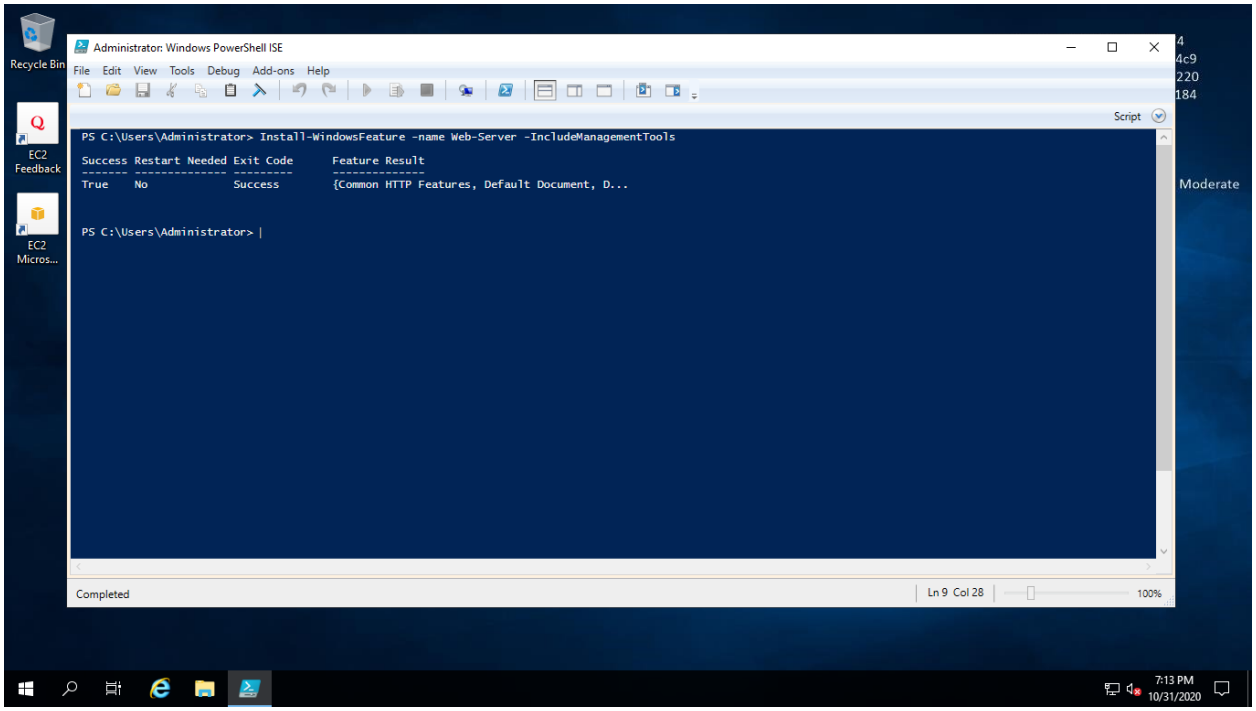
DEPLOYING A WEB SERVER IN WINDOWS INSTANCE

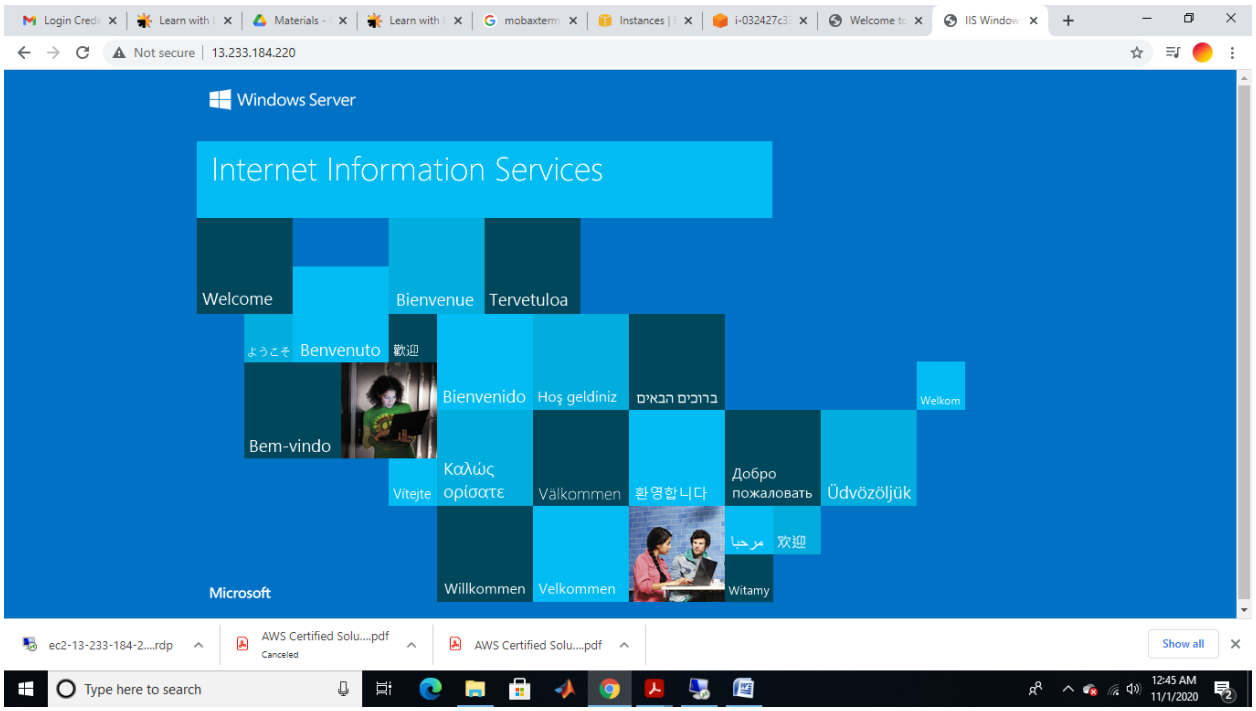
1.1) IIS INSTALLED IN POWERSHELL

INTERNET INFORMATION SERVER IS AN APPLICATION USED TO DELIVER WEBSITE CONTENT TO END USER VIA INTERNET.



