MICRO PROJECT

MICROSOFT AZURE WEB SERVICE

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AGENDA

INTRODUCTION

WHY AZURE WEB SERVICE

Azure Web Services, part of Microsoft's Azure cloud computing platform, offers a comprehensive suite of services for building, deploying, and managing web applications and services. This platform-as-a-service (PaaS) offering provides developers with a scalable and flexible environment to develop, test, and host their applications without the need to manage underlying infrastructure. Here's a brief overview:

Azure Web Services includes:

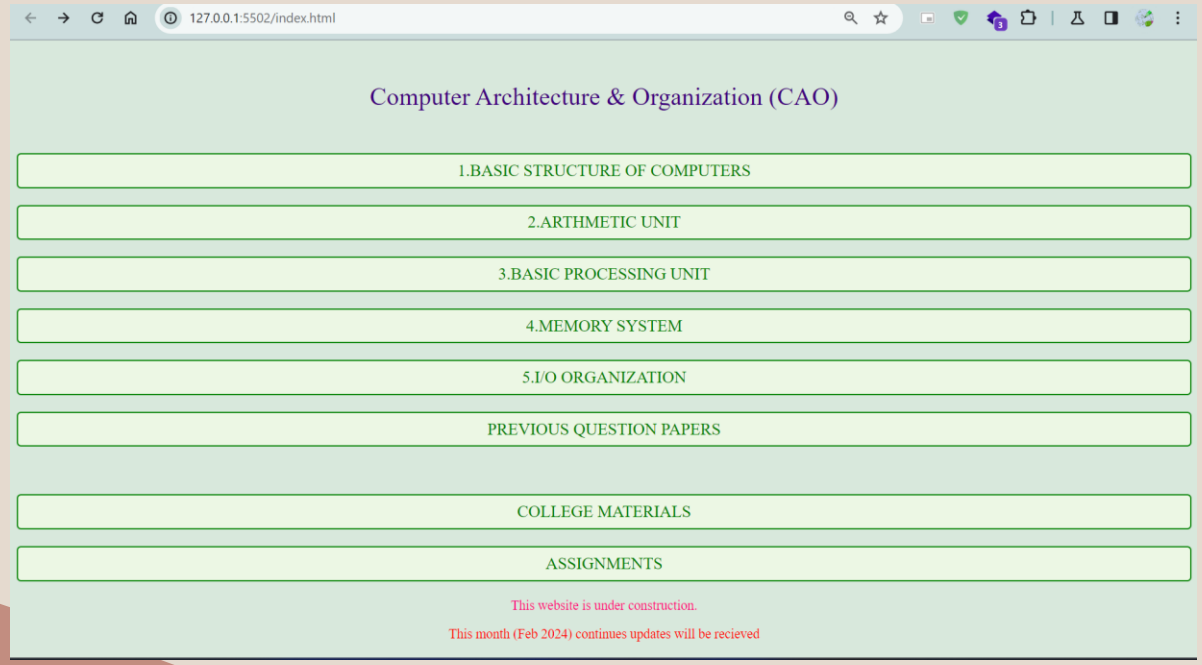
Web App Service: Azure App Service enables developers to build and host web applications using various programming languages and frameworks such as .NET, Java, Python, Node.js, and PHP. It offers features like auto-scaling, continuous integration, and deployment, as well as integration with other Azure services.

AZURE WEB SERVICE

Azure Functions: Azure Functions is a serverless compute service that enables developers to run code in response to events without managing server infrastructure. It supports a variety of programming languages and can be used for tasks such as data processing, file processing, and IoT device integration.

Azure Static Web Apps: This service provides a modern approach to building and deploying static web applications. Developers can use popular frontend frameworks like React, Angular, and Vue.js, and leverage serverless APIs for backend functionality. Azure Static Web Apps also includes features like continuous deployment, custom domains, and authentication.

