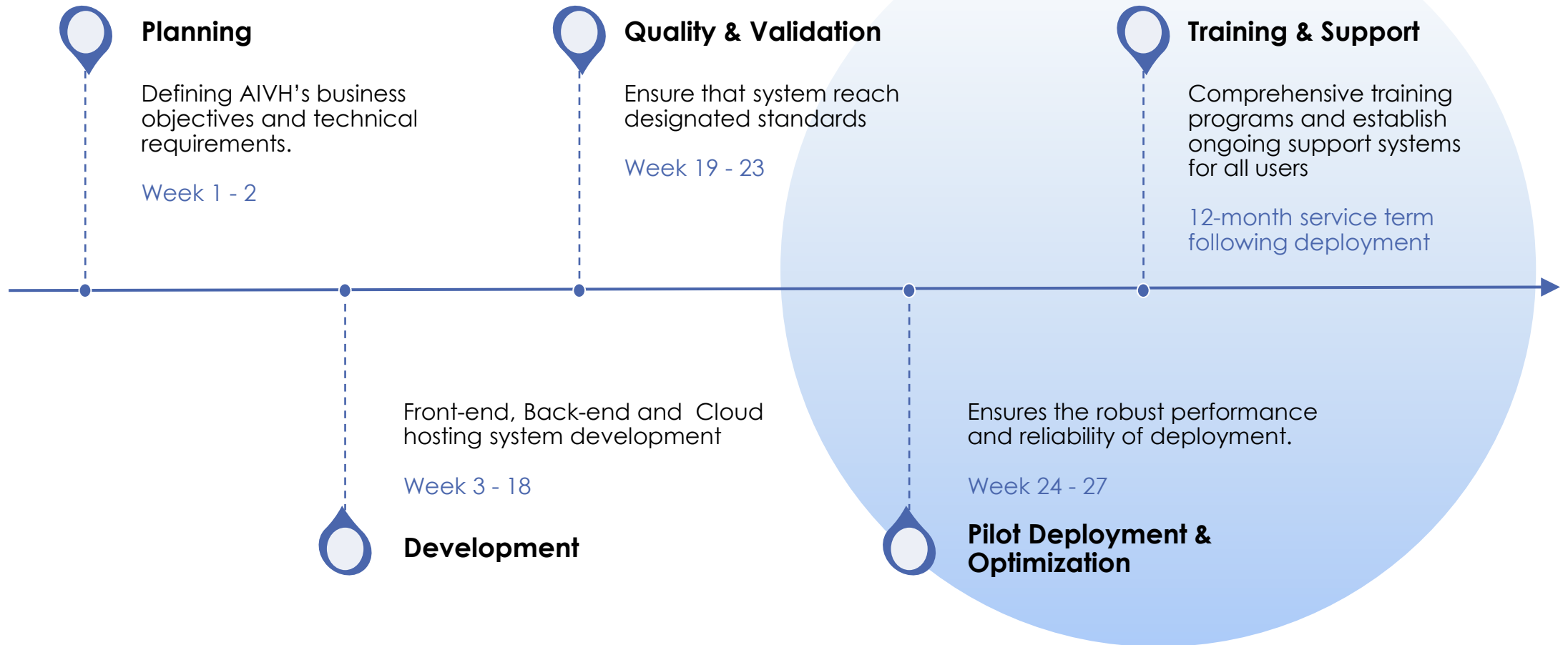




# Milestones

Kickoff Date : 10th March 2025

Launch Date : 12th September 2025

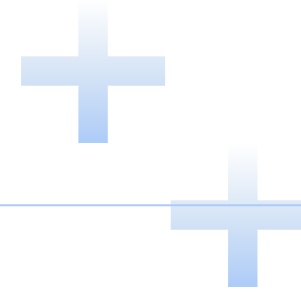


# Deployment



<b>Continuous Integration and Deployment</b>	<ul style="list-style-type: none"><li>• Azure DevOps for CI/CD Pipeline to automate deployment process</li><li>• Conducting unit, integration and regression testing before deployment</li></ul>
<b>Staging and Production Environments</b>	<ul style="list-style-type: none"><li>• Internal Testing and feature development</li><li>• Pre-production environment where final testing is done before live deployment</li><li>• Publishing of e-commerce platform for the customers</li></ul>
<b>Deployment Slots</b>	<ul style="list-style-type: none"><li>• Using Azure App Service to test new versions in staging environment before production.</li><li>• Have gradual deployment for new features for minimal disruptions</li><li>• Blue-green deployment to allow seamless transition between the live version and the new version</li></ul>
<b>Environment Variables and Configuration Management</b>	<ul style="list-style-type: none"><li>• API keys, database connection strings and credentials will be securely managed by Azure Key Vault.</li></ul>
<b>Load Balancing and Content Distribution</b>	<ul style="list-style-type: none"><li>• Azure Application Gateway is used to manage incoming traffic across different instances, distributing incoming traffic to Azure App Services.</li><li>• Azure Content Delivery Network (CDN) to optimize loading speeds and improve user experience</li></ul>
<b>Security and Compliance</b>	<ul style="list-style-type: none"><li>• SSL Encryption used for secure transactions and user interactions.</li><li>• DDoS Protection implemented to safeguard against cyber threats.</li></ul>
<b>Post-Deployment Monitoring and Support</b>	<ul style="list-style-type: none"><li>• Azure Monitor to track performance and generating alerts for anomalies while enabling deep application insights to ensure uptime and optimize resource utilization.</li><li>• Support channels provide dedicated support for troubleshooting issues.</li></ul>

# Testing



<b>Unit Testing</b>	<p>Ensure individual components of the website are functioning.</p> <p>This includes:</p> <ul style="list-style-type: none"><li>• Loading of the website</li><li>• Viewing of products</li><li>• Adding items to cart</li><li>• Checking out and making payment</li><li>• Signing up for email newsletter</li><li>• Leaving reviews</li><li>• Signing in to account</li></ul>
