YUMMY HEALTHY BITE Using Azure Services

Project Documentation

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ABSTRACT

The "Yummy Healthy Recipe" website allows users to search for nutritious recipes tailored to their dietary preferences. It promotes healthy eating with a wide range of recipes focused on wellness. Users can easily search based on ingredients or health benefits. The website uses various Azure services for functionality and performance. Azure Monitoring ensures smooth operations by tracking performance, while Azure Storage securely stores recipe data and images. The website is hosted using an Azure Virtual Machine (VM) and Virtual Network (VNet), ensuring speed and reliability. A key feature allows users to translate recipes from English into multiple languages, making the site accessible to a global audience. Combining cloud technology with a user-friendly interface, the project encourages users to adopt healthier eating habits.

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1. INTRODUCTION

The "Yummy Healthy Recipe" website is designed to offer users a convenient way to discover and explore healthy recipes. With a focus on promoting wellness, the platform provides a variety of nutritious meals that cater to different dietary preferences. The website is powered by Azure services to ensure seamless performance, secure data storage, and reliable hosting. One of the standout features is the ability to translate recipes from English into multiple languages, making the content accessible to users from different linguistic backgrounds. This project combines advanced cloud technology with a user-friendly design to encourage healthier eating habits. In addition to its extensive recipe database, the website allows users to search based on specific ingredients or health benefits, making it easier to find meals that suit individual needs. Azure's monitoring tools ensure that the website operates smoothly, while the storage account securely manages user data and content. Overall, the "Yummy Healthy Recipe" website aims to make healthy eating more accessible and enjoyable for users around the world.

1.1 BACKGROUND

With the growing demand for healthier lifestyles, people are increasingly seeking convenient ways to access nutritious recipes that fit their dietary preferences. Existing platforms often lack the flexibility and technology to provide seamless user experiences, especially for global audiences. The "Yummy Healthy Recipe" website addresses this gap by offering a user-friendly platform where users can easily search for healthy meals. By integrating Azure services such as Monitoring, Storage Accounts, Virtual Machines (VM), and Virtual Networks (VNet), the website ensures high performance, data security, and scalability. Additionally, the multilingual recipe translation feature enhances accessibility, allowing users from various regions to explore recipes in their preferred language. This project combines health-conscious content with cutting-edge cloud technology to meet modern user needs.

1.2 PURPOSE

The purpose of the "Yummy Healthy Recipe" website is to promote healthier eating by providing users with easy access to nutritious recipes tailored to their dietary preferences. The website aims to make healthy eating accessible to a global audience through its user-friendly design and multilingual recipe translation feature. Azure services play a critical role in this project by ensuring reliability and performance. **Azure Monitoring** is used to track the website's performance in real-time, ensuring smooth operation, while the **Azure Storage Account** securely manages all recipe data and images. The **Azure Virtual Machine (VM)** and **Virtual Network (VNet)** provide a scalable and efficient hosting environment, ensuring that users can access the website quickly and reliably. This project combines cloud technology

and health-focused content to encourage better eating habits worldwide.

1.3 SCOPE

- The website will allow users to search for healthy recipes based on ingredients, dietary preferences, and health benefits. Additionally, it will provide a translation feature, enabling recipes to be viewed in multiple languages, making the platform accessible to a global audience.
- The project will incorporate key Azure services like **Azure Monitoring** for real-time performance tracking, **Azure Storage Accounts** for secure data storage, and **Azure Virtual Machines (VM)** and **Virtual Networks (VNet)** for reliable and scalable hosting of the website, ensuring smooth operation even as the user base grows.

1.4 APPLICABILITY

The "Yummy Healthy Recipe" website is applicable to a wide range of users, including health-conscious individuals, families seeking nutritious meal options, and those with specific dietary restrictions. The multilingual support makes it suitable for international audiences, allowing users from diverse backgrounds to access healthy recipes in their preferred language. Nutritionists and dieticians can also utilize the platform to share healthy meal ideas with their clients. Additionally, the integration of Azure services ensures that the website can handle increased traffic during peak times, such as holidays or health awareness campaigns. By promoting healthy eating habits, the project contributes to overall public health and wellness. Ultimately, the platform serves as a valuable resource for anyone looking to improve their diet and lifestyle through accessible and diverse recipes.

CHAPTER 2: SURVEY OF TECHNOLOGY

2.1 EXISTING SYSTEM:

- **Limited Functionality**: Many existing recipe websites focus on specific diets or cuisines, often lacking a comprehensive database that caters to various dietary preferences.
- **Poor User Experience**: These platforms may have slow loading times and limited search capabilities, making it challenging for users to find relevant recipes quickly.
- **Lack of Accessibility**: Most existing systems do not offer translation features, limiting their usability for non-English speakers and international audiences.
- **Minimal Security**: Many existing systems may not prioritize data security, leading to potential risks in handling user information and recipe content.

2.2 PROPOSED SYSTEM:

- **Comprehensive Recipe Database**: The "Yummy Healthy Recipe" website offers a wide range of healthy recipes that can be searched based on various criteria, catering to diverse dietary needs.
- **Enhanced User Experience**: With Azure services integrated into the system, the website will benefit from faster loading times, real-time performance monitoring, and an intuitive user interface, ensuring a smooth experience.

- **Multilingual Support**: The proposed system includes a translation feature that allows recipes to be viewed in multiple languages, making the content accessible to a broader audience.
- **Robust Security and Scalability**: Utilizing Azure services such as **Azure Storage Accounts** for secure data management, **Azure Virtual Machines (VM)** for reliable hosting, and **Azure Monitoring** for performance tracking enhances the overall security and scalability of the website.

2.3 BENEFITS OF AZURE SERVICES IN THE PROJECT

1. **Improved Performance**: Azure services ensure that the website runs efficiently with minimal downtime, providing users with a fast and responsive experience.
2. **Scalability**: As user demand increases, Azure's cloud infrastructure allows the website to scale seamlessly, accommodating more traffic without compromising performance.
3. **Data Security**: Azure's robust security features protect user data and recipe information, providing peace of mind for users and compliance with data protection regulations.
4. **Real-Time Monitoring**: With Azure Monitoring, the website can proactively identify and resolve performance issues, ensuring a smooth user experience.
5. **Cost-Effectiveness**: Azure's pay-as-you-go model allows for cost-effective resource management, enabling the project to allocate funds efficiently based on actual usage.

CHAPTER 3 :REQUIREMENTS AND ANALYSIS

3.1 PROBLEM STATEMENT

1. **Limited Recipe Options**: Many existing platforms focus on specific diets or cuisines, making it difficult for users to find diverse and nutritious meal options.
2. **Language Barriers**: Non-English speakers often struggle to access available recipes, which hinders their ability to adopt healthier eating habits.
3. **User Experience Challenges**: Current recipe websites frequently provide a poor user experience, with slow loading times and limited search capabilities.
4. **Data Management Issues**: There is a growing need for platforms that can efficiently handle user data while ensuring data security and privacy.
5. **High Traffic Demand**: Existing systems may not perform well during peak usage times, leading to downtime or slow performance, which frustrates users.
6. **Need for Comprehensive Solutions**: The "Yummy Healthy Recipe" website seeks to address these challenges by providing a wide range of healthy recipes, multilingual support, and leveraging Azure services for enhanced performance, security, and scalability.

3.2 SOFTWARE AND HARDWARE REQUIREMENTS:

Software Requirements:

- Operating system: Windows 10/11 or MAC OS.
- Platform: Microsoft Azure
- Microsoft azure subscription(Free Trial or Azure for student or Pay-as-you-go)
- Virtual machine OS: Linux (Debian 11)

Hardware Requirements:

- Processor: Intel core i3 and above
- Hard disk: 256 GB or above • RAM: 4GB or above
- Internet: 1 Mbps or above
- Virtual machine ram: 1GB
- Virtual machine storage: 30Gb

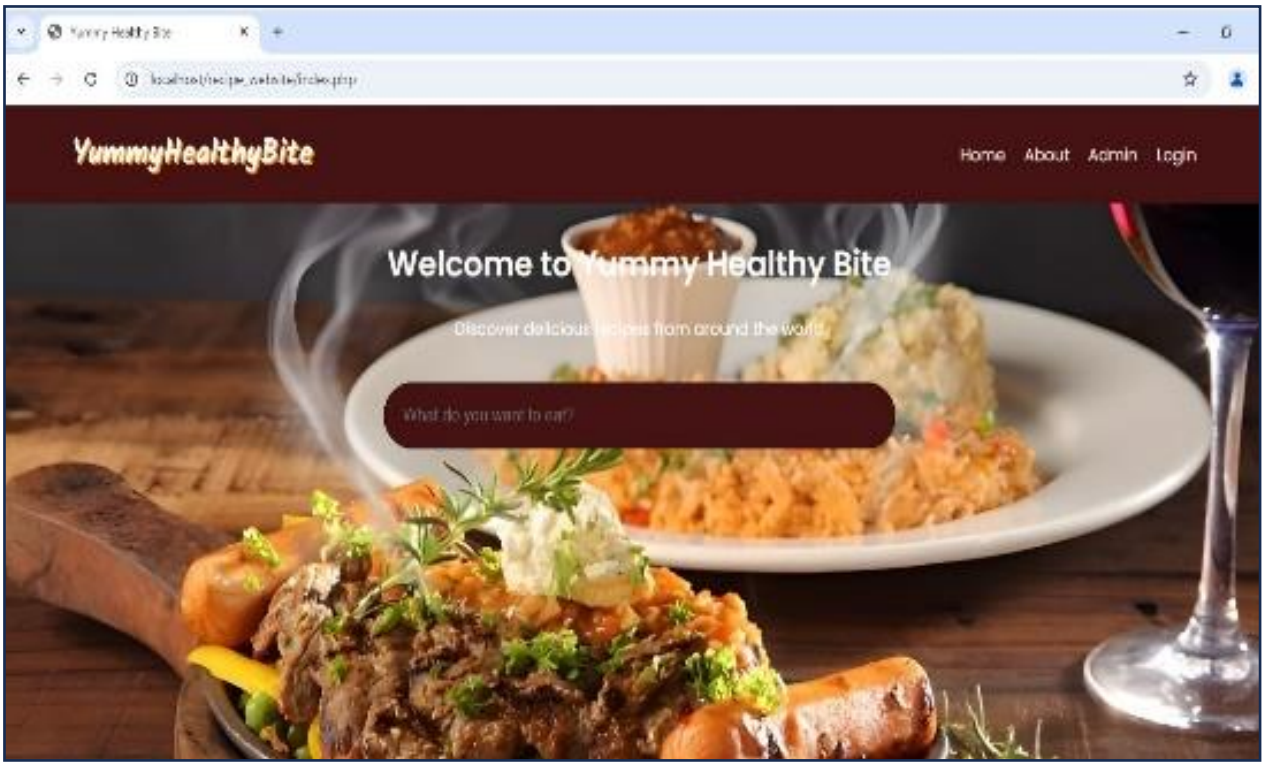
CHAPTER 4: WEBSITE OVERVIEW:

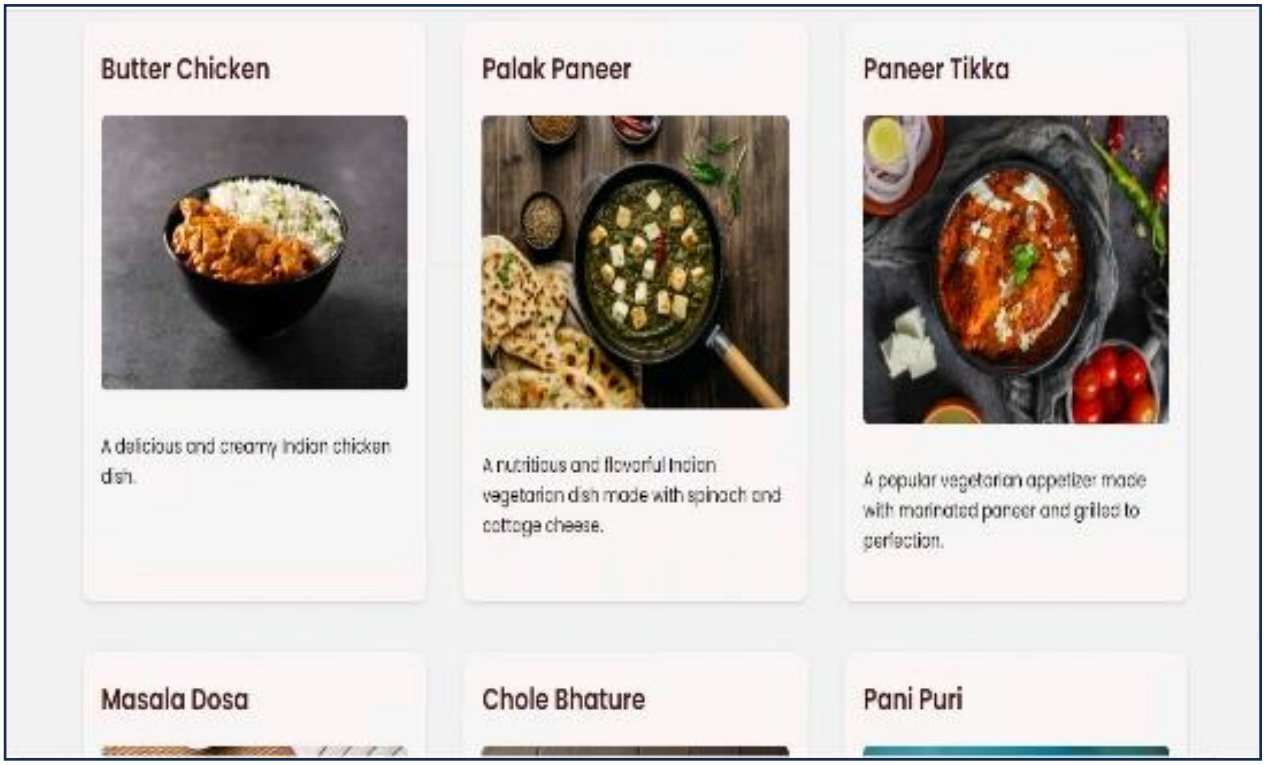
4.1 Login/Signup page:

This below image is the signup page of the website. On this page the user provide their username and password to access the websites services. If the user already have an account they can login by clicking on the login button.

4.2 Hero page:

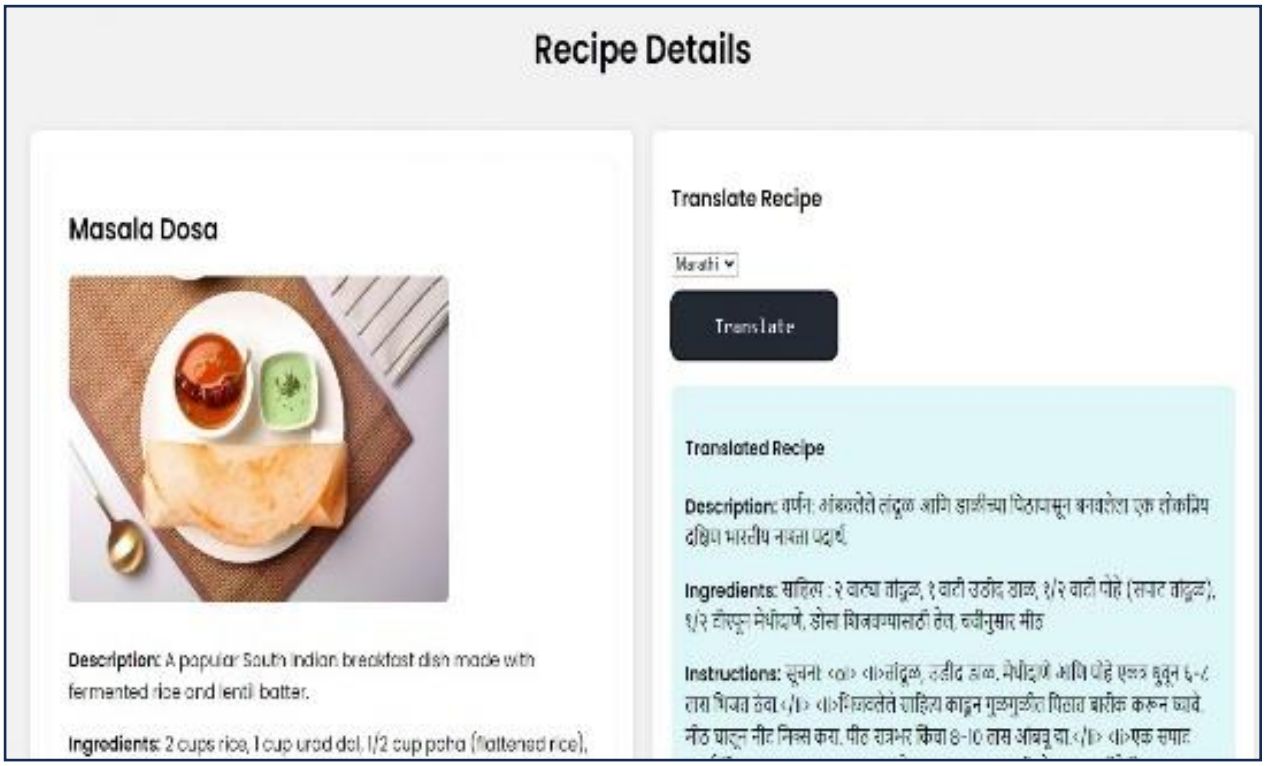
The below image shows the hero page of the website once your login is successful you came at this page where you can browse the recipes and also search for the recipes you want.

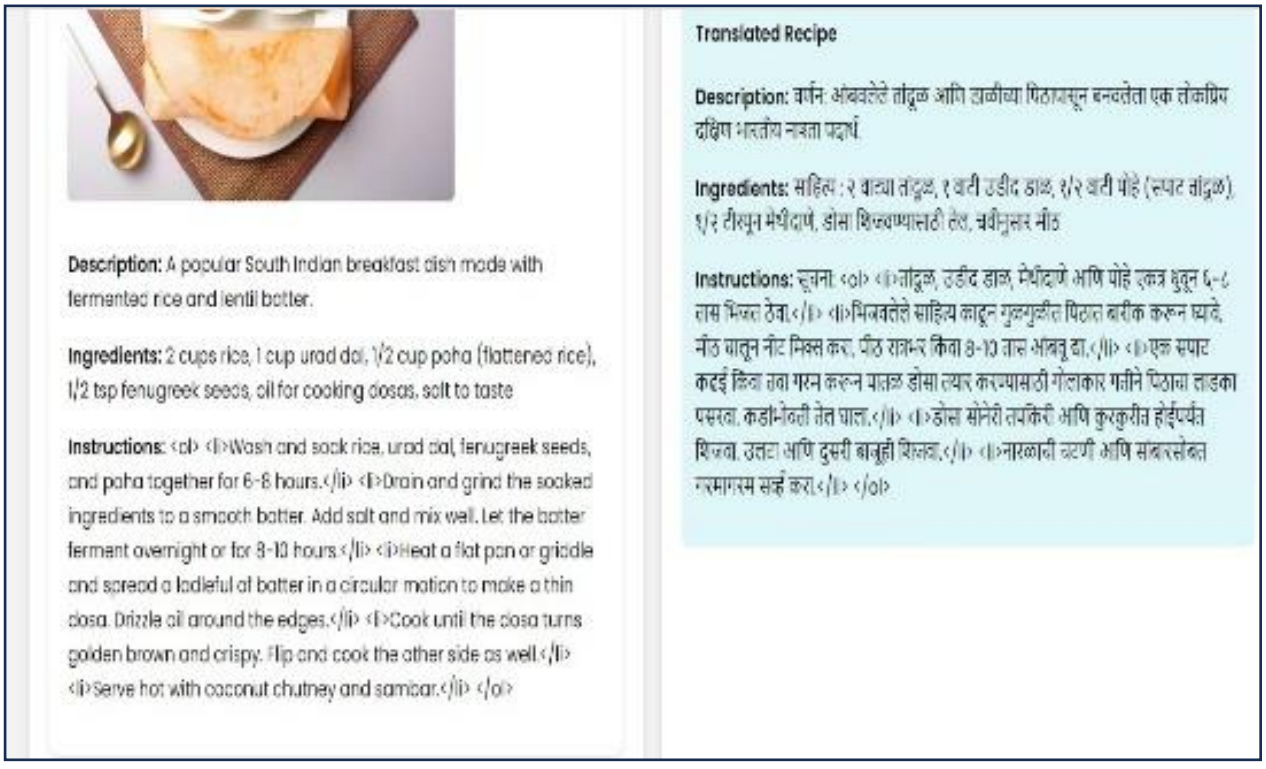

YummyHealthyBite
Home
About
Admin
Login
Welcome to Yummy Healthy Bite
What do you want to eat?


Butter Chicken
A delicious and creamy Indian chicken dish.
Palak Paneer
A nutritious and flavorful Indian vegetarian dish made with spinach and cottage cheese.
Paneer Tikka
A popular vegetarian appetizer made with marinated paneer and grilled to perfection.
Masala Dosa
Chole Bhature
Pani Puri

4.3 Translator page:

This page is very useful for the user whose is not good with English. They can change the recipe text from English to their native language. The languages provided are Hindi, Marathi, Gujrati, Tamil, Telugu.





4.4 AZURE SERVICES USED :

AZURE VM:

A Virtual Machine (VM) is a software-based emulation of a physical computer that runs an operating system and applications just like a regular machine. It operates on a physical server, known as the host, which provides the resources (such as CPU, memory, and storage) needed for the VM to function. Each VM is isolated from others, allowing multiple VMs to run on the same physical hardware without interfering with each other. This setup enables users to create various environments for different purposes, such as testing new software, running legacy applications, or experimenting with different operating systems.

People use VMs for several reasons. One significant benefit is resource efficiency; multiple VMs can share the resources of a single physical server, optimizing costs and space. They are also essential for testing and development, allowing developers to create and test applications in safe, controlled environments without affecting the main system. Additionally, VMs provide a way to run applications that may only be compatible with certain operating systems. Common uses for VMs include server consolidation, where businesses reduce the number of physical servers they need, disaster recovery, and creating virtual desktop environments for employees to access work applications from anywhere. Overall, VMs enhance flexibility, scalability, and cost-effectiveness in IT environments.

VNET:

A Virtual Network (VNet) is a cloud-based network that allows users to create their own isolated network environment within a cloud provider's infrastructure. Just like a traditional network, a VNet enables users to connect virtual machines, applications, and services to communicate securely. It functions similarly to a physical network,

where you can define IP address ranges, create subnets, and configure routing. VNets allow for the segmentation of resources, meaning different services can be placed in separate sub-networks, enhancing security and organization.

People use VNets for various reasons. One of the primary benefits is the ability to securely connect cloud resources, such as virtual machines and databases, without exposing them to the public internet. This is particularly important for businesses that handle sensitive data or require compliance with regulations. Additionally, VNets facilitate hybrid cloud setups, allowing organizations to connect their on-premises infrastructure with cloud resources, effectively extending their networks. Common use cases include hosting applications that need to communicate securely with each other, connecting cloud services to on-premises data centers, and implementing firewall rules to control traffic flow. Overall, VNets enhance network security, control, and flexibility within cloud environments.

STORAGE ACCOUNT:

A Storage Account is a cloud-based service that allows users to store and manage large amounts of data in a scalable and secure manner. It serves as a centralized repository for various types of data, including files, blobs (binary large objects), queues, and tables. Storage accounts provide different performance tiers and redundancy options, enabling users to choose the level of durability and availability that suits their needs. With a storage account, users can easily access their data from anywhere, share it with others, and manage it through various tools and interfaces provided by the cloud provider.

People use storage accounts for several reasons, primarily due to their scalability and cost-effectiveness. They are ideal for businesses that need to store and manage large volumes of data, such as backup files, media content, application data, or big data analytics. Storage accounts offer different types of storage solutions, such as blob storage for unstructured data (like images or videos), file storage for shared files, and queue storage for managing message data between applications. Additionally, storage accounts come with built-in security features,

such as encryption and access control, ensuring that sensitive information is protected. Overall, storage accounts provide a flexible, reliable, and secure solution for managing data in the cloud.

AZURE MONITOR:

Azure Monitor is a comprehensive cloud-based service that provides insights and analytics into the performance and health of applications and infrastructure hosted in the Microsoft Azure environment. It collects and analyzes telemetry data from various Azure resources, such as virtual machines, databases, and web applications. By providing real-time monitoring, Azure Monitor helps users understand how their applications are performing and allows them to identify and diagnose issues before they impact users. Users can create custom dashboards, set up alerts for specific events, and access logs to gain a deeper understanding of their system's behavior.

People use Azure Monitor for several reasons, primarily to ensure the reliability and performance of their applications and services. By monitoring the health and performance metrics, organizations can proactively address issues, optimize resource utilization, and enhance application reliability. Azure Monitor supports various monitoring scenarios, including application performance monitoring (APM), infrastructure monitoring, and network monitoring. It integrates with other Azure services, such as Azure Log Analytics and Application Insights, enabling users to perform advanced analysis and gain deeper insights. Overall, Azure Monitor enhances operational efficiency by providing valuable data that helps organizations maintain optimal performance and respond quickly to any incidents or outages.

RECOVERY SERVICE VOULT

Azure Recovery Services Vault is a cloud-based service designed to provide a unified platform for backup and disaster recovery solutions. It allows organizations to safeguard their data by backing it up to the cloud, ensuring that critical information is protected against accidental

deletions, corruption, or disasters. The Recovery Services Vault stores backup data for various Azure services, including virtual machines, applications, and on-premises workloads, enabling users to manage and monitor their backup and recovery operations from a single interface.

Organizations use Azure Recovery Services Vault for several reasons, primarily for its ease of use, scalability, and cost-effectiveness. It simplifies the backup process by automating tasks such as scheduling backups and managing retention policies, allowing users to focus on other critical tasks. The vault also offers built-in security features, such as encryption and role-based access control, to protect sensitive data. In addition to backup, the Recovery Services Vault supports disaster recovery scenarios, enabling businesses to quickly recover applications and data in the event of a failure or outage. Overall, Azure Recovery Services Vault enhances data protection, ensuring that organizations can efficiently restore their operations and minimize downtime when faced with unforeseen events.

TRANSLATOR:

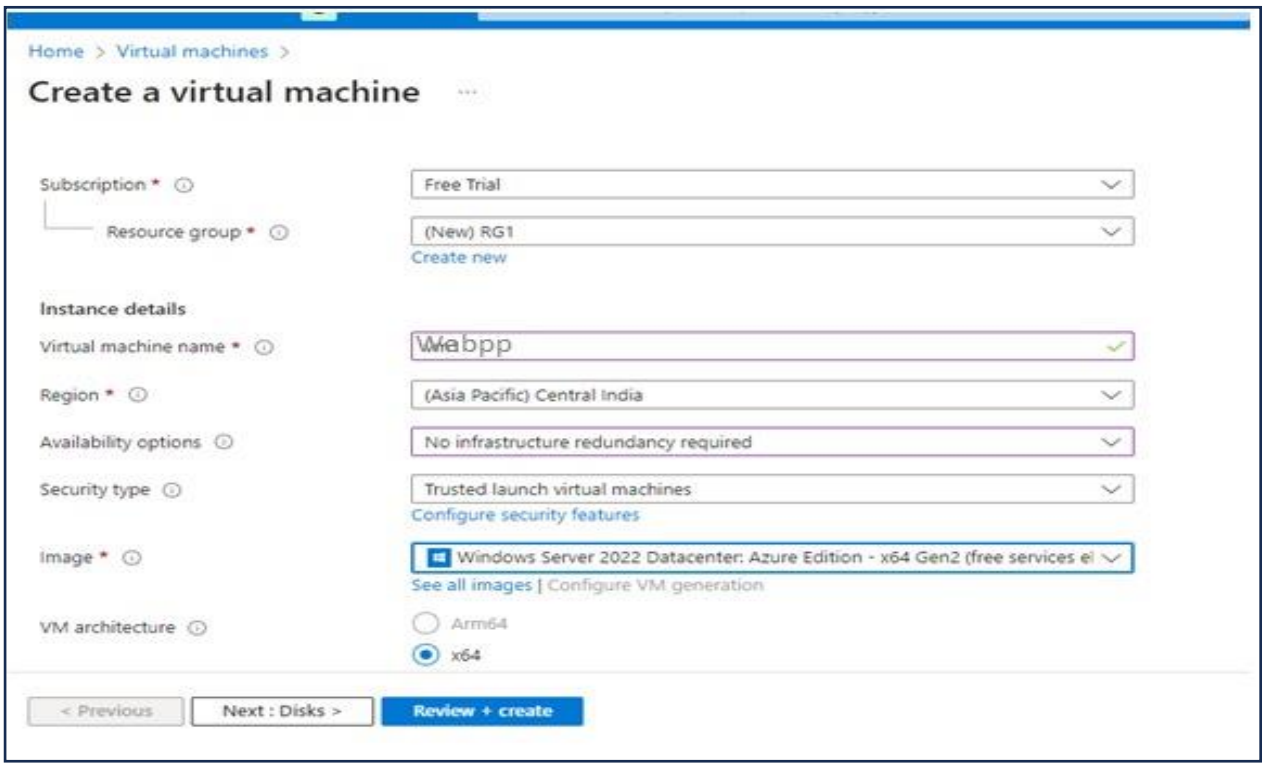
Azure Translator is a cloud-based translation service that provides real-time text translation across multiple languages. Part of the Azure Cognitive Services suite, Azure Translator uses advanced machine learning models to deliver accurate and context-aware translations for various applications and services. It supports over 100 languages and can translate text, documents, and even speech, making it a versatile tool for global communication and localization.

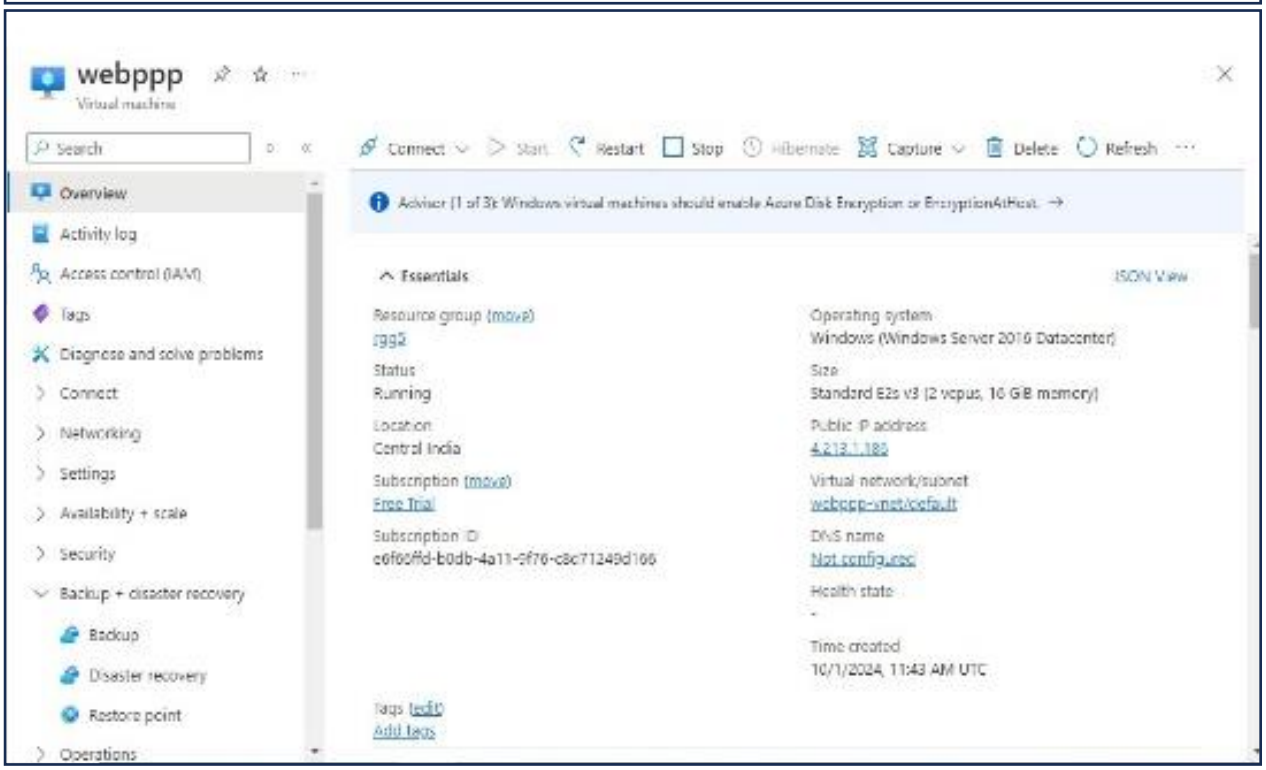
People use Azure Translator for several reasons. One of the primary benefits is its ability to enhance communication by breaking down language barriers, enabling businesses to reach and engage with a global audience. Azure Translator can be integrated into applications, websites, or workflows, allowing users to provide translation capabilities seamlessly. Additionally, it offers features such as language detection, transliteration, and text-to-speech, enhancing user experience. Companies often leverage Azure Translator for customer support, e-commerce, content localization, and any scenario requiring multilingual communication. Overall, Azure Translator simplifies the

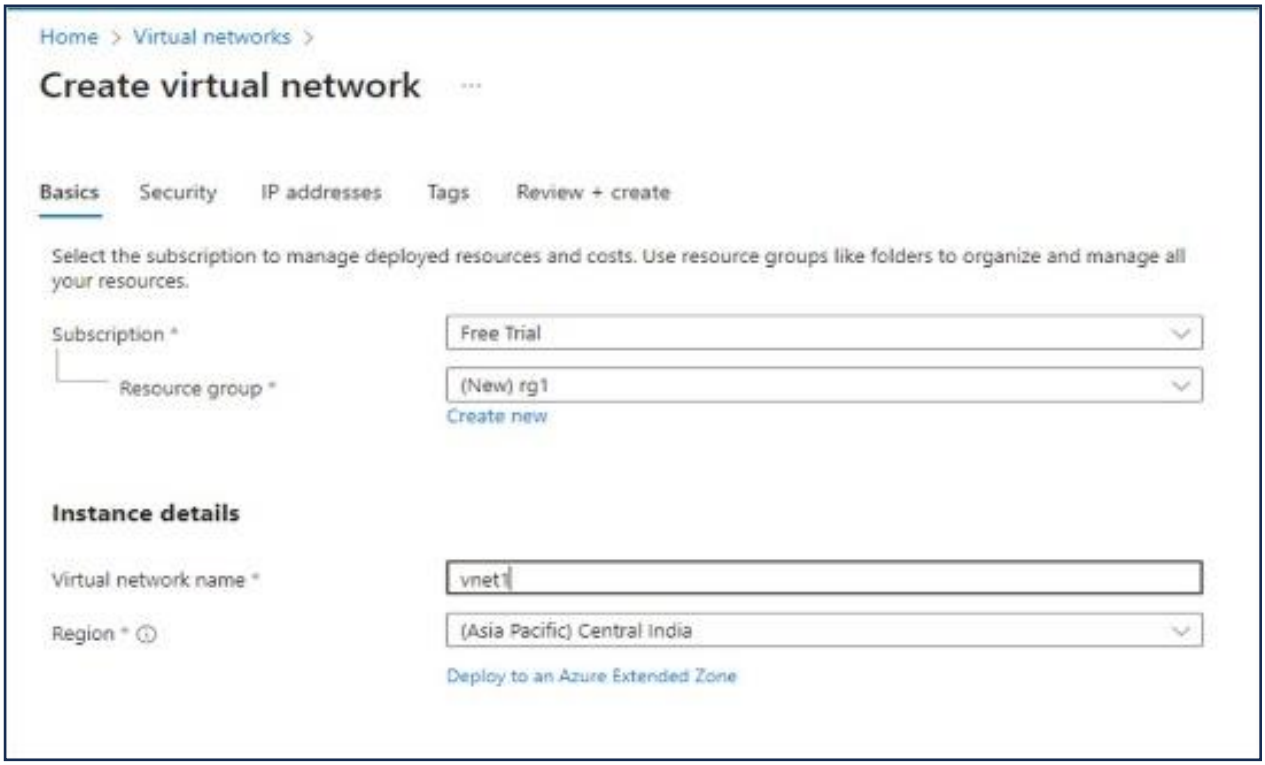
process of translating text and speech, making it easier for organizations to operate in a diverse, global market.

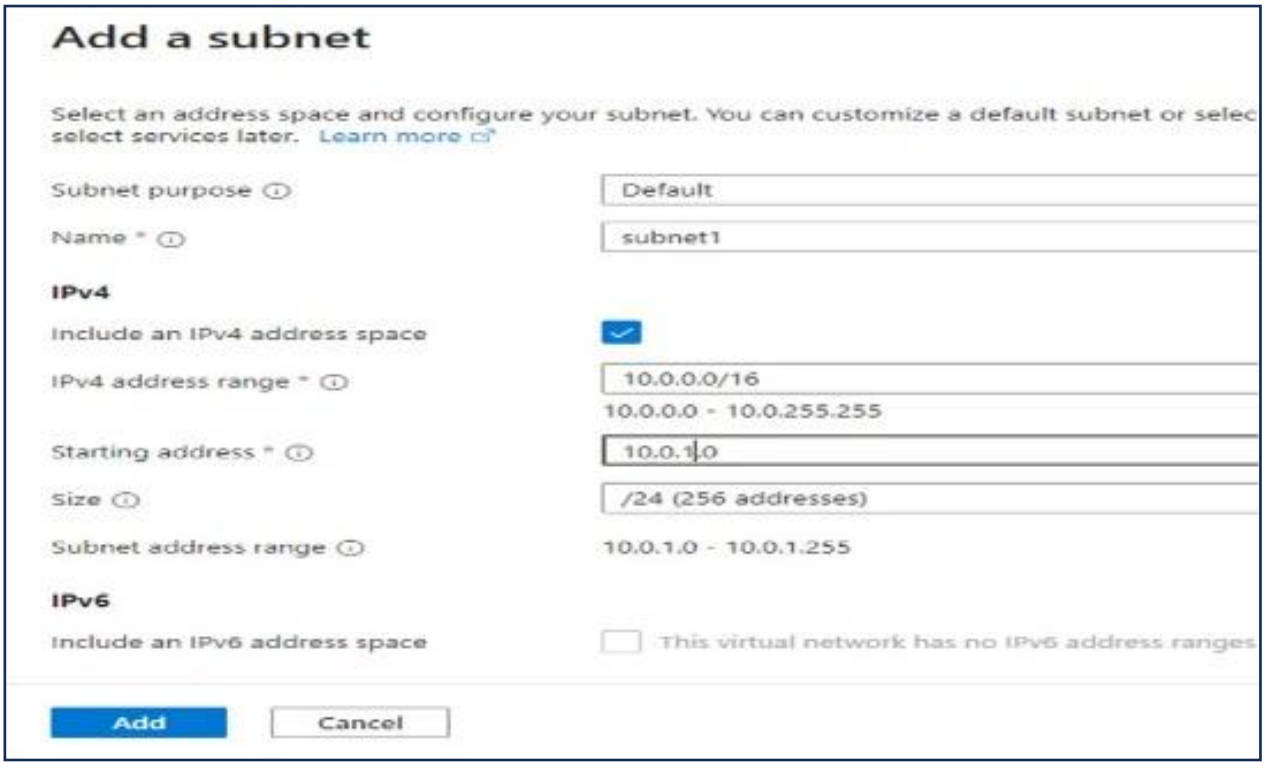
4.5 IMPLEMENTATION:

1 CREATE A VIRTUAL MACHINE:

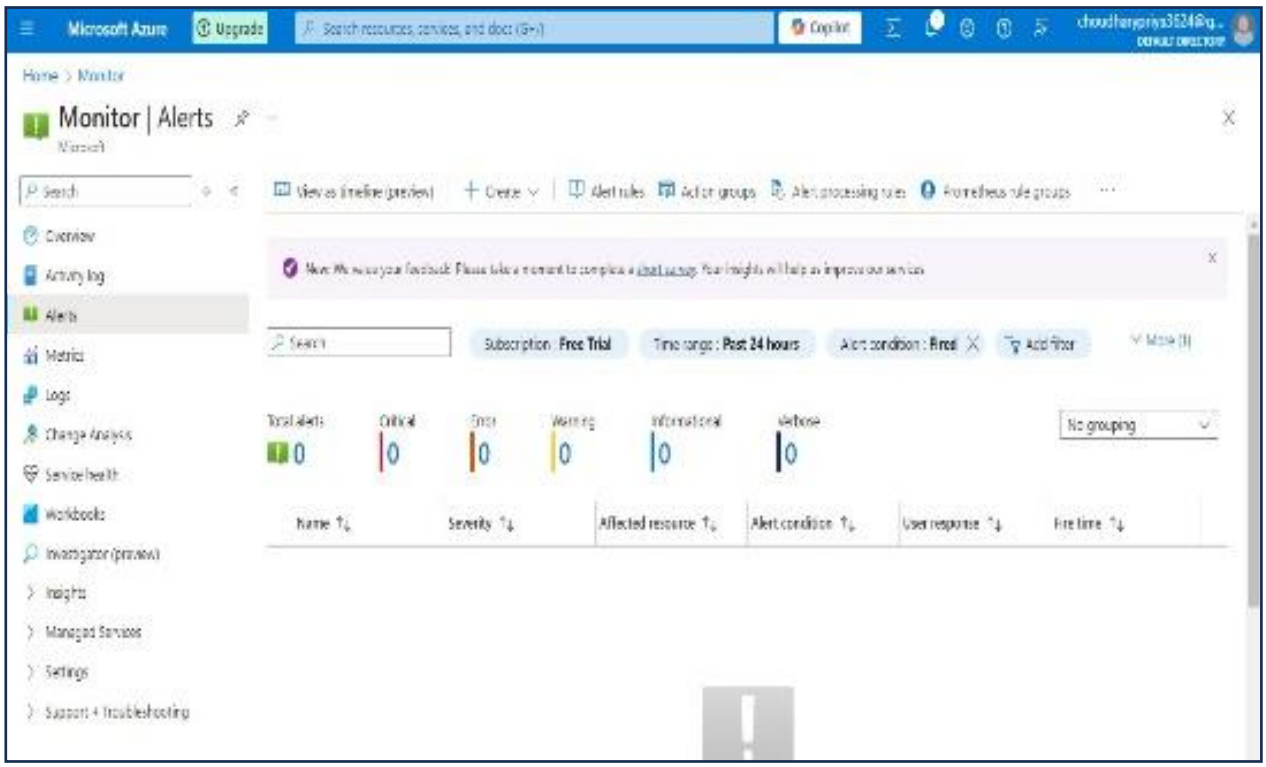


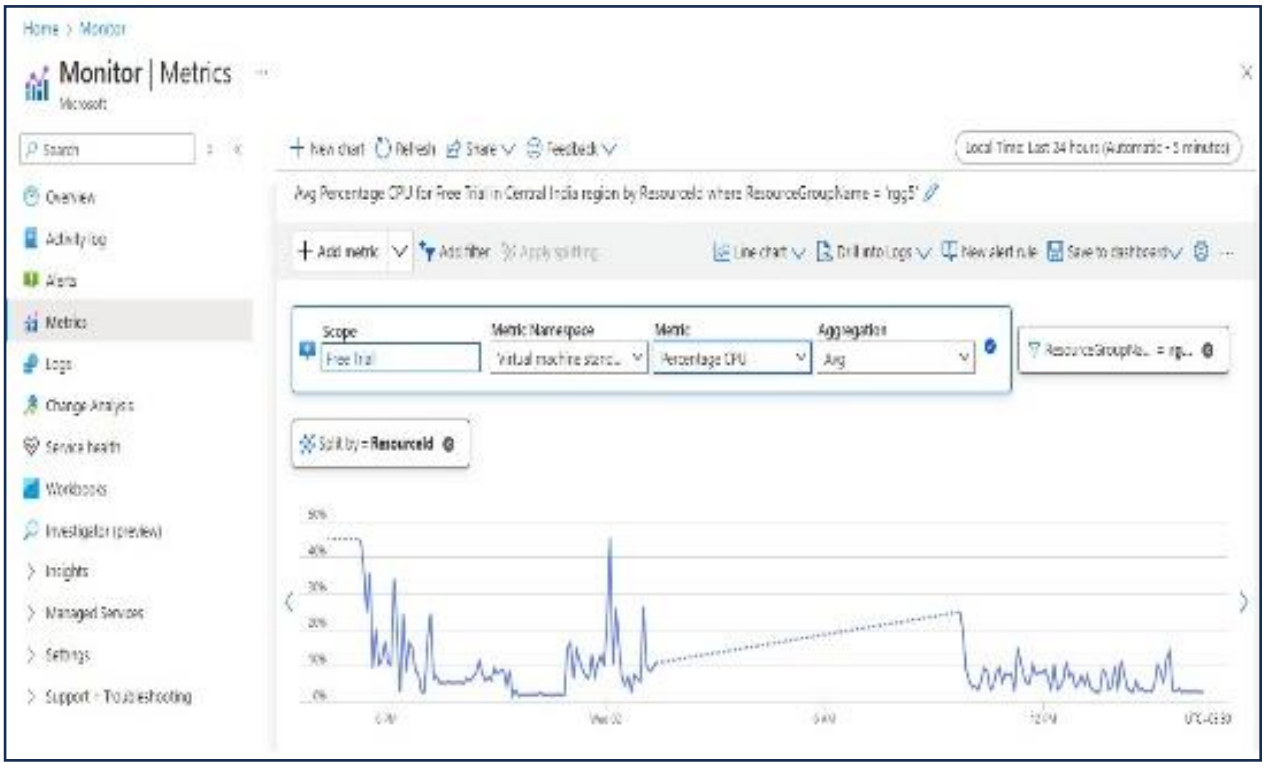


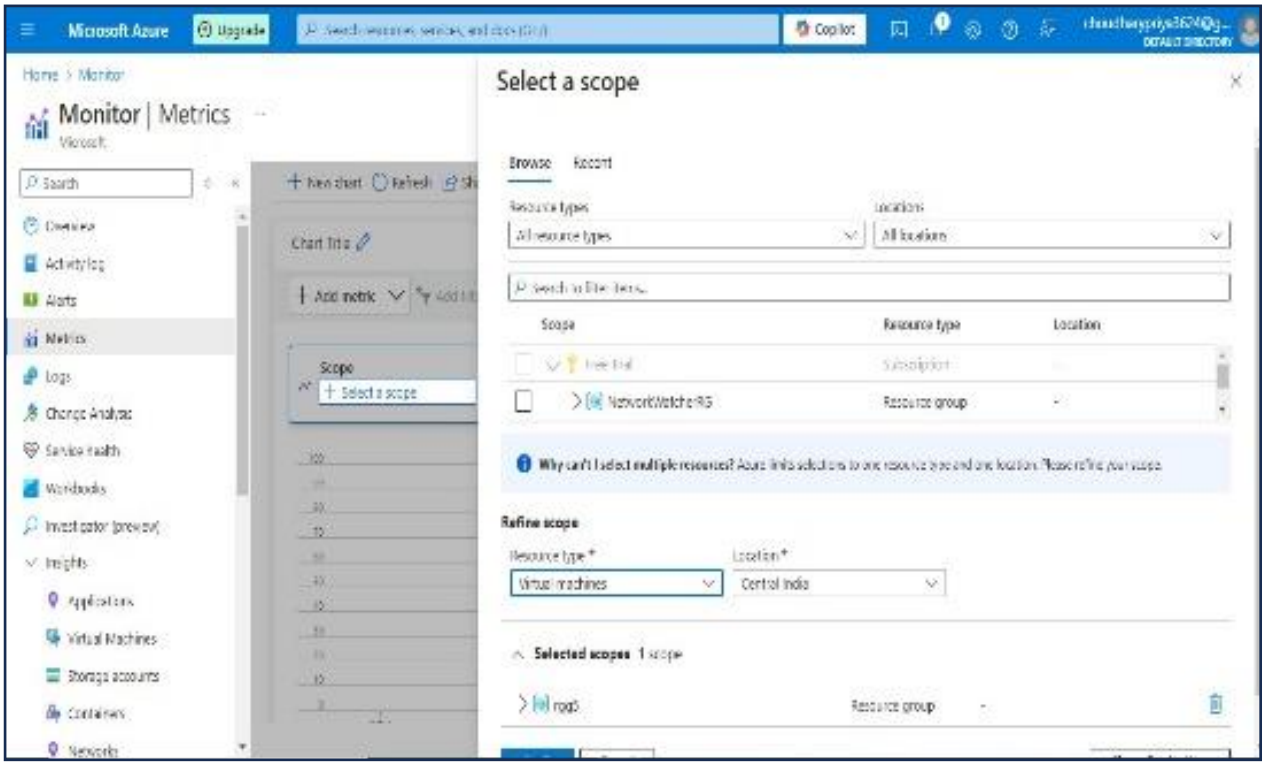

Home > Virtual networks >
Create virtual network
Basics
Security
IP addresses
Tags
Review + create
Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.
Subscription *
Free Trial
Resource group *
(New) rg1
Create new
Instance details
Virtual network name *
vnet1
Region *
(Asia Pacific) Central India
Deploy to an Azure Extended Zone


Add a subnet
Select an address space and configure your subnet. You can customize a default subnet or selec
select services later. Learn more
Subnet purpose
Default
Name *
subnet1
IPv4
Include an IPv4 address space
IPv4 address range *
10.0.0.0/16
10.0.0.0 - 10.0.255.255
Starting address *
10.0.1.0
Size
/24 (256 addresses)
Subnet address range
10.0.1.0 - 10.0.1.255
IPv6
Include an IPv6 address space
This virtual network has no IPv6 address ranges
Add
Cancel

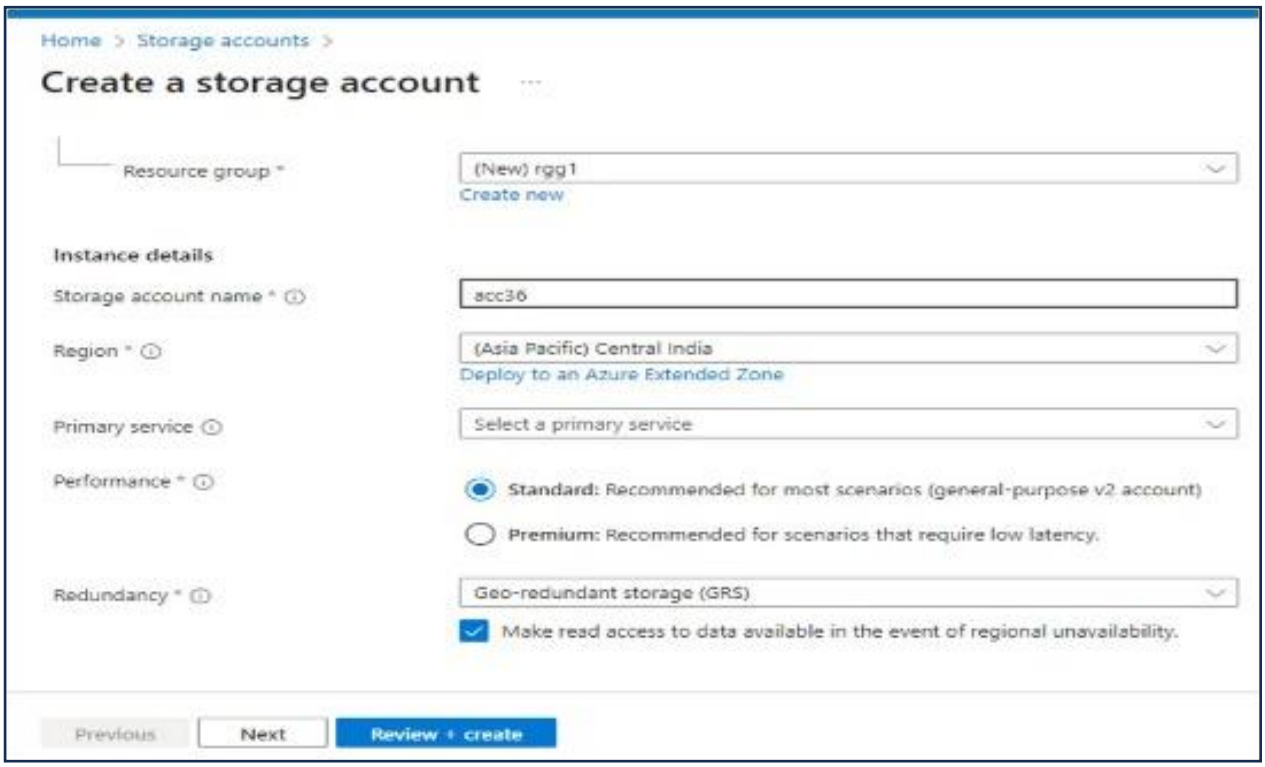
3. AZURE MONITOR:

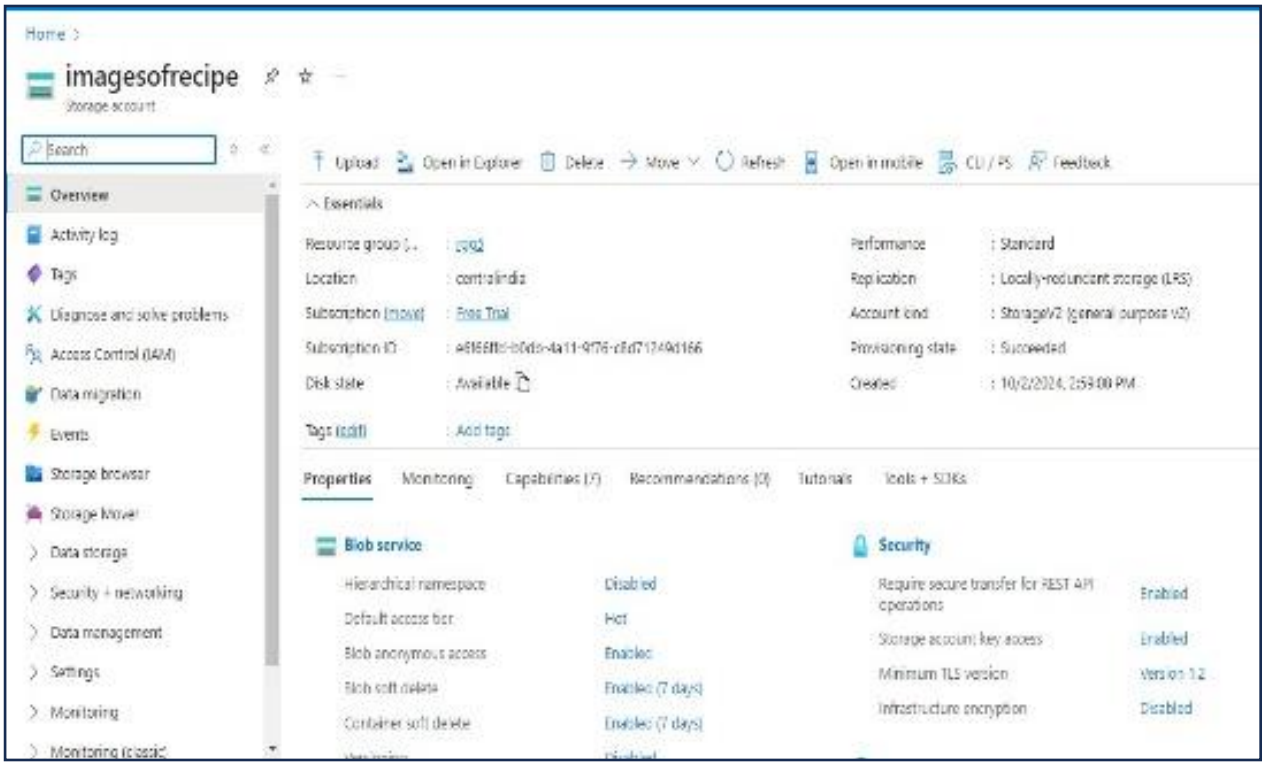


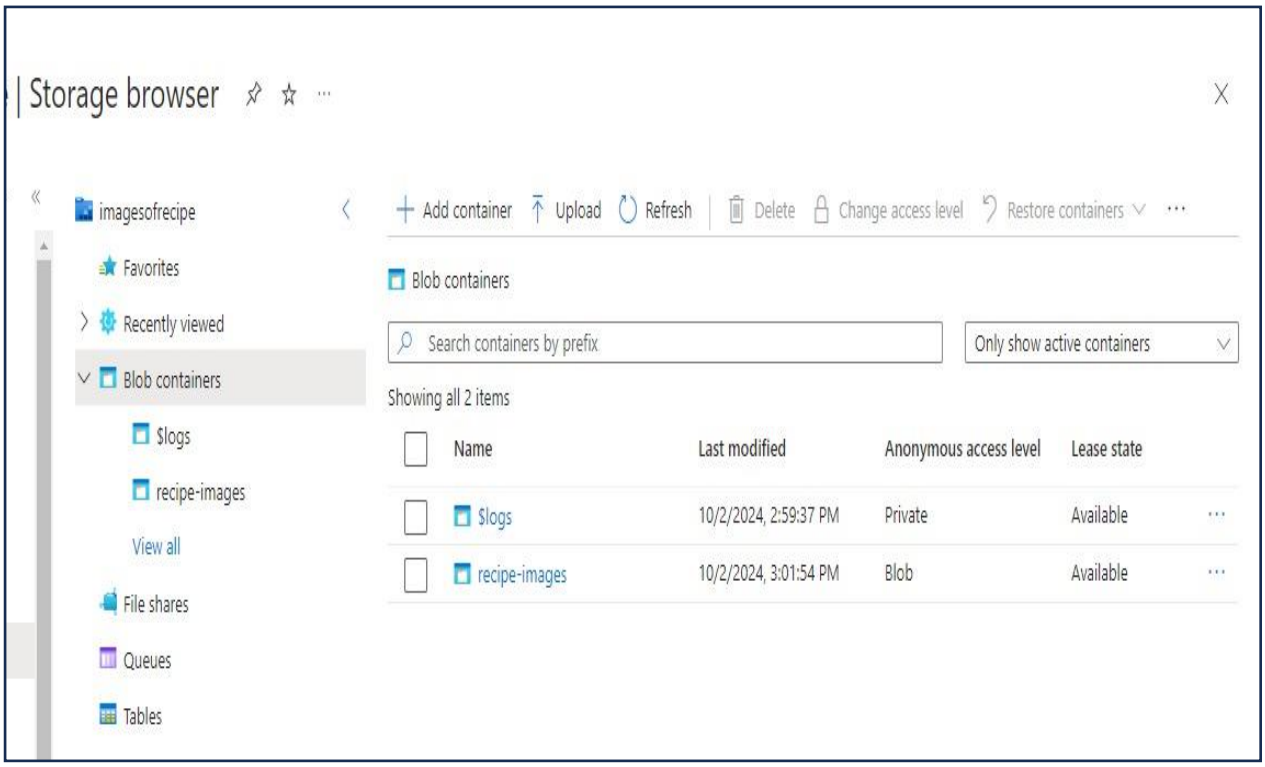




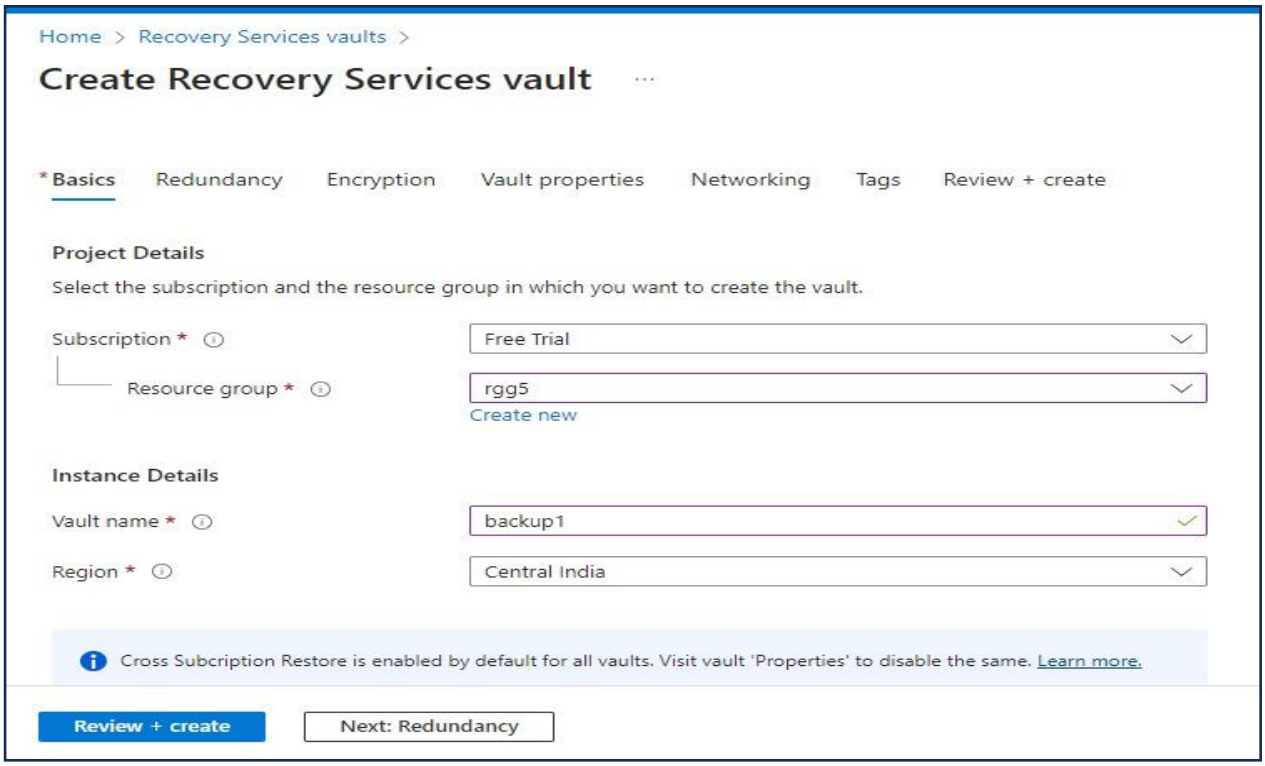
4.<u>STORAGE ACCOUNT:</u>

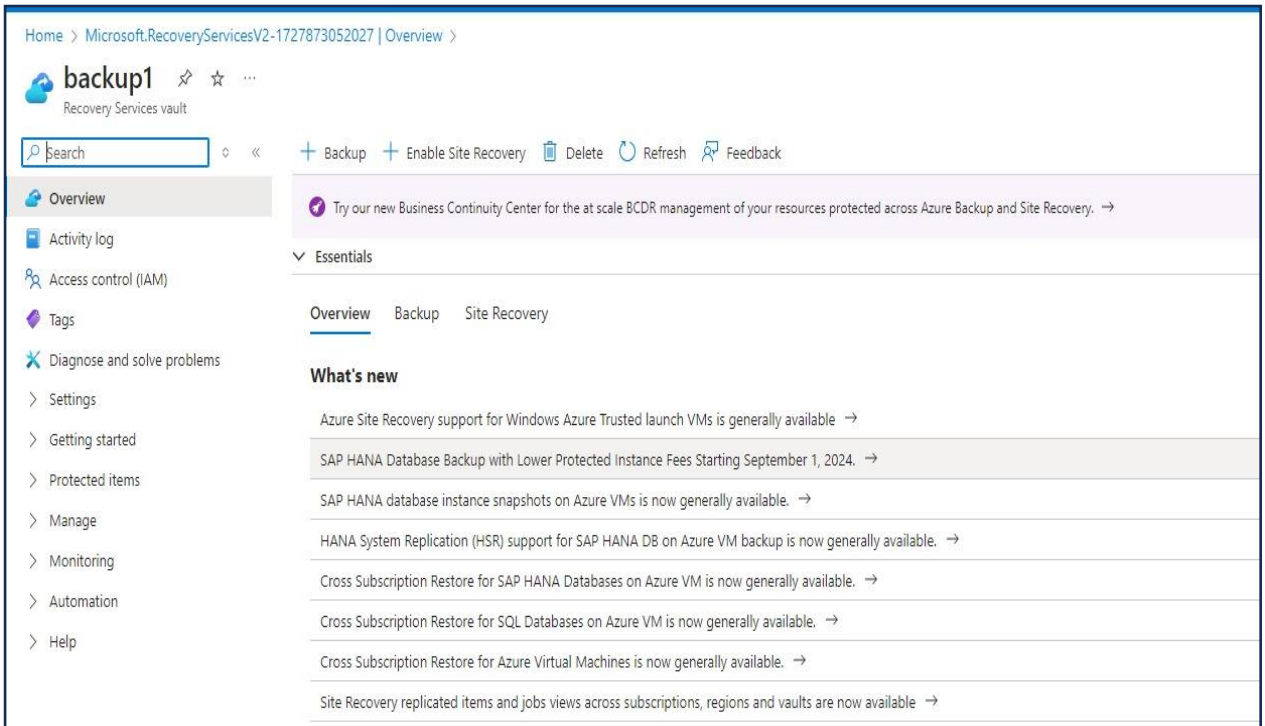



Home >
imagesofrecipe
Storage account
Search
Upload
Open in Explorer
Delete
Move
Refresh
Open in mobile
CLI / PS
Feedback
Overview
Activity log
Tags
Diagnose and solve problems
Access Control (IAM)
Data migration
Events
Storage browser
Storage Mover
Data storage
Security + networking
Data management
Settings
Monitoring
Essentials
Resource group (...) : rg2
Location : centralindia
Subscription (move) : Free Trial
Subscription ID : a8168ffd-b0db-4a11-9f76-c8d71749d166
Disk state : Available
Performance : Standard
Replication : Locally-redundant storage (LRS)
Account kind : StorageV2 (general purpose v2)
Provisioning state : Succeeded
Created : 10/2/2024, 2:59:00 PM
Tags (edit) : Add tags
Properties
Monitoring
Capabilities (7)
Recommendations (0)
Tutorials
Tools + SDKs
Blob service
Hierarchical namespace Disabled
Default access tier Hot
Blob anonymous access Enabled
Blob soft delete Enabled (7 days)
Container soft delete Enabled (7 days)
Security
Require secure transfer for REST API operations Enabled
Storage account key access Enabled
Minimum TLS version Version 1.2
Infrastructure encryption Disabled

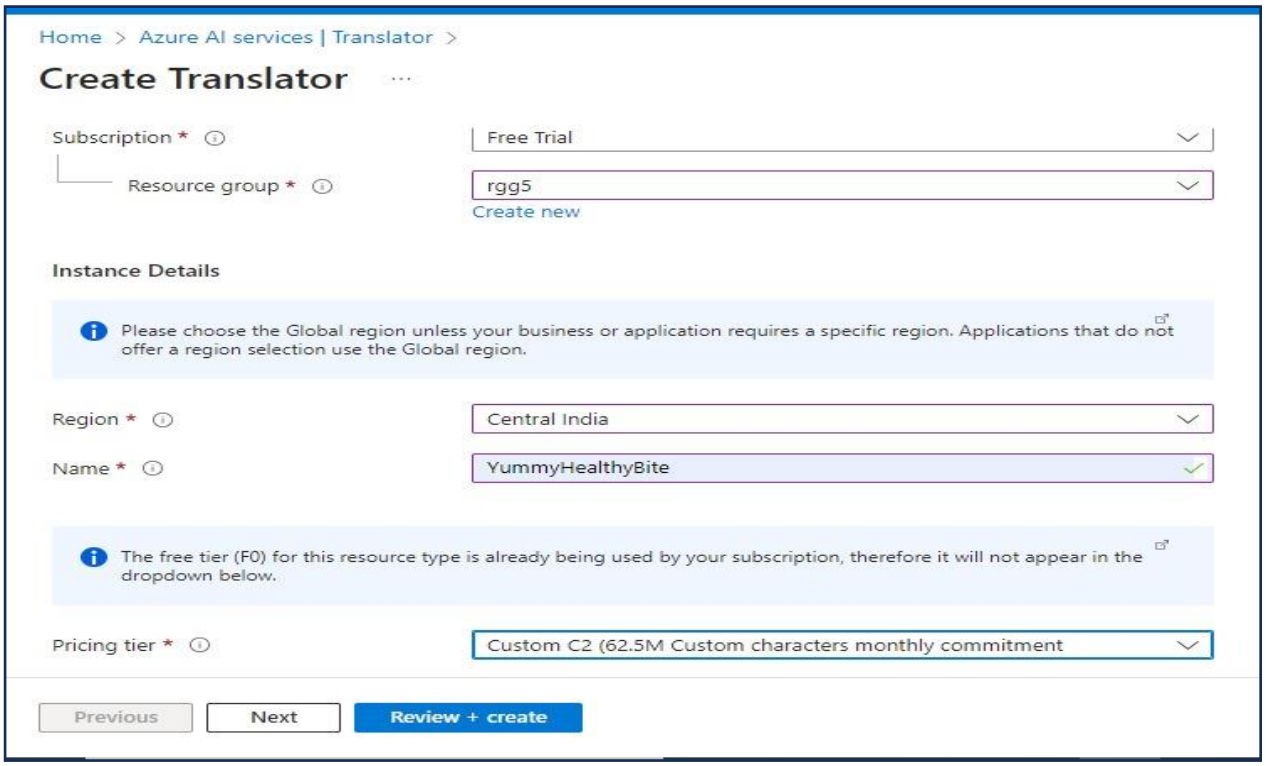

Storage browser
imagesofrecipe
Favorites
Recently viewed
Blob containers
$logs
recipe-images
View all
File shares
Queues
Tables
Add container
Upload
Refresh
Delete
Change access level
Restore containers
Blob containers
Search containers by prefix
Only show active containers
Showing all 2 items
Name
Last modified
Anonymous access level
Lease state
$logs
10/2/2024, 2:59:37 PM
Private
Available
recipe-images
10/2/2024, 3:01:54 PM
Blob
Available

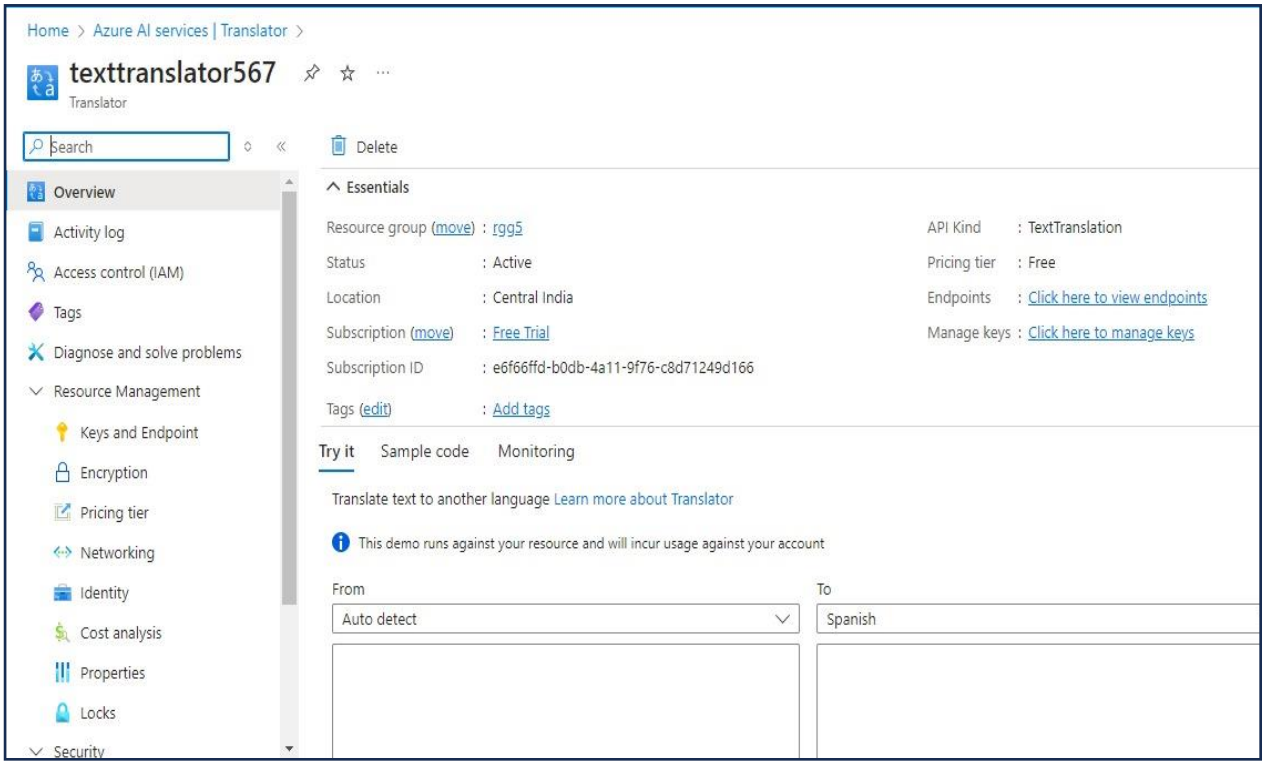
5.RSV FILE


Home > Recovery Services vaults >
Create Recovery Services vault
* Basics
Redundancy
Encryption
Vault properties
Networking
Tags
Review + create
Project Details
Select the subscription and the resource group in which you want to create the vault.
Subscription *
Free Trial
Resource group *
rgg5
Create new
Instance Details
Vault name *
backup1
Region *
Central India
Cross Subcription Restore is enabled by default for all vaults. Visit vault 'Properties' to disable the same. Learn more.
Review + create
Next: Redundancy


Home > Microsoft.RecoveryServicesV2-1727873052027 | Overview >
backup1
Recovery Services vault
Search
Backup
Enable Site Recovery
Delete
Refresh
Feedback
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Settings
Getting started
Protected items
Manage
Monitoring
Automation
Help
Try our new Business Continuity Center for the at scale BCDR management of your resources protected across Azure Backup and Site Recovery.
Essentials
Overview
Backup
Site Recovery
What's new
Azure Site Recovery support for Windows Azure Trusted launch VMs is generally available
SAP HANA Database Backup with Lower Protected Instance Fees Starting September 1, 2024.
SAP HANA database instance snapshots on Azure VMs is now generally available.
HANA System Replication (HSR) support for SAP HANA DB on Azure VM backup is now generally available.
Cross Subscription Restore for SAP HANA Databases on Azure VM is now generally available.
Cross Subscription Restore for SQL Databases on Azure VM is now generally available.
Cross Subscription Restore for Azure Virtual Machines is now generally available.
Site Recovery replicated items and jobs views across subscriptions, regions and vaults are now available

6.TANSLATOR:


Home > Azure AI services | Translator >
Create Translator
Subscription *
Free Trial
Resource group *
rgg5
Create new
Instance Details
Please choose the Global region unless your business or application requires a specific region. Applications that do not offer a region selection use the Global region.
Region *
Central India
Name *
YummyHealthyBite
The free tier (F0) for this resource type is already being used by your subscription, therefore it will not appear in the dropdown below.
Pricing tier *
Custom C2 (62.5M Custom characters monthly commitment
Previous
Next
Review + create


Home > Azure AI services | Translator >
texttranslator567
Translator
Search
Delete
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Resource Management
Keys and Endpoint
Encryption
Pricing tier
Networking
Identity
Cost analysis
Properties
Locks
Security
Essentials
Resource group (move) : rgg5
Status : Active
Location : Central India
Subscription (move) : Free Trial
Subscription ID : e6f66ffd-b0db-4a11-9f76-c8d71249d166
Tags (edit) : Add tags
API Kind : TextTranslation
Pricing tier : Free
Endpoints : Click here to view endpoints
Manage keys : Click here to manage keys
Try it
Sample code
Monitoring
Translate text to another language Learn more about Translator
This demo runs against your resource and will incur usage against your account
From
Auto detect
To
Spanish

CHAPTER 5: CONCLUSION

The "Yummy Healthy Recipe" website design offers a user-friendly platform for individuals seeking nutritious and delicious recipes. By leveraging various Azure services, such as monitoring, storage accounts, virtual machines, and virtual networks, the website ensures reliability, security, and smooth performance. Users can easily search for healthy recipes and enjoy the added convenience of translating them into different languages, making healthy cooking accessible to a broader audience. This project not only promotes healthier eating habits but also embraces technology to enhance user experience and engagement. Overall, the "Yummy Healthy Recipe" website stands as a valuable resource for anyone looking to explore healthy cooking options.