WEB VIEWS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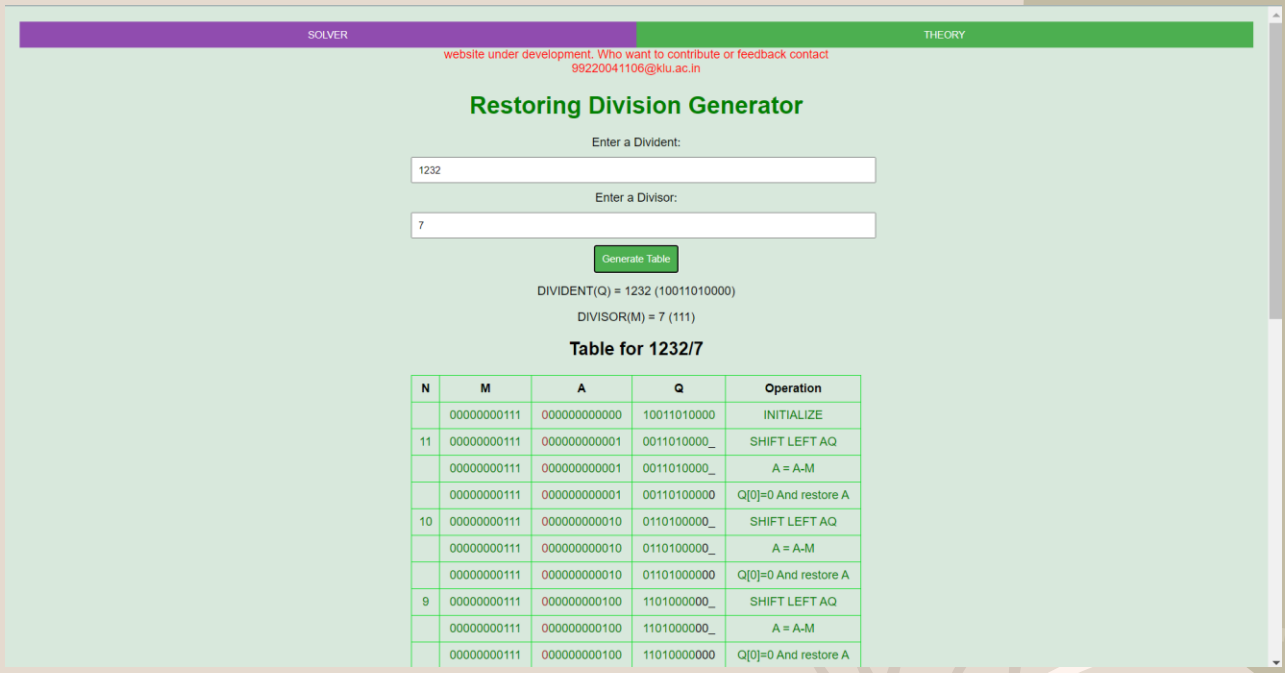
Computer Architecture & Organization (CAO)
1.BASIC STRUCTURE OF COMPUTERS
2.ARTHMETIC UNIT
3.BASIC PROCESSING UNIT
4.MEMORY SYSTEM
5.I/O ORGANIZATION
PREVIOUS QUESTION PAPERS
COLLEGE MATERIALS
ASSIGNMENTS
This website is under construction.
This month (Feb 2024) continues updates will be recieved


SOLVER
THEORY
website under development. Who want to contribute or feedback contact
99220041106@klu.ac.in
Restoring Division Generator
Enter a Divident:
1232
Enter a Divisor:
7
Generate Table
DIVIDENT(Q) = 1232 (10011010000)
DIVISOR(M) = 7 (111)
Table for 1232/7
N M A Q Operation
00000000111 000000000000 10011010000 INITIALIZE
11 00000000111 000000000001 0011010000_ SHIFT LEFT AQ
00000000111 000000000001 0011010000_ A = A-M
00000000111 000000000001 00110100000 Q[0]=0 And restore A
10 00000000111 000000000010 0110100000_ SHIFT LEFT AQ
00000000111 000000000010 0110100000_ A = A-M
00000000111 000000000010 01101000000 Q[0]=0 And restore A
9 00000000111 000000000100 1101000000_ SHIFT LEFT AQ
00000000111 000000000100 1101000000_ A = A-M
00000000111 000000000100 11010000000 Q[0]=0 And restore A

WEB VIEWS

PIPELING

What is a Pipeling?