1.2) VERIFICATION USING IPV4 ADDRESS

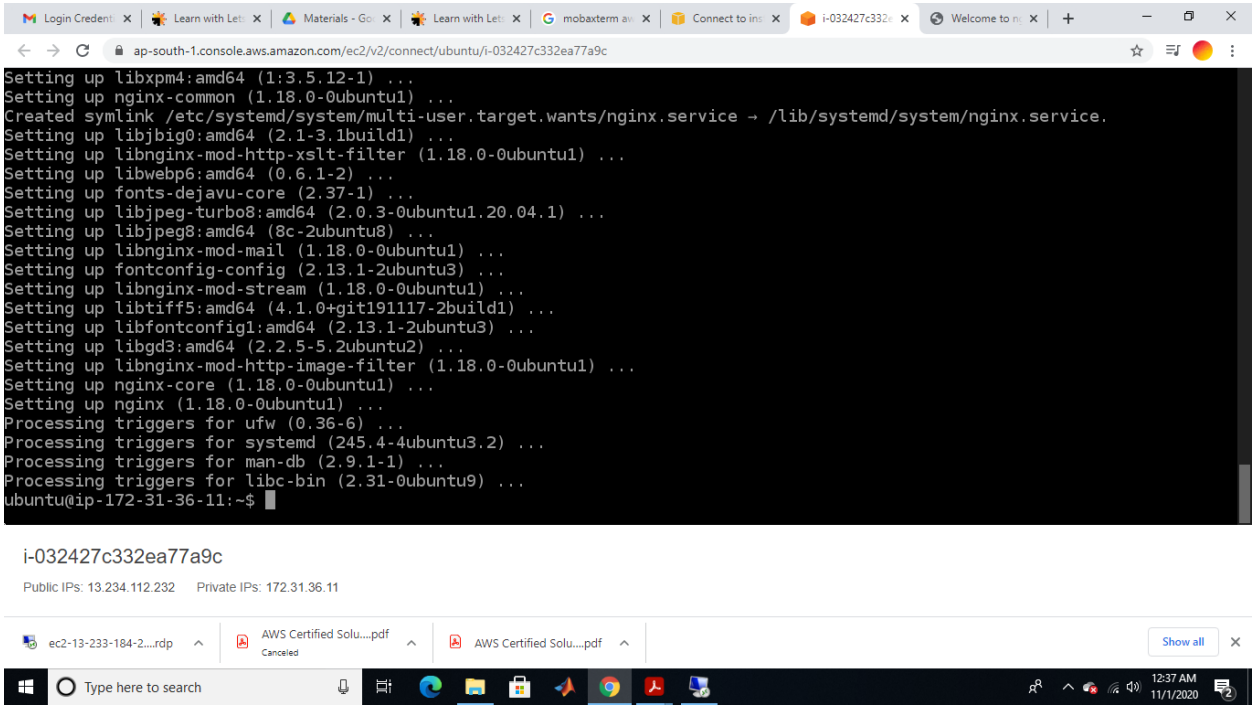
TO VERIFY IF IIS IS SUCCESSFULLY INSTALLED IN WINDOWS INSTANCE, PUBLIC IPV4 ADDRESS IS PUT IN BROWSER IN ORDER TO CHECK THE CONTENTS.



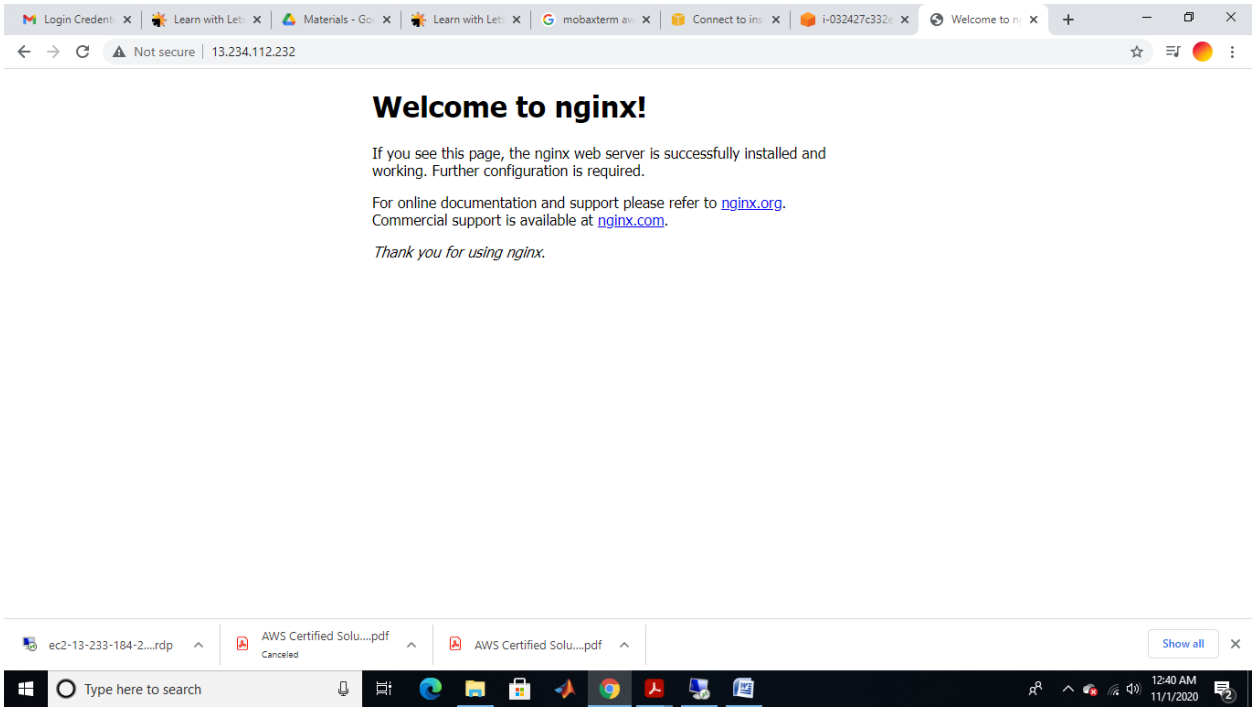
2) PROJECT-2 : NGINX SERVER

2.1) NGINX INSTALLED SUCCESSFULLY

NGINX IS A WEB SERVER WHICH ACTS AS EMAIL PROXY, REVERSE PROXY AND LOAD BALANCER AND IS HIGHLY SCALABLE AND IT EXCELS AT SERVING STATIC CONTENT QUICKLY.IT IS ALSO DESIGNED TO PASS DYNAMIC REQUESTS OFF TO OTHER SOFTWARE.

