DEPLOYMENT& MIGRATION

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AGENDA

1. Business requirement& Architecture
2. App and its deployment
3. Database Migration
4. Demo

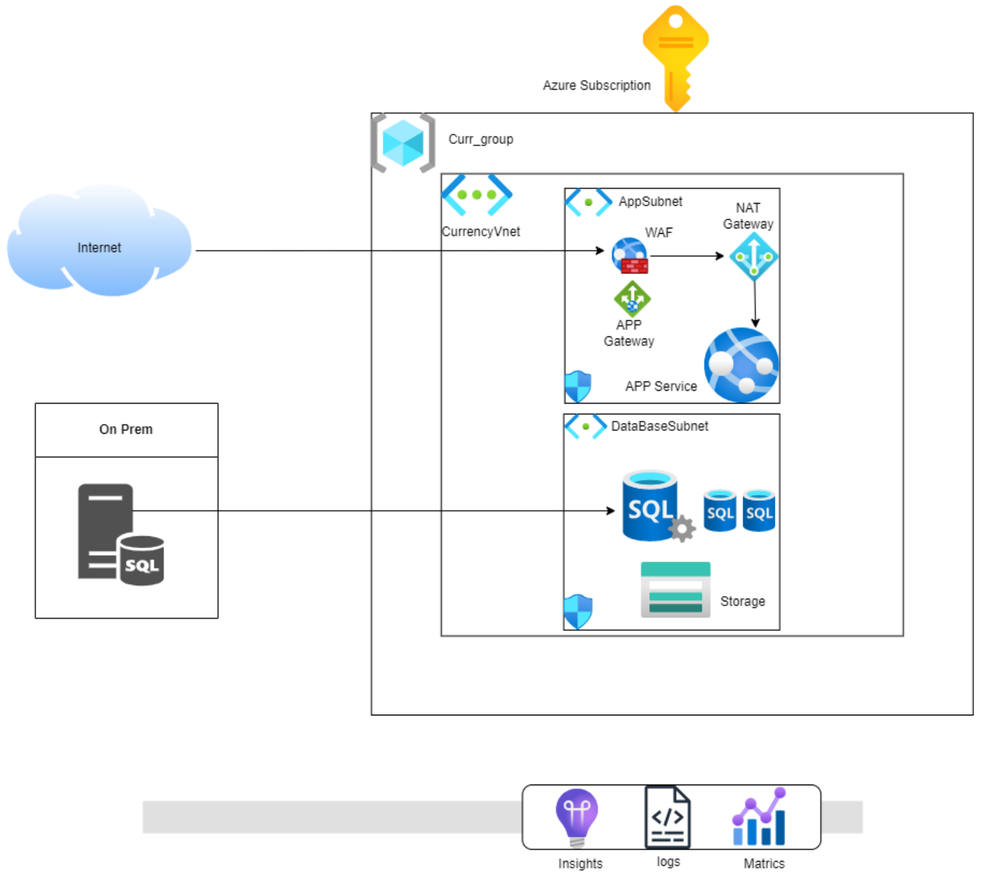
1-BUSINESS REQUIREMENT

1-DEPLOY AND HOST THE WEB APPLICATION ON AZURE TO IMPROVE PERFORMANCE AND REDUCE MAINTENANCE COSTS.

2-MIGRATE DATABASES DB1 AND DB2 TO AZURE TO LEVERAGE THE CLOUD'S SCALABILITY AND RELIABILITY.

3-MINIMIZE ADMINISTRATIVE EFFORT AND COSTS BY UTILIZING AZURE'S MANAGED SERVICES AND AUTOMATION CAPABILITIES.