Pipelining is a technique used in computer architecture where the execution of instructions is overlapped in multiple stages. Each stage of the pipeline performs a specific operation on an instruction, allowing several instructions to be processed simultaneously. This enhances the throughput and efficiency of the CPU by reducing the time wasted waiting for one instruction to complete before starting the next one.

Stages of Pipeling

In computing, a pipeline refers to a series of processing stages where data is passed through each stage to perform a specific task. Here are the typical stages of a pipeline:

1. **Fetch:** In a CPU pipeline, the first stage is fetching instructions from memory. This involves fetching the next instruction to be executed from memory and moving it to the instruction decoder.
2. **Decode:** Once the instruction is fetched, it needs to be decoded to determine the operation it represents and the operands involved. The decode stage typically converts the instruction into a set of control signals for subsequent stages.
3. **Execute:** In this stage, the instruction is actually executed. This might involve arithmetic or logical operations, memory accesses, or other computations depending on the instruction type.
4. **Write Back:** After the execution of the instruction, the result may need to be written back to a register or memory location. This stage completes the instruction execution and prepares for the next instruction.

CLOCK->	1	2	3	4	5	6	7
P1	F	D	E	W			
P2		F	D	E	W		
P3			F	D	E	W	
P3				F	D	E	W

Advantages of Pipelining

1. **Increased Throughput:** By allowing multiple instructions to be processed simultaneously, pipelining increases the overall throughput of the CPU. This means that more instructions can be executed in a given amount of time, leading to improved performance.
2. **Faster Execution:** Pipelining reduces the time taken to execute individual instructions by overlapping their execution. This results in faster program execution and better responsiveness of the system.
3. **Better Resource Utilization:** Since different stages of the pipeline can work concurrently, the CPU resources are utilized more efficiently. This means that the CPU is kept busy more of the time, reducing idle time and improving overall efficiency.
4. **Smoother Performance:** Pipelining helps to smooth out the execution of instructions by breaking them down into smaller, more manageable stages. This can help to reduce bottlenecks and prevent large variations in execution time.
5. **Scalability:** Pipelining can be scaled to accommodate different processing requirements. By adding more pipeline stages or optimizing existing stages, the pipeline can be tailored to meet specific performance goals or adapt to changes in workload.

Disadvantages of Pipelining

1. **Increased Complexity:** Implementing pipelining adds complexity to the design of the CPU. Managing pipeline stages, handling hazards, and ensuring proper synchronization require sophisticated techniques, which can make the CPU design more intricate.
2. **Pipeline Hazards:** Pipelining introduces the possibility of pipeline hazards, which are situations where the execution of one instruction is dependent on the result of a previous instruction. These hazards can lead to stalls in the pipeline, reducing its efficiency.
3. **Resource Wastage:** In some cases, pipelining can result in resource wastage. For example, if a branch instruction is encountered and the pipeline has already fetched subsequent instructions, those instructions may need to be discarded, wasting resources.
4. **Increased Latency for Branches and Dependencies:** Branch instructions and data dependencies can cause delays in the pipeline. Branch prediction techniques and forwarding mechanisms are used to mitigate these delays, but they can still impact performance.
5. **Difficulty in Handling Exceptions:** Exception handling becomes more complex in pipelined architectures. When an exception occurs, the CPU must ensure that the pipeline is properly flushed and that the correct state is restored, which can add overhead and latency.
6. **Energy Consumption:** Pipelining can increase energy consumption in the CPU due to the continuous operation of pipeline stages, even when they are not actively processing instructions. This can be a concern in mobile devices and other battery-powered systems where energy efficiency is crucial.