<b>Load Testing</b>	<p>Evaluating system performance when under high traffic, ensuring it does not server overload.</p> <p>Server overload will cause:</p> <ul style="list-style-type: none"><li>• Website to have longer loading times</li><li>• Error loading pages</li><li>• Website unavailable for access</li><li>• Certain features not working as expected</li></ul>
<b>Security Testing</b>	<p>Identifying vulnerabilities and implementing protections to prevent cyber attacks or security breaches.</p> <p>This is to protect customer information like:</p> <ul style="list-style-type: none"><li>• Email</li><li>• Card details</li><li>• Address</li></ul>

# Documentation



<b>Initial Planning</b>	<ul style="list-style-type: none"><li>• A draft proposal outlining the project scope, objectives, technical requirements, benefits, drawbacks and risks involved.</li></ul>
<b>Website Development &amp; Configuration</b>	<ul style="list-style-type: none"><li>• Details on the use of Wix for website creation, which includes template selection, customization, third party integrations like payment gateways and shipping solutions.</li><li>• Implementation of product listings, user account and checkout process using Wix's built-in tools.</li></ul>
<b>Testing Reports</b>	<ul style="list-style-type: none"><li>• Functional testing of website features (E.g. product browsing, cart functionality, checkout process).</li><li>• Usability testing to ensure smooth navigation and user experience.</li><li>• Performance testing to check site responsiveness and loading times.</li></ul>
<b>Deployment &amp; Maintenance Guidelines</b>	<ul style="list-style-type: none"><li>• Steps for publishing the Wix website and configuring domain settings.</li><li>• Ongoing maintenance, including product updates, security settings and performance monitoring</li></ul>



21

Support & Training

E-commerce Technical Support



- Dedicated customer service team from AIVHealth to ensure smooth operations and rapid resolution of technical issues.
- Shoppers able to reach out through the contact section for inquiries and the team would access the situation.
- May also call the hotline for more urgent cases and emergencies.