SUGGESTED ARCHITECTURE



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APP AND IT'S DEPLOYMENT

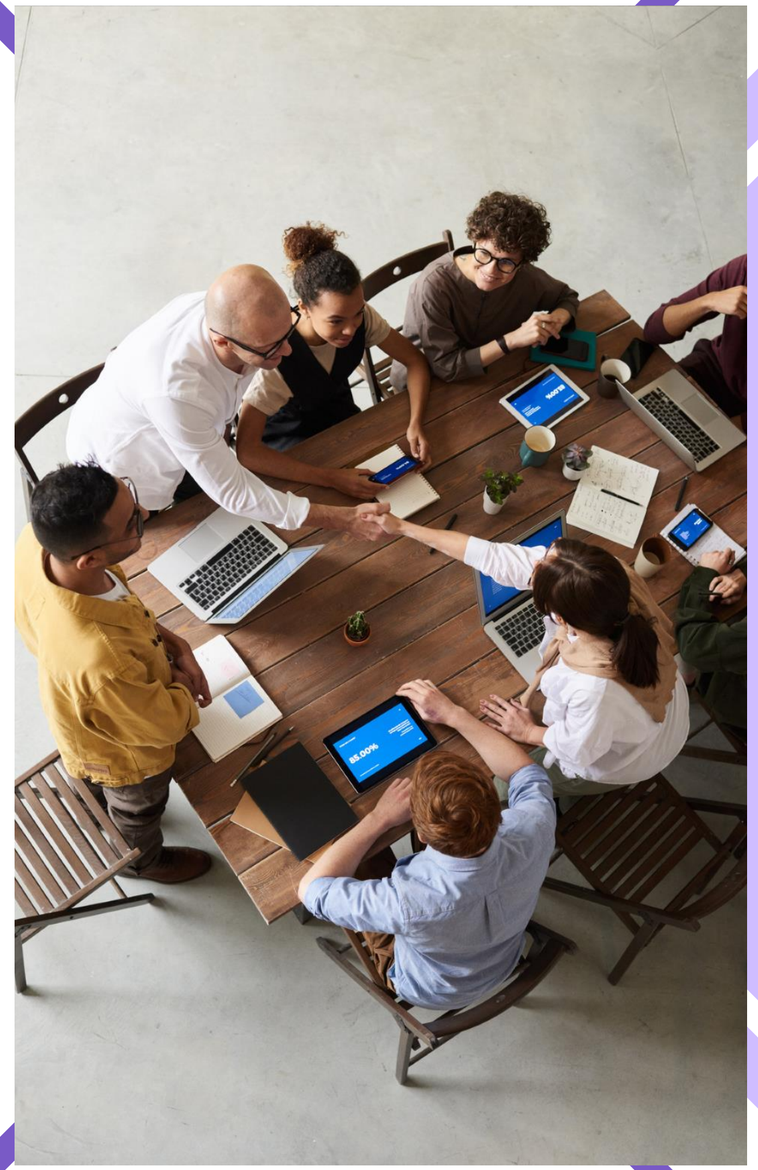
DISCUSSION

1.REQUIREMENTS FOR THE CURRENCY

CONVERTER WEBAPP

2. OUR SOLUTION AND WHY WE CHOOSE IT?

3. How is the deployment done?



REQUIREMENTS FOR THE CURRENCY CONVERTER WEB APP

-A WEB-BASED CURRENCY CONVERTER THAT RELIES ON AN API TO FETCH REAL-TIME CURRENCY RATES.

1-SCALABILITY

2-AVAILABILITY

3-SECURITY

4-TRAFFIC MANAGEMENT

WHAT AND WHY WE CHOSE THIS OPTION

AZURE APP SERVICE: HOSTING PLATFORM

HERE'S WHY:

- PAAS BENEFITS
- COST EFFICIENCY
- MINIMAL MAINTENANCE REQUIRED AND HIGH PERFORMANCE WITH BUILT-IN SUPPORT FOR APIS.
- BUILT-IN SECURITY AND MONITORING

WHAT AND WHY WE CHOSE THIS OPTION

NAT GW: SECURING OUTBOUND TRAFFIC

HERE'S WHY:

- OUTBOUND SECURITY
- PUBLIC IP PROTECTION
- SCALABILITY

WHAT AND WHY WE CHOSE THIS OPTION

APPLICATION GATEWAY: MANAGING AND SECURING INBOUND TRAFFIC

HERE'S WHY:

- INBOUND TRAFFIC MANAGEMENT
- SSL TERMINATION
- WEB APPLICATION FIREWALL (WAF)
- SCALABILITY

WHAT AND WHY WE CHOSE THIS OPTION

NETWORK SECURITY GROUPS (NSGS):