Computer Generations

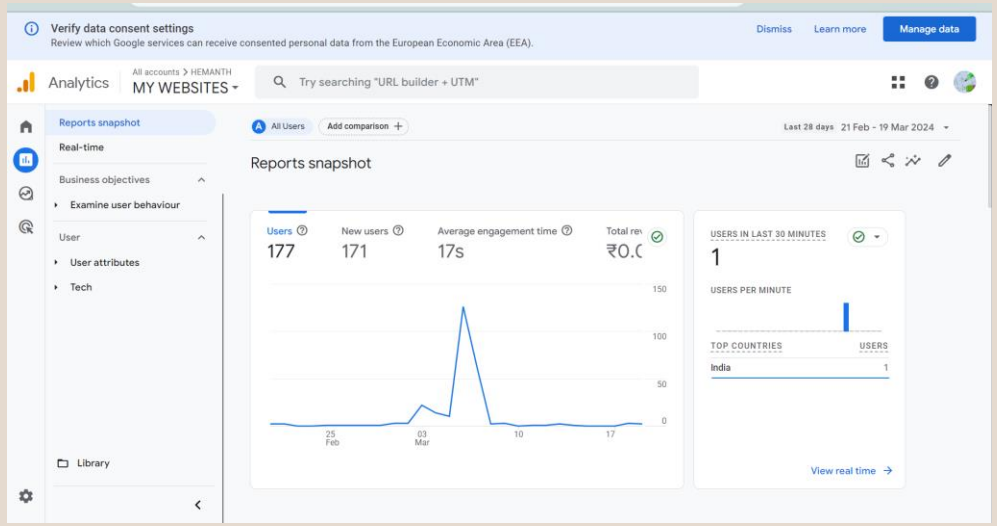
Computer generations refer to the stages in the development of computer technology, each marked by significant advancements in hardware, software, and architectural design. There are generally considered to be five generations of computers:

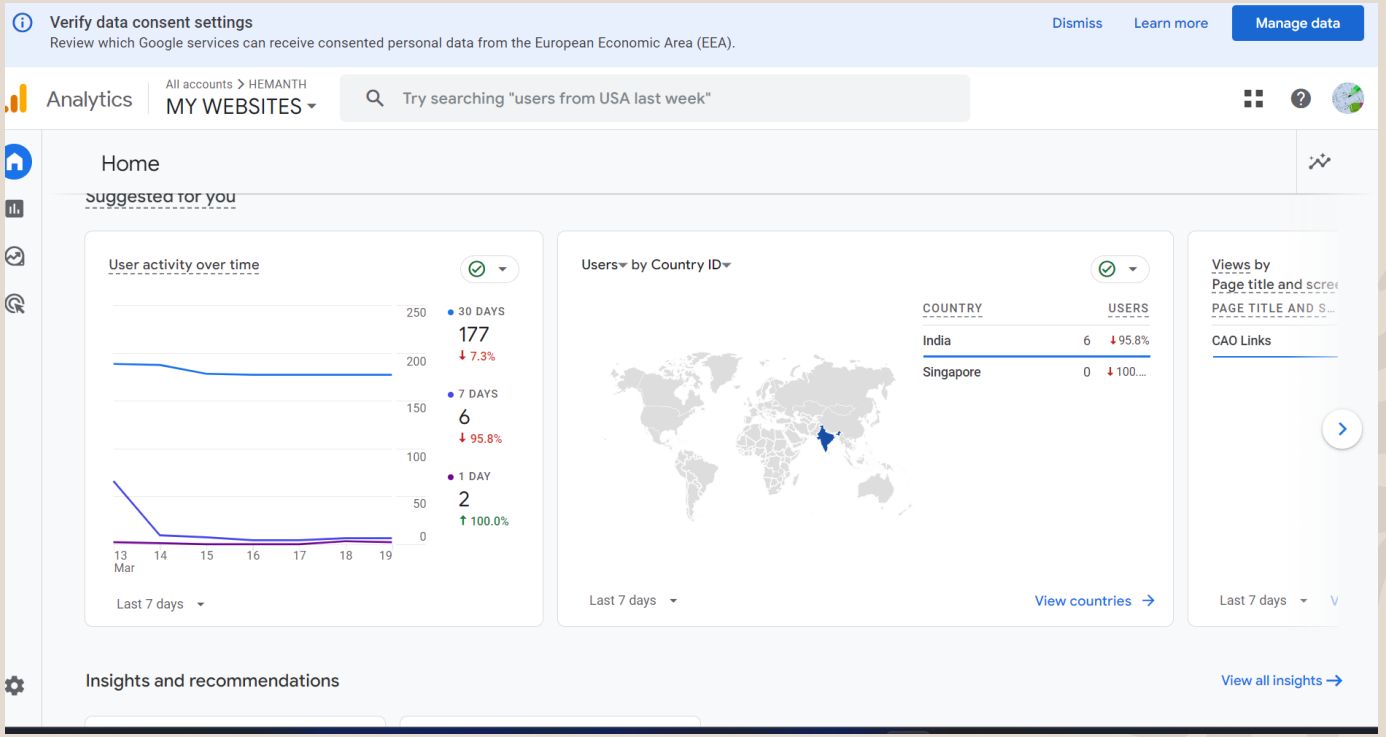
1. **First Generation (1940s-1950s):** The first electronic computers were developed during this period. They used vacuum tubes for circuitry and were large, slow, and expensive. Examples include the ENIAC and UNIVAC.
   - **Technology:** Vacuum tubes.
   - **Advantages:** Marked the beginning of electronic computing.
   - **Applications:** Used primarily for numerical calculations and codebreaking.
   - **Example:** ENIAC (Electronic Numerical Integrator and Computer).