	Critical Emergency	High Priority Incident	Medium Priority Incident	Low Priority Incident
Example:	<ul style="list-style-type: none"><li>Payment Failure</li><li>Data Breach</li><li>Website Unavailable</li></ul>	<ul style="list-style-type: none"><li>Major Pricing Errors</li><li>Unable to login</li><li>Shipping carrier issues</li></ul>	<ul style="list-style-type: none"><li>Refund delays</li><li>Account issues</li><li>Order Issues</li></ul>	<ul style="list-style-type: none"><li>Product Availability Inquiries</li><li>Return/Exchange Inquiries</li></ul>
Response Time	1 hour	8 hours	1 day	3 days


Customized Training Solutions

- Flexible training modules tailored to client's specific business needs with additional specialized sessions available upon request to address unique requirements or new feature implementations.

# 22 Challenge Mitigation



Risk categories	App Strategies
System Compatibility	App Service, API Managment
Optimization for Quality Site	SQL DB, Cosmos DB, Monitor
Third-Party Service dependencies	API Management
Bringing Current AIVHealth data online	Key Vault, SQL DB, Cosmos DB, Blob
Role Assignment & Managment	Active Directory RBAC, Entra ID, Policy



# Industry Risk Management

Risk categories	App Strategies
Addressing Regulatory Compliance & Legal Risks	Azure Policy
Ensuring Operational & Supply Chain Resilience	Dynamics 365 Inventory Management, API Manager, Applications Gateway
Strengthening Data Privacy & Cybersecurity	DDos, Entra ID, Application Gateway, Key Vault
Managing Third-party Service Dependencies	API Management
Minimizing Technology Failures & Downtime	Azure Monitor & Applications Gateway, Service Level Agreement (SLA)

# Budget estimate

## Capital Expenditure

- Website Storefront

## Operating Expenditure

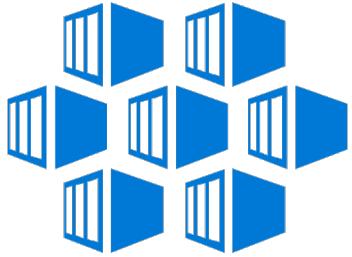
- Azure Cloud System Subscriptions

NEEDS / INVESTMENT (Cap Ex)	COST (\$G)
Platform Design: <ul style="list-style-type: none"><li>• Front-End Development - HTML, CSS, custom development using React.js/Angular, Node.js with Express.js</li></ul>	\$1,000.00
Project Logistics Management: <ul style="list-style-type: none"><li>• Overseeing timelines, resources, and risk mitigation strategies</li></ul>	\$2,000.00
Quality testing: <ul style="list-style-type: none"><li>• Back-end quality testing for initial deployment - Conducting unit, performance testing, and security testing for a seamless user experience</li></ul>	\$3,000.00
Maintenance & Support <ul style="list-style-type: none"><li>• Providing administrator and staff training for platform management</li><li>• Continuous bug fixes, updates, and system enhancements</li></ul>	\$1,500.00
Contingency Funds	\$5,000.00
NEEDS / INVESTMENT (Op Ex)	COST
Cloud Hosting & Databases : <ul style="list-style-type: none"><li>• App Service (\$316.40/month)</li><li>• Azure Cosmo DB (\$12.79/month)</li><li>• Azure SQL Database (\$17.72/month)</li><li>• Storage Accounts (\$21.04/month)</li></ul>	\$3,059.97/monthly
Load Balancer & Autoscaling: <ul style="list-style-type: none"><li>• Application Gateway (\$815.15/month)</li><li>• Azure API Management (\$686.71/month)</li></ul>	
Security & policy: <ul style="list-style-type: none"><li>• Microsoft Entra ID (formerly Azure AD) (\$109.50/month)</li><li>• Azure Policy(\$6.00/month)</li><li>• Azure Key Vault (\$3.03/month)</li><li>• Azure DDoS Protection (\$199.00/month)</li></ul>	
Inventory Management: <ul style="list-style-type: none"><li>• Dynamics 365 Supply Chain Management (\$210.00/month)</li></ul>	
Monitoring & Support: <ul style="list-style-type: none"><li>• Azure Monitor (\$1.90/month)</li><li>• Azure DevOps (\$0.00/month)</li><li>• Azure Standard Support (\$100.00/month)</li></ul>	
ESTIMATE TOTAL	SGD \$12,500 (One-time) SGD \$3,059.97/monthly

\* Based on data storage, queries and usage rates on small SME trends. Subject to changes due to actual usage.