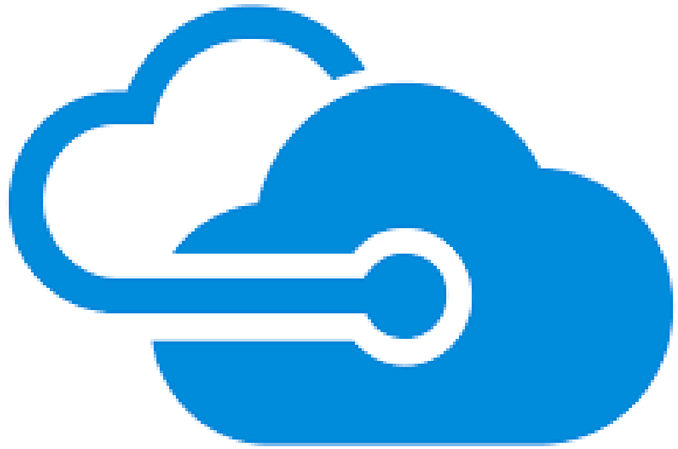
CONTROLLING NETWORK TRAFFIC

HERE'S WHY:

- GRANULAR TRAFFIC CONTROL
- LAYERED SECURITY
- COST EFFICIENCY

HOW IS THE DEPLOYMENT DONE?

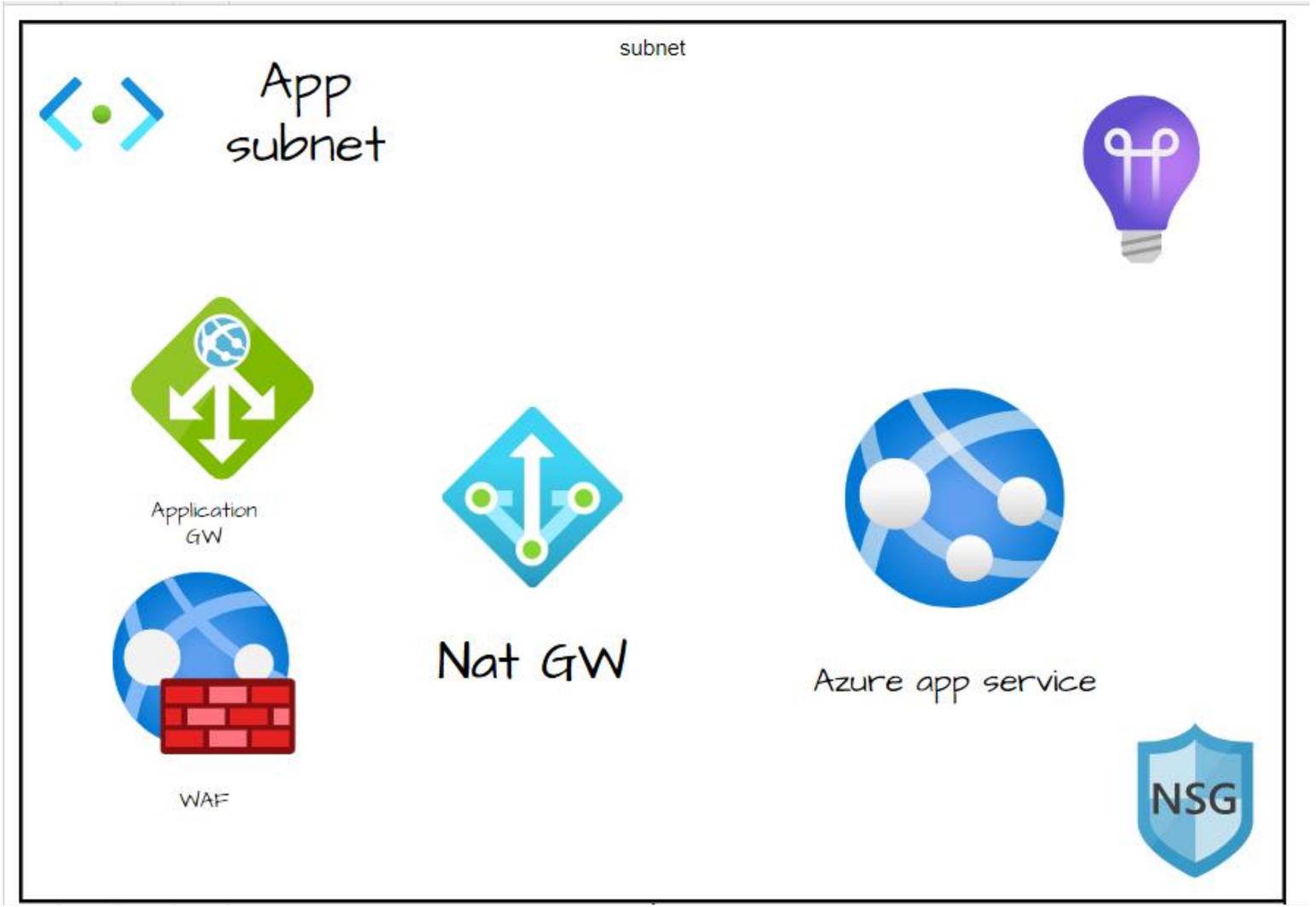
- VIRTUAL NETWORK
- SUBNET WITH NSG
- NAT GATEWAY
- APPLICATION GATWAY
- AZURE APP SERVICE