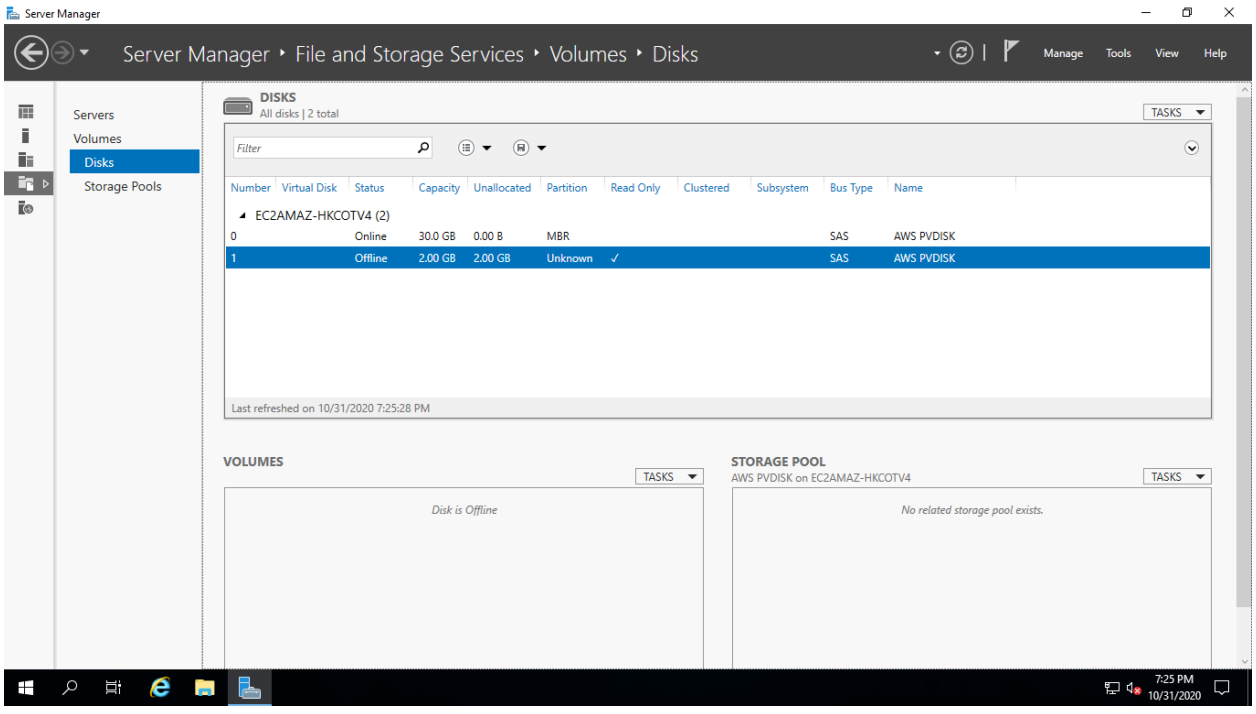


2.2) VERIFICATION USING PUBLIC IPV4 ADDRESS

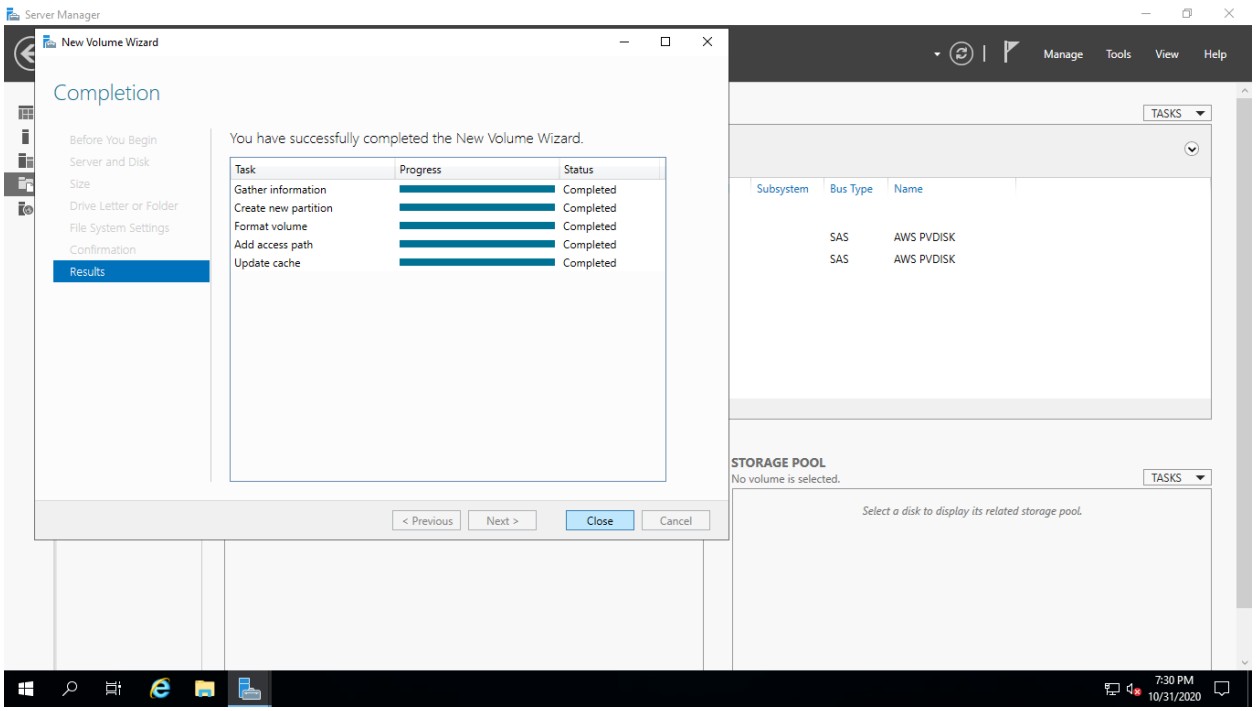


PROJECT-3: WORKING WITH VOLUMES

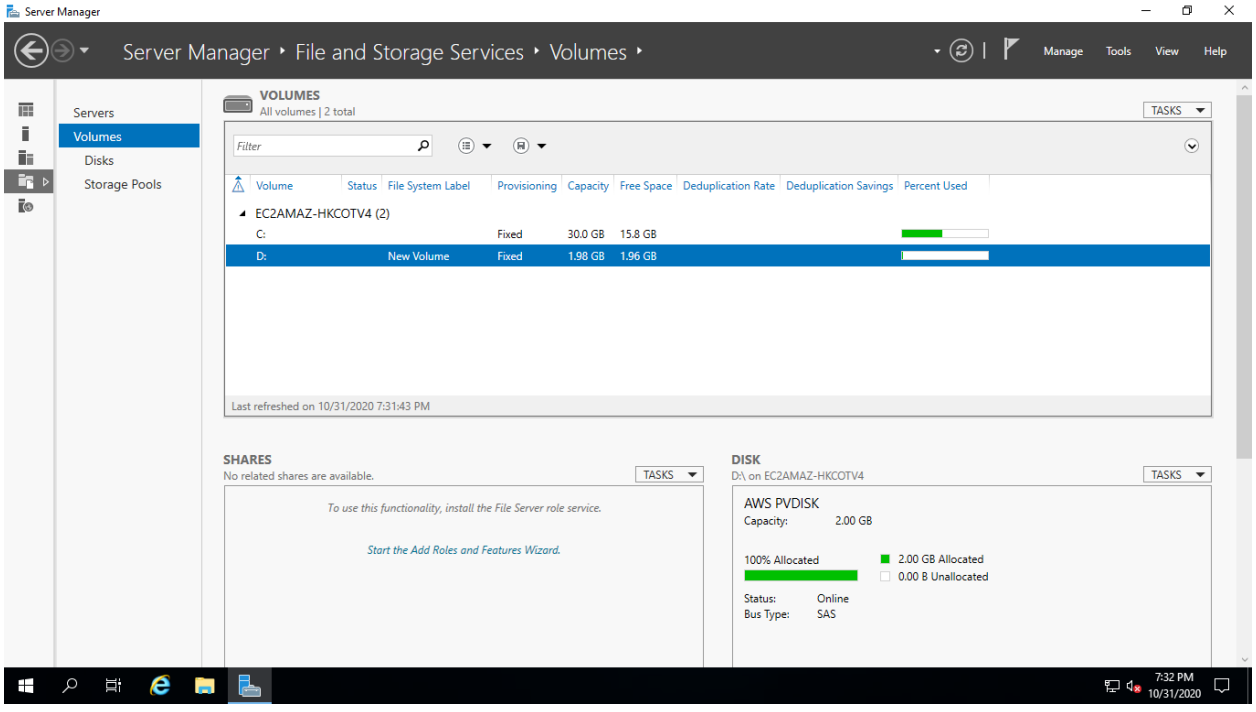