2. **Second Generation (1950s-1960s):** Transistors replaced vacuum tubes, leading to smaller, faster, and more reliable computers. Magnetic core memory and batch processing systems were also introduced during this time.
   - **Technology:** Transistors.
   - **Advantages:** Smaller, faster, and more reliable than vacuum tubes.
   - **Applications:** Used for business applications, scientific computations, and military systems.
   - **Example:** IBM 1401, IBM 7090.
3. **Third Generation (1960s-1970s):** Integrated circuits (ICs) were invented, allowing thousands of transistors to be miniaturized and placed on a single silicon chip. This led to the development of smaller, more powerful, and more affordable computers.
   - **Technology:** Integrated circuits (ICs).
   - **Advantages:** Further reduction in size, cost, and power consumption.
   - **Applications:** Mainframes, minicomputers, and early personal computers.
   - **Example:** IBM System/360, DEC PDP-11.

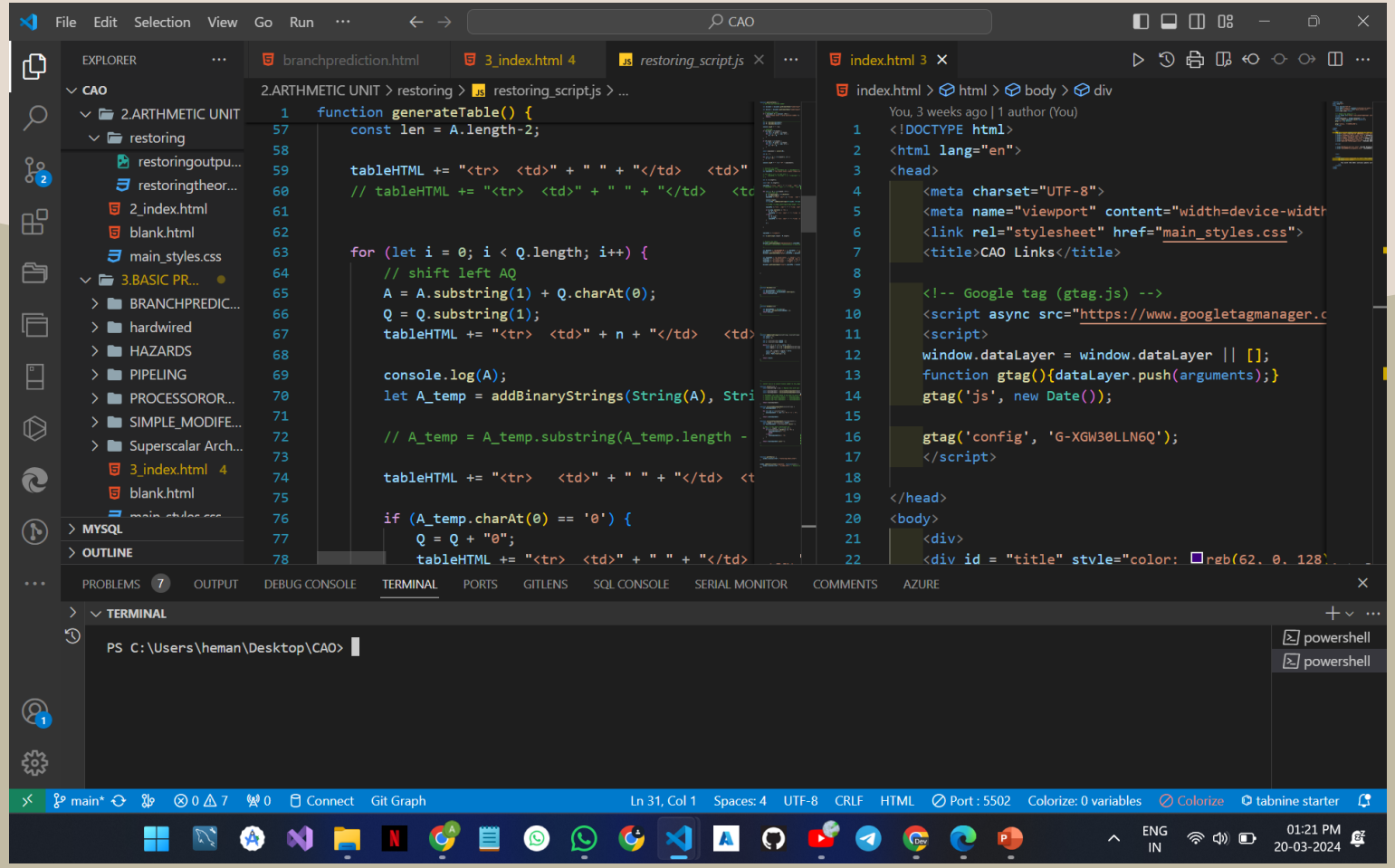
4. **Fourth Generation (1970s-1990s):** Microprocessors were introduced, enabling the development of personal computers (PCs) and workstations. This era saw the rise of the graphical user interface (GUI), networking, and the internet.
   - **Technology:** Large-scale integration (LSI) and very large-scale integration (VLSI) chips.
   - **Advantages:** Increased processing power, decreased size, and cost.
   - **Applications:** Personal computers, workstations, and early networking.
   - **Example:** Apple II, IBM PC, Commodore 64.
5. **Fifth Generation (1990s-present):** This generation is characterized by advancements in parallel processing, artificial intelligence (AI), and supercomputing. Technologies such as cloud computing, quantum computing, and neural networks are prominent features of this era.
   - **Technology:** Microprocessors, parallel processing, artificial intelligence (AI).
   - **Advantages:** Significant increase in computing power, multimedia capabilities, and networking.
   - **Applications:** Multimedia computing, internet, AI, and mobile computing.
   - **Example:** IBM Watson, smartphones, supercomputers like IBM Summit.