# Areas of growth



Azure Kubernetes Service (AKS)



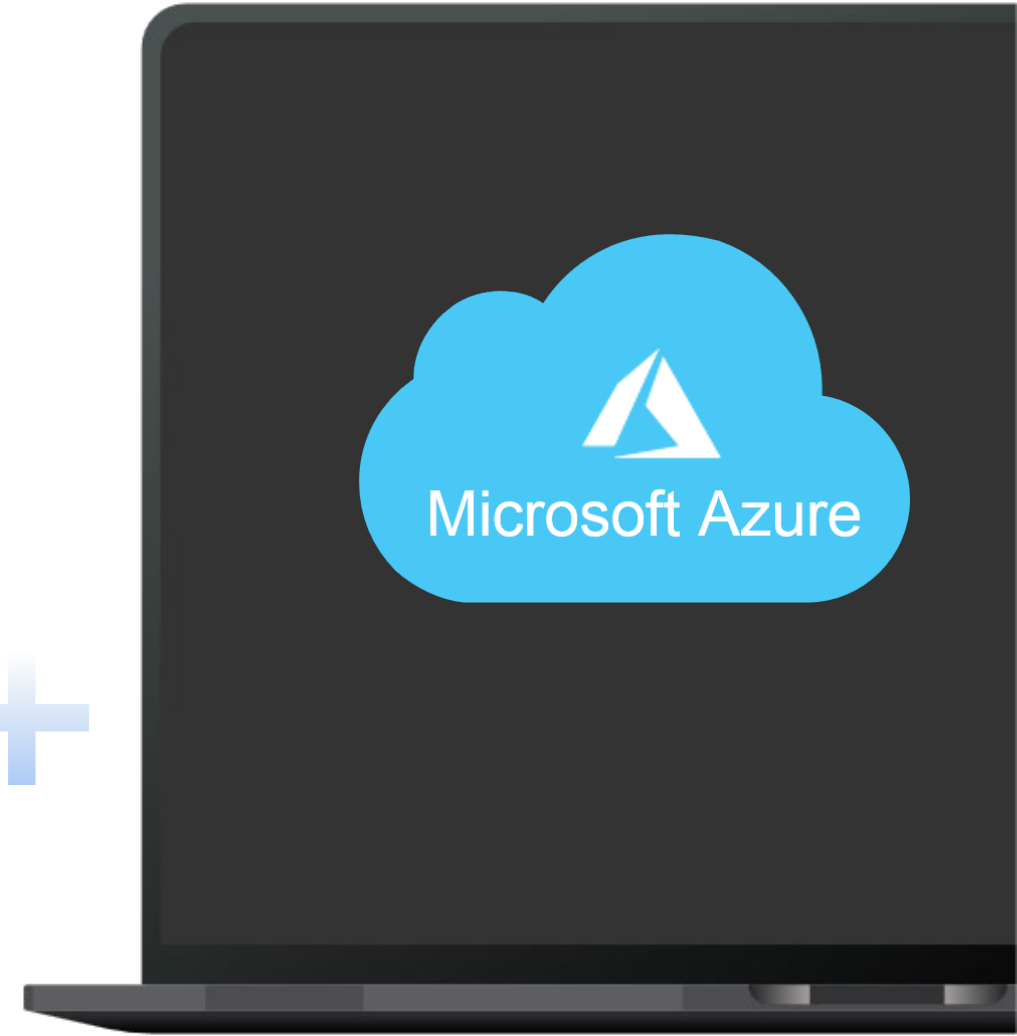
Azure Front Door

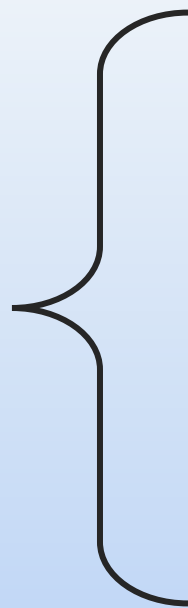