3.1) MAKING IT ONLINE



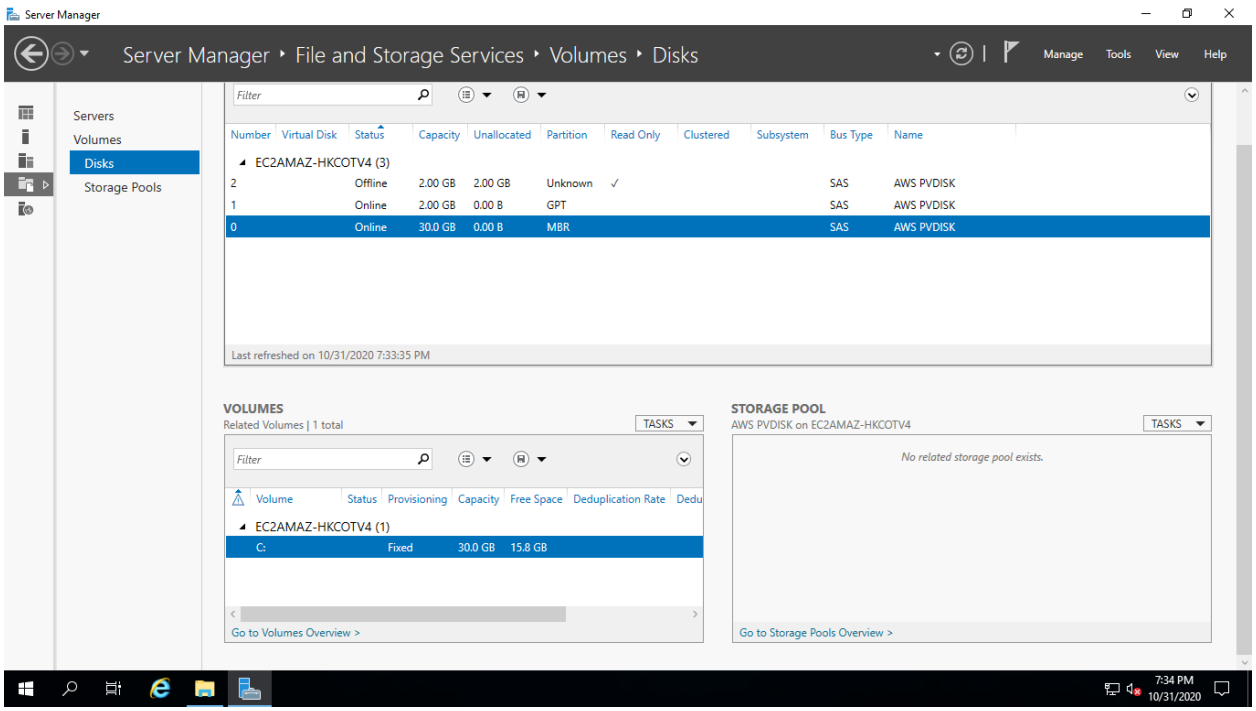
3.2) NEW VOLUME CREATED

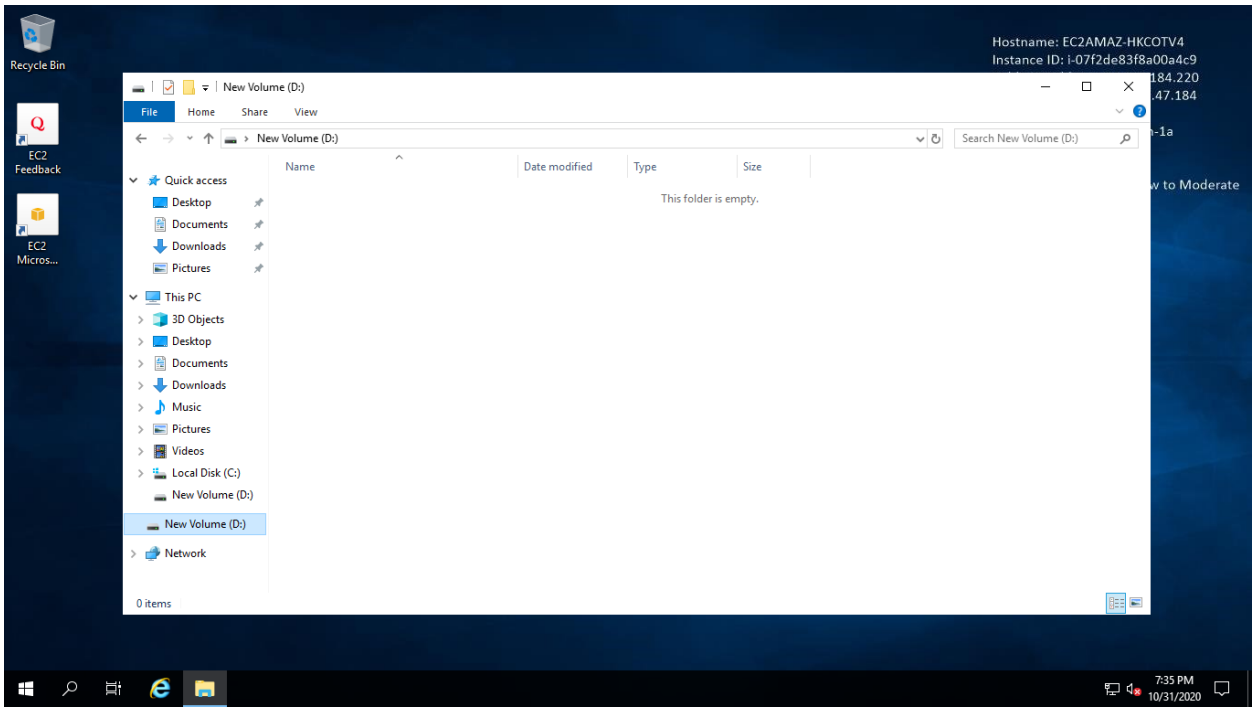


3.3) D: DISK CREATED

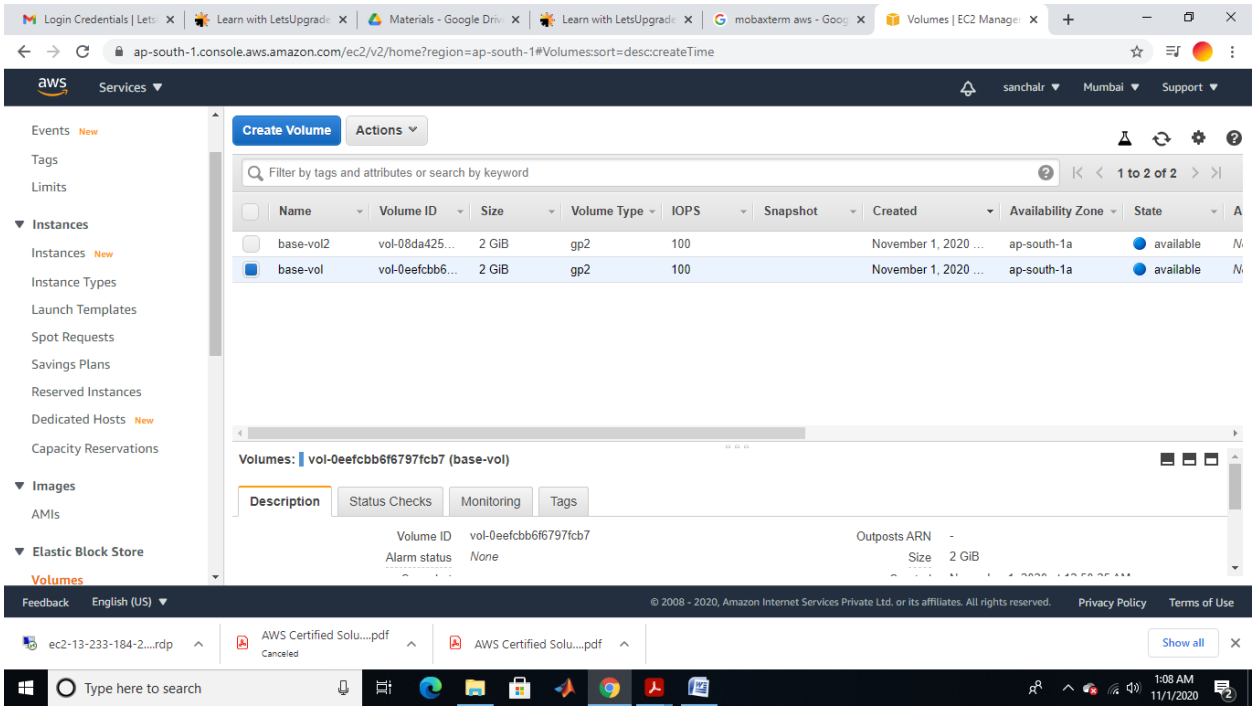