HOW IS THE DEPLOYMENT DONE?

- USER REQUESTS: WHEN A USER ACCESSES THE APP, THEIR REQUEST GOES THROUGH TH APPLICATION GATEWAY.
- SSL Termination & WAF: The Application Gateway terminates the SSL connection, inspects traffic for security vulnerabilities using WAF, and then routes it to the app instances.
- App Processing: The web app handles the request and sends the response back via the Application Gateway.
- Outbound Protection: Any potential outbound traffic is securely routed through the NAT Gateway, preventing exposure of the app’s internal IPs

SOLUTIONS ARCHITECTURE



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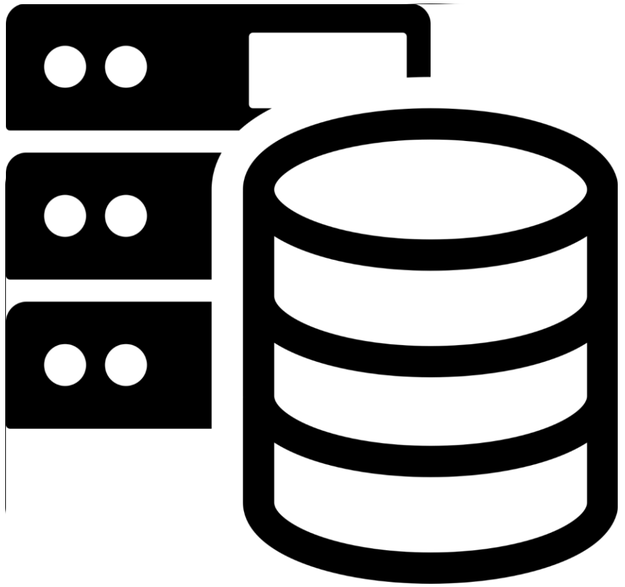
DATABASE MIGRATION



DISCUSSION

1.WHY DO WE NEED TO MIGRATE DB?

2. What are the available solutions?

3. What is the selected solution? & Why?

4. How the deployment is done?

WHY MIGRATE THE DATABASE TO AZURE?

1.SCALABILITY

2.Reliability

3.Reduced Maintenance Costs

4.Cost Optimization

5.Compliance and Security

6.Integration with Existing Infrastructure

WHAT ARE THE AVAILABLE SOLUTIONS?

SQL virtual machines
Best for migrations and applications requiring OS-level access