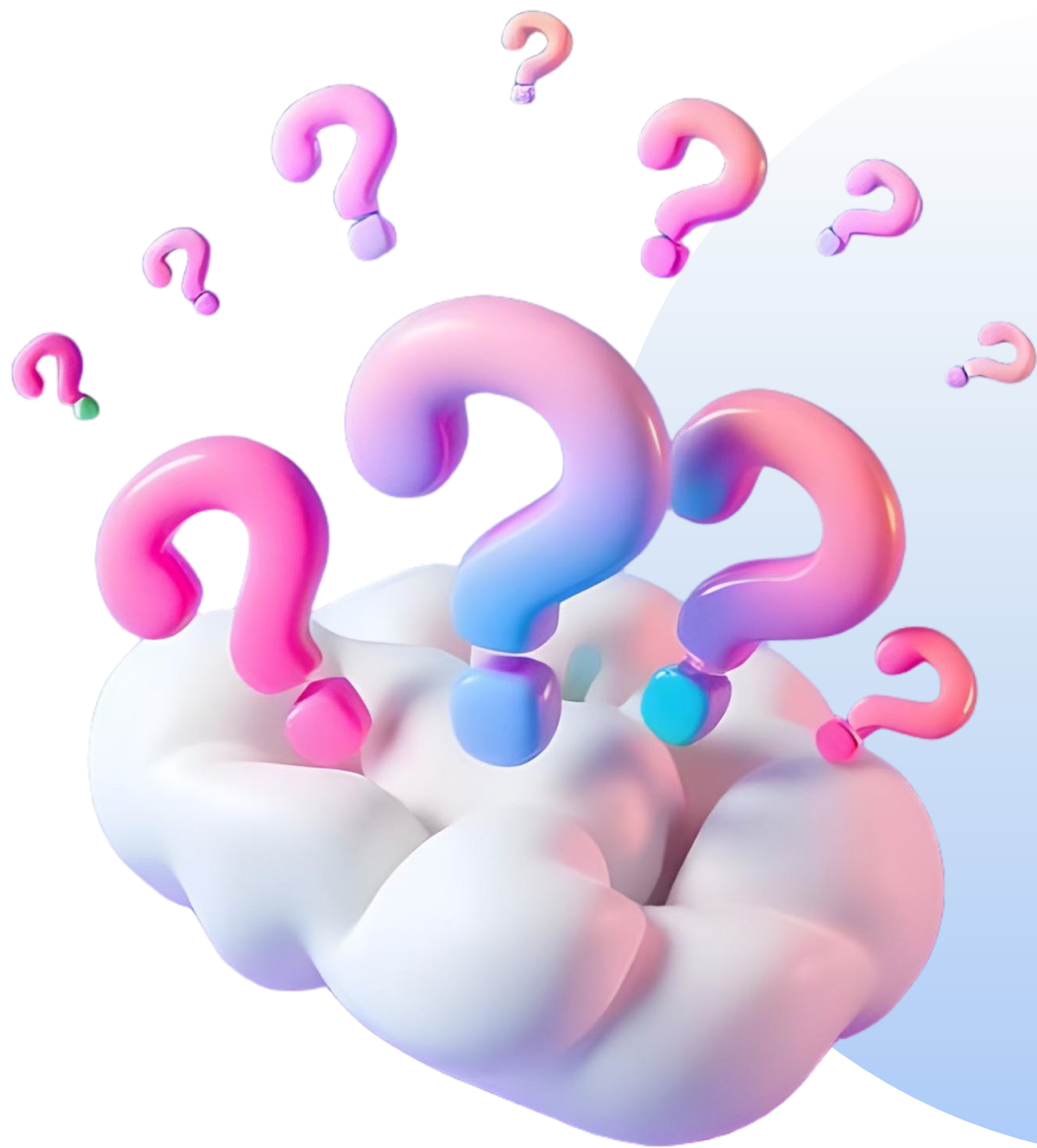


Azure Backup & Site Recovery



Azure Queue Storage





**Q&A**



# Thank you

Ivy Ko

Hasisha Nazir

Aden Saw

Vincent Thong