3.4) ANOTHER VOLUME ATTACHED TO SAME INSTANCE





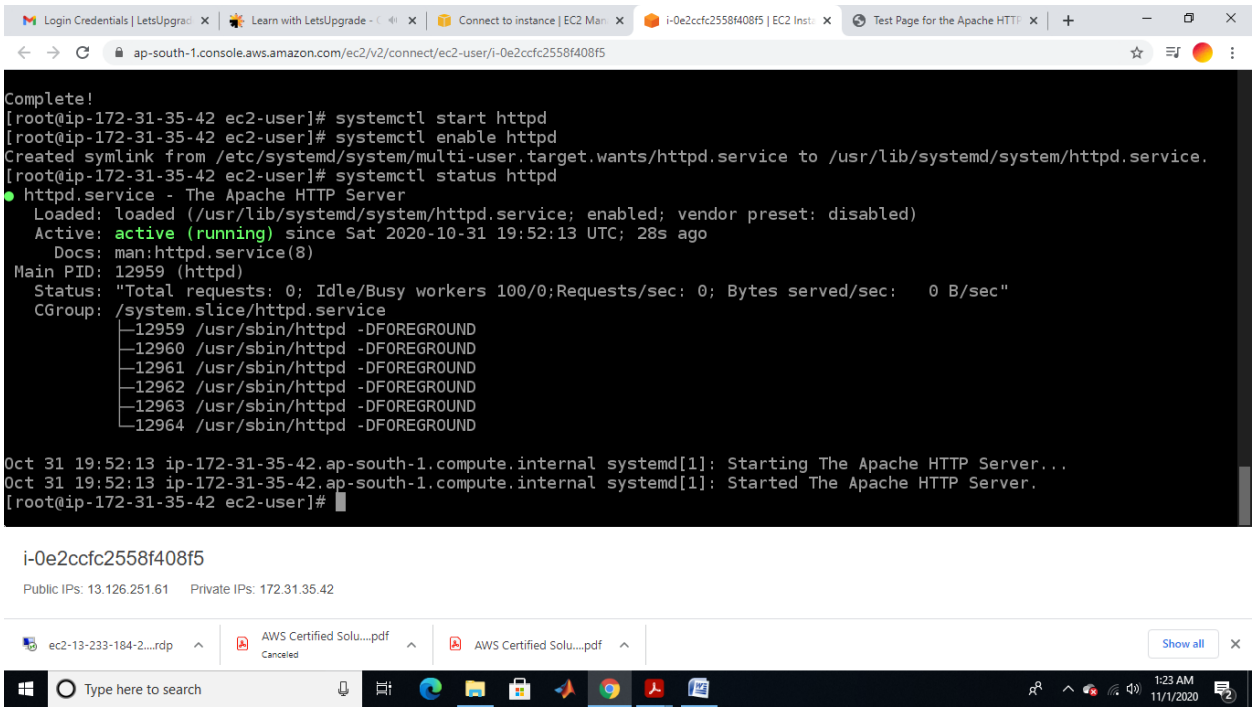
3.5) DEFAULT VOLUME DELETED AND REMAINING 2(IN-USE) NEW CREATED VOLUME (BASE-VOL , BASE-VOL2) HAVE STATUS AS AVAILABLE.



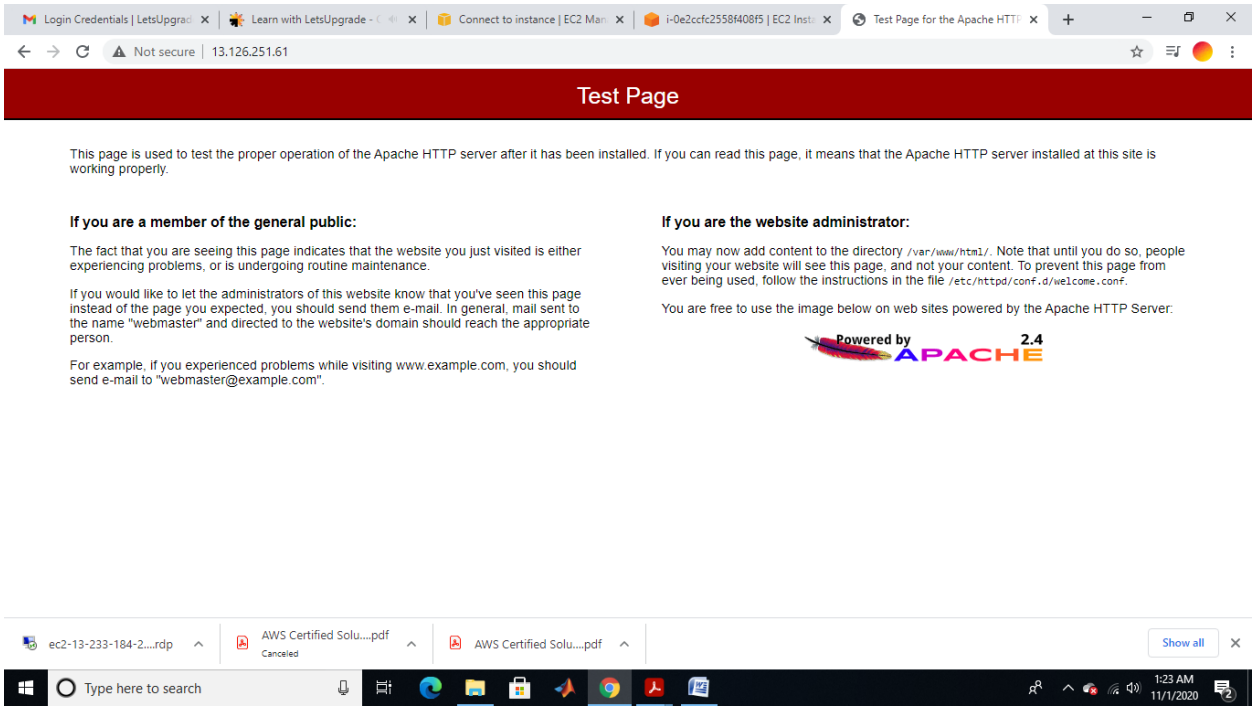
PROJECT 4 – APACHE SERVER

4.1) INSTALLED APACHE SERVER

APACHE SERVER IS AN OPEN-SOURCE, CROSS-PLATFORM WEB SERVER. IT ALLOWS TO EASILY ADD OR REMOVE FEATURES USING THE NATIVE OR THIRD-PARTY MODULE PATCHES MAINLY THE MULTI PROCESSING MODULE.



4.2) VERIFICATION USING IPV4 ADDRESS



PROJECT-5: S3 BUCKET

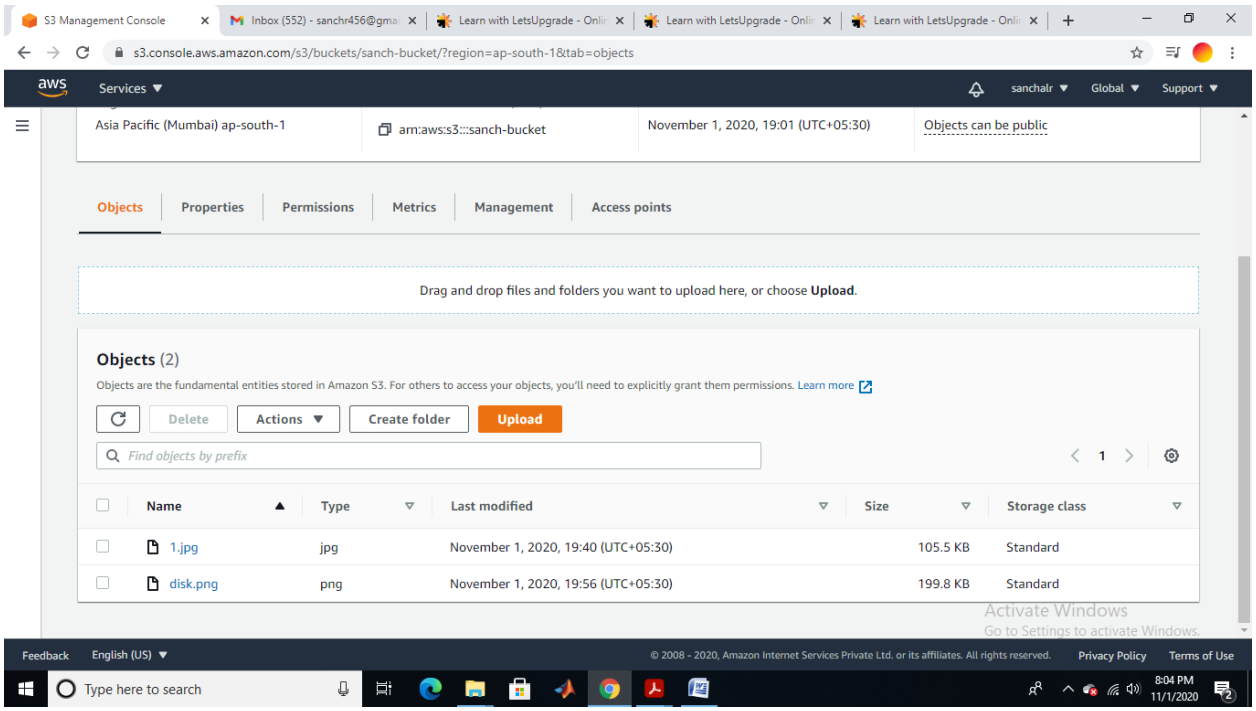
S3 BUCKET IS USED FOR STORING OF DATA. S3 OFFERS TOTAL FOUR CLASS STORAGE SOLUTIONS, WITH UNLIMITED DATA STORAGE CAPACITY NAMELY:

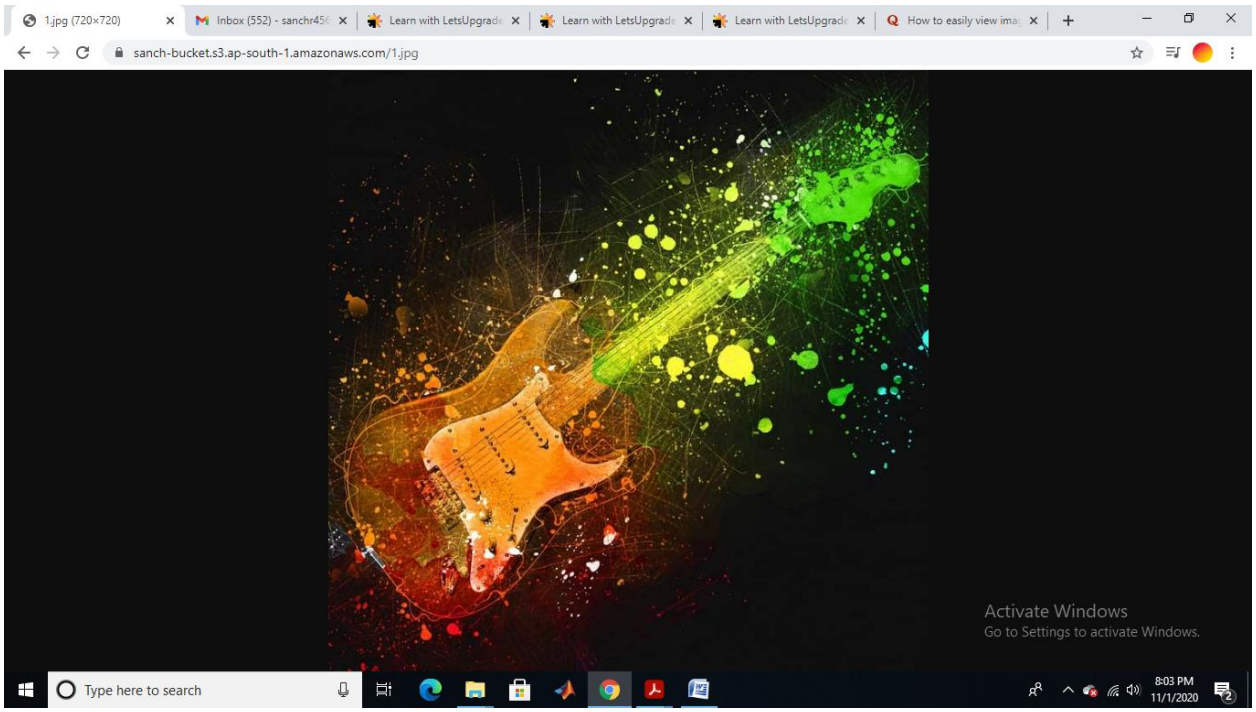
- **S3 STANDARD OFFERS HIGH DURABILITY, AVAILABILITY, AND PERFORMANCE OBJECT STORAGE FOR FREQUENTLY ACCESSED DATA.IT GIVES HIGH THROUGHPUT AND LOW LATENCY.**
- **S3 IA IS DESIGNED FOR DATA THAT IS ACCESSED LESS FREQUENTLY BUT REQUIRES RAPID ACCESS WHEN NEEDED. IT OFFERS THE HIGH DURABILITY, HIGH THROUGHPUT, AND GIVES LOW LATENCY OF S3 STANDARD WITH LOW PRICE PER GB.**
- **S3 ONE ZONED-IA IS DESIGNED FOR DATA THAT IS ACCESSED LESS FREQUENTLY BUT REQUIRES RAPID ACCESS WHEN NEEDED. IT IS USED FOR STORING SECONDARY BACKUP COPIES OF ON-PREMISES DATA OR EASILY RE-CREATABLE DATA.**
- **REDUCED REDUNDANCY STORAGE (RRS) IS AN AMAZON S3 STORAGE OPTION THAT ENABLES CUSTOMERS TO STORE NONCRITICAL, REPRODUCIBLE DATA AT LOWER LEVELS OF REDUNDANCY THAN AMAZON S3'S STANDARD STORAGE.**
- **S3 GLACIER- FOR LONG-TERM BACKUPS AND ARCHIVES WITH RETRIEVAL OPTION FROM 1 MINUTE TO 12 HOURS.**
- **S3 GLACIER DEEP ARCHIVE - FOR LONG-TERM DATA ARCHIVING THAT IS ACCESSED ONCE OR TWICE IN A YEAR AND CAN BE RESTORED WITHIN 12 HOURS.**

TO ACCESS OBJECTS IN S3, OBJECTS MUST BE PUBLICAND CHARGES FOR USING ABOVE BUCKETS VARY DEPENDING ON THE TYPE OF BUCKET THAT IS USED. S3 STORAGE IS CALCULATED IN GB.

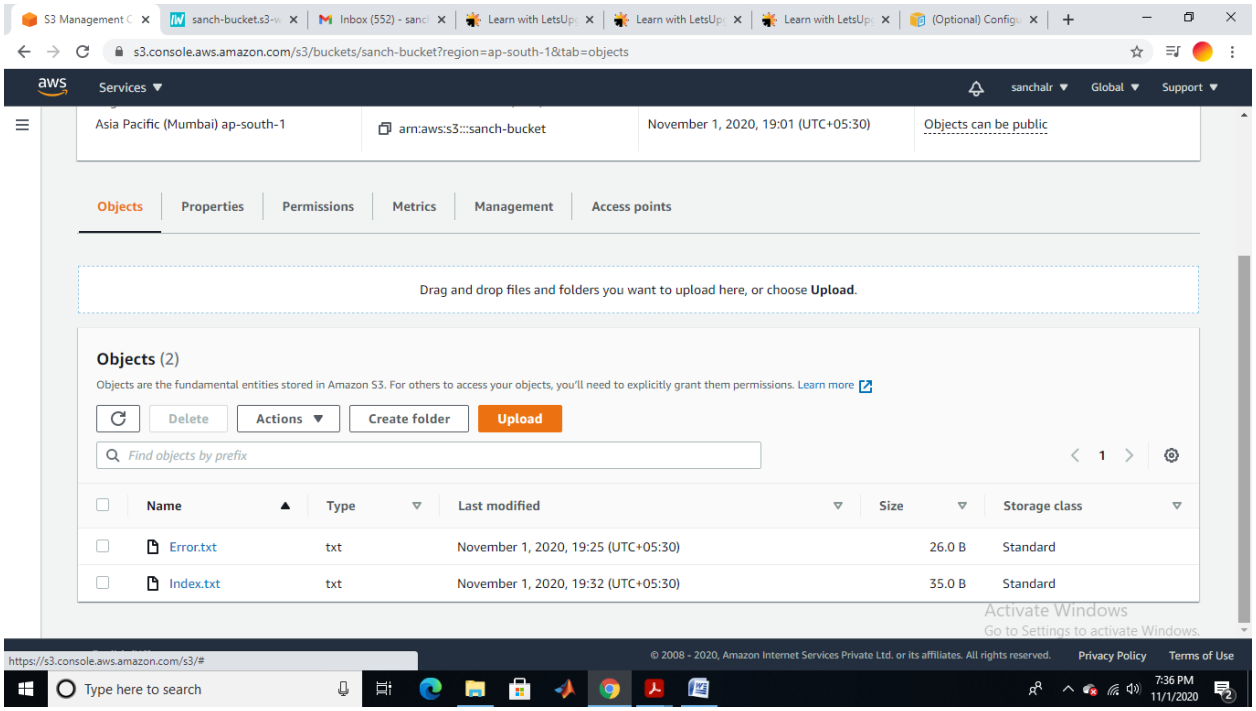
5.1) S3 BUCKET WITH .JPG FILE

.JPG FILE IS STORED AS S3 BUCKET OBJECT AND DISPLAYED ON SCREEN USING THE HTTPS URL PROVIDED AFTER THE OBJECT IS MADE PUBLIC.


S3 Management Console
s3.console.aws.amazon.com/s3/buckets/sanch-bucket/?region=ap-south-1&tab=objects
Services
sanchalr
Global
Support
Asia Pacific (Mumbai) ap-south-1
arn:aws:s3:::sanch-bucket
November 1, 2020, 19:01 (UTC+05:30)
Objects can be public
Objects
Properties
Permissions
Metrics
Management
Access points
Drag and drop files and folders you want to upload here, or choose Upload.
Objects (2)
Objects are the fundamental entities stored in Amazon S3. For others to access your objects, you'll need to explicitly grant them permissions. Learn more
Delete
Actions
Create folder
Upload
Find objects by prefix
Name
Type
Last modified
Size
Storage class
1.jpg
jpg
November 1, 2020, 19:40 (UTC+05:30)
105.5 KB
Standard
disk.png
png
November 1, 2020, 19:56 (UTC+05:30)
199.8 KB
Standard
Activate Windows
Go to Settings to activate Windows.
Feedback
English (US)
© 2008 - 2020, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved.
Privacy Policy
Terms of Use
Type here to search
8:04 PM
11/1/2020

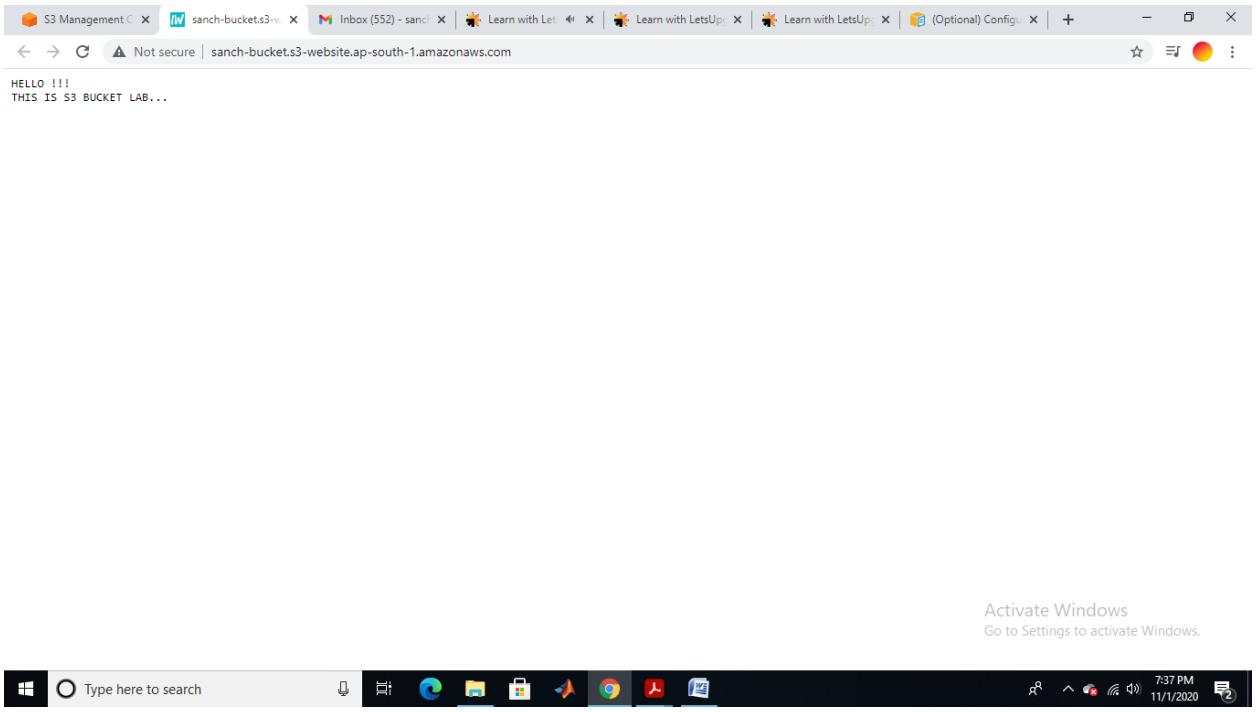

1.jpg (720×720)
sanch-bucket.s3.ap-south-1.amazonaws.com/1.jpg
Activate Windows
Go to Settings to activate Windows.
Type here to search
8:03 PM
11/1/2020

5.2) S3 BUCKET WITH WEBSITE HOSTING