Managed instances
Best for most lift-and-shift migrations to the cloud

SQL Databases
Best for modern cloud applications

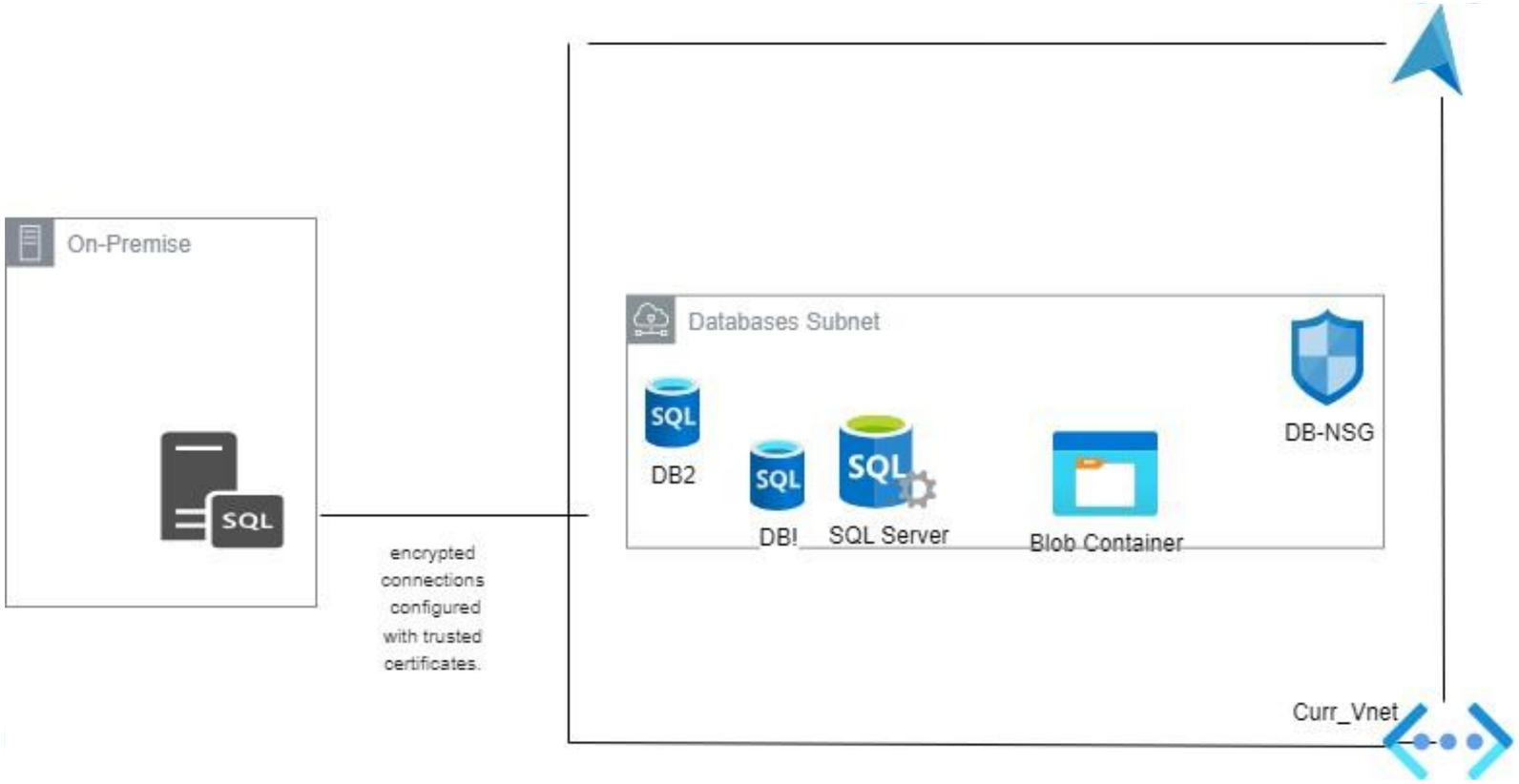
WHAT AND WHY WE CHOSE THIS OPTION

AZURE SQL DATABASE: IS THE RECOMMENDED SOLUTION.

HERE'S WHY:

- PAAS BENEFITS
- COST EFFICIENCY
- BUILT-IN SECURITY AND COMPLIANCE
- INTEGRATION WITH BLOB STORAGE FOR ARCHIVAL

SOLUTIONS ARCHITECTURE



HOW IS THE DEPLOYMENT DONE?

DATABASE MIGRATION VIA SSMS (SQL SERVER MANAGEMENT STUDIO):

THE PROCESS INCLUDED EXPORTING THE ON-PREMISES SQL DATABASES AND IMPORTING THEM DIRECTLY INTO AZURE SQL DATABASE.

BLOB STORAGE SETUP FOR ARCHIVING:

- BLOB CONTAINER IS USED TO AUTOMATICALLY MOVE OLD DATA FROM OUR DATABASES TO A CHEAPER STORAGE PLACE.
- THIS SOLUTION IS COST-EFFICIENT COSTS.
- OLD DATA IS ACCESSIBLE IF NEEDED.