GOOGLE ANALYTICS

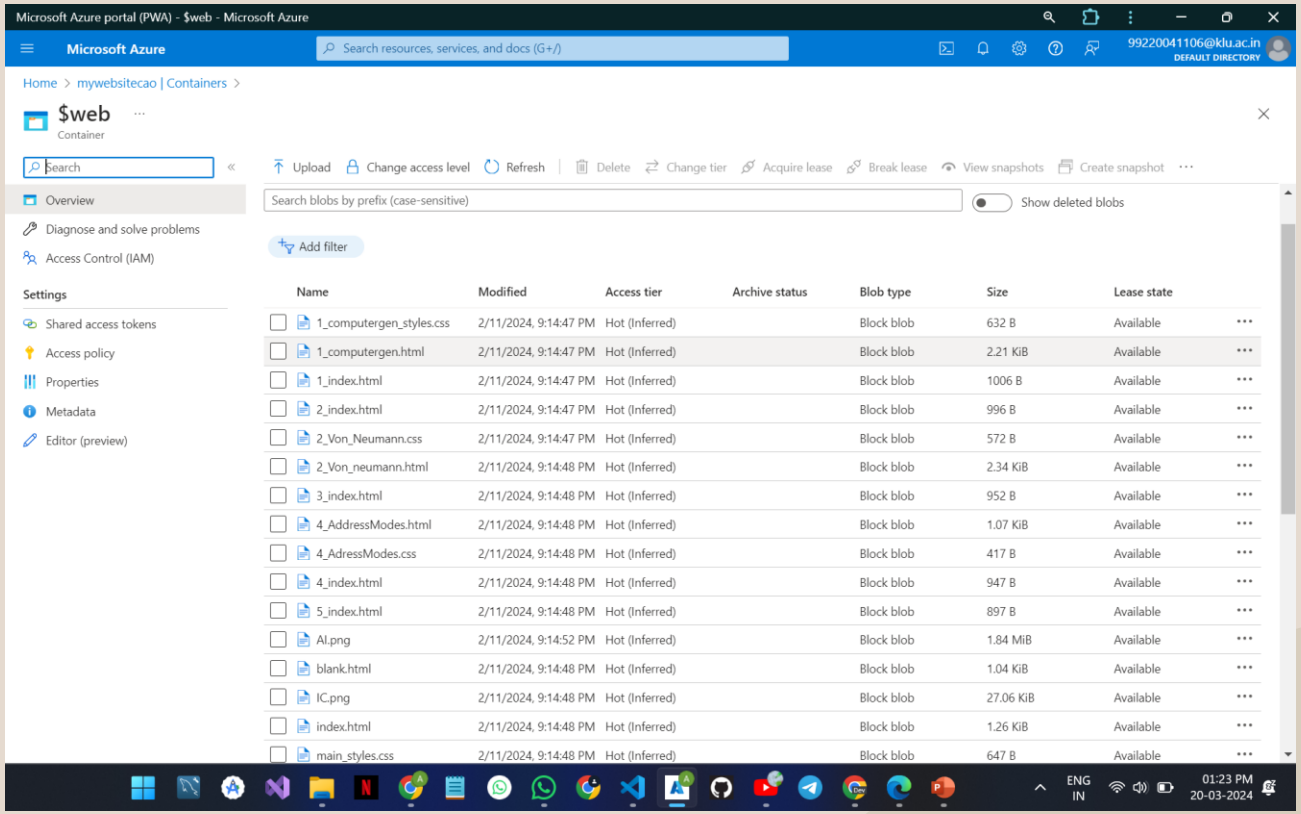




DEVELOPMENT SETUP



AZURE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Microsoft Azure
Search resources, services, and docs (G+/)
99220041106@klu.ac.in
DEFAULT DIRECTORY
Home > mywebsitecao | Containers >
$web
Container
Search
Overview
Diagnose and solve problems
Access Control (IAM)
Settings
Shared access tokens
Access policy
Properties
Metadata
Editor (preview)
Upload
Change access level
Refresh
Delete
Change tier
Acquire lease
Break lease
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Access tier
Archive status
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Lease state
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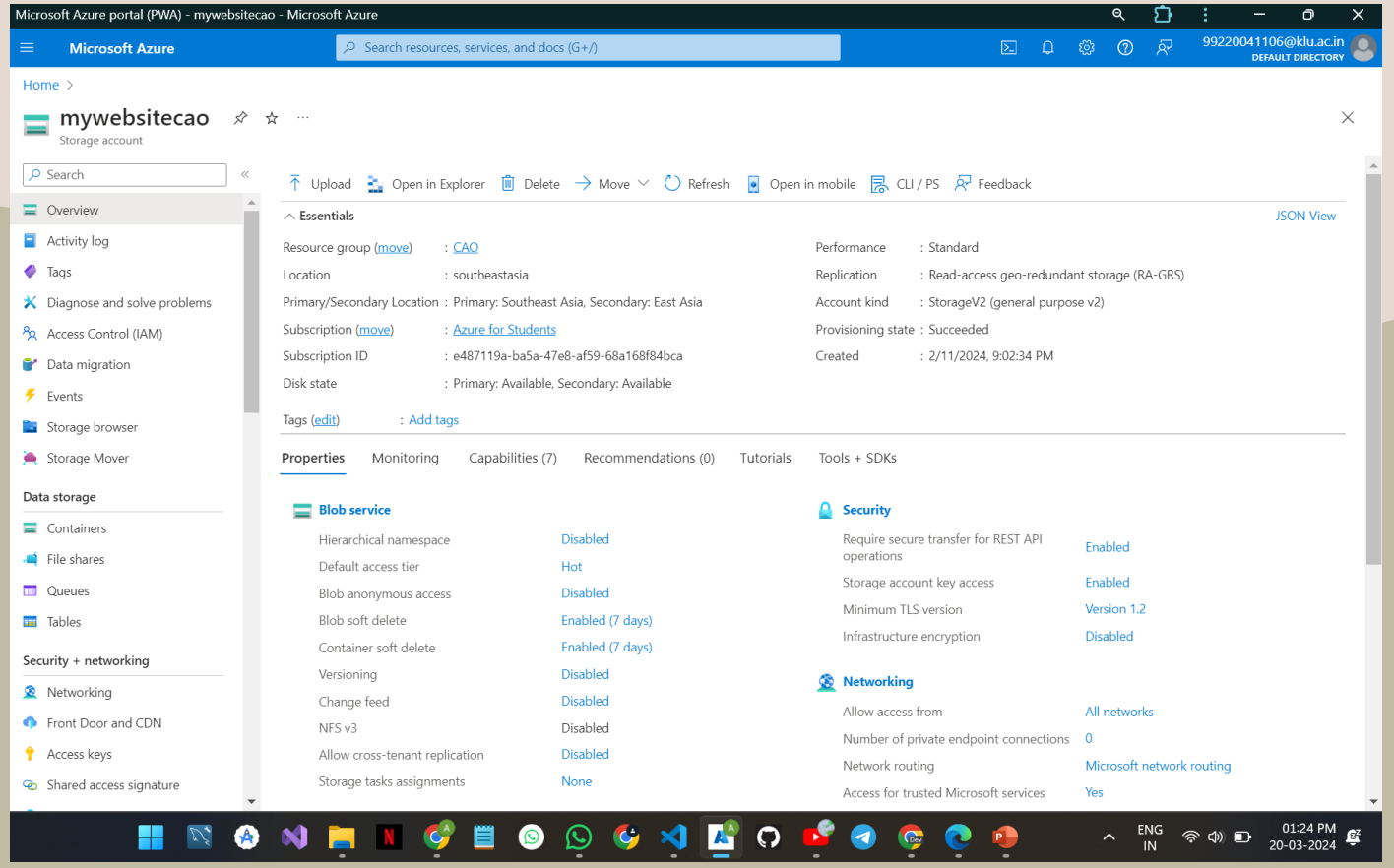
AZURE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Microsoft Azure
Search resources, services, and docs (G+/)
99220041106@klu.ac.in
DEFAULT DIRECTORY
Home
mywebsitecao
Storage account
Search
Overview
Activity log
Tags
Diagnose and solve problems
Access Control (IAM)
Data migration
Events
Storage browser
Storage Mover
Data storage
Containers
File shares
Queues
Tables
Security + networking
Networking
Front Door and CDN
Access keys
Shared access signature
Upload
Open in Explorer
Delete
Move
Refresh
Open in mobile
CLI / PS
Feedback
Essentials
JSON View
Resource group (move) : CAO
Location : southeastasia
Primary/Secondary Location : Primary: Southeast Asia, Secondary: East Asia
Subscription (move) : Azure for Students
Subscription ID : e487119a-ba5a-47e8-af59-68a168f84bca
Disk state : Primary: Available, Secondary: Available
Performance : Standard
Replication : Read-access geo-redundant storage (RA-GRS)
Account kind : StorageV2 (general purpose v2)
Provisioning state : Succeeded
Created : 2/11/2024, 9:02:34 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 Disabled
Blob soft delete Enabled (7 days)
Container soft delete Enabled (7 days)
Versioning Disabled
Change feed Disabled
NFS v3 Disabled
Allow cross-tenant replication Disabled
Storage tasks assignments None
Security
Require secure transfer for REST API operations Enabled
Storage account key access Enabled
Minimum TLS version Version 1.2
Infrastructure encryption Disabled
Networking
Allow access from All networks
Number of private endpoint connections 0
Network routing Microsoft network routing
Access for trusted Microsoft services Yes
ENG
IN
01:24 PM
20-03-2024

REQUIREMENTS

1. AZURE WEB SERVICE
2. GOOGLE ANALYTICS
3.AZURE DATA STUDIO
4.VISUAL STUDIO CODE

THANK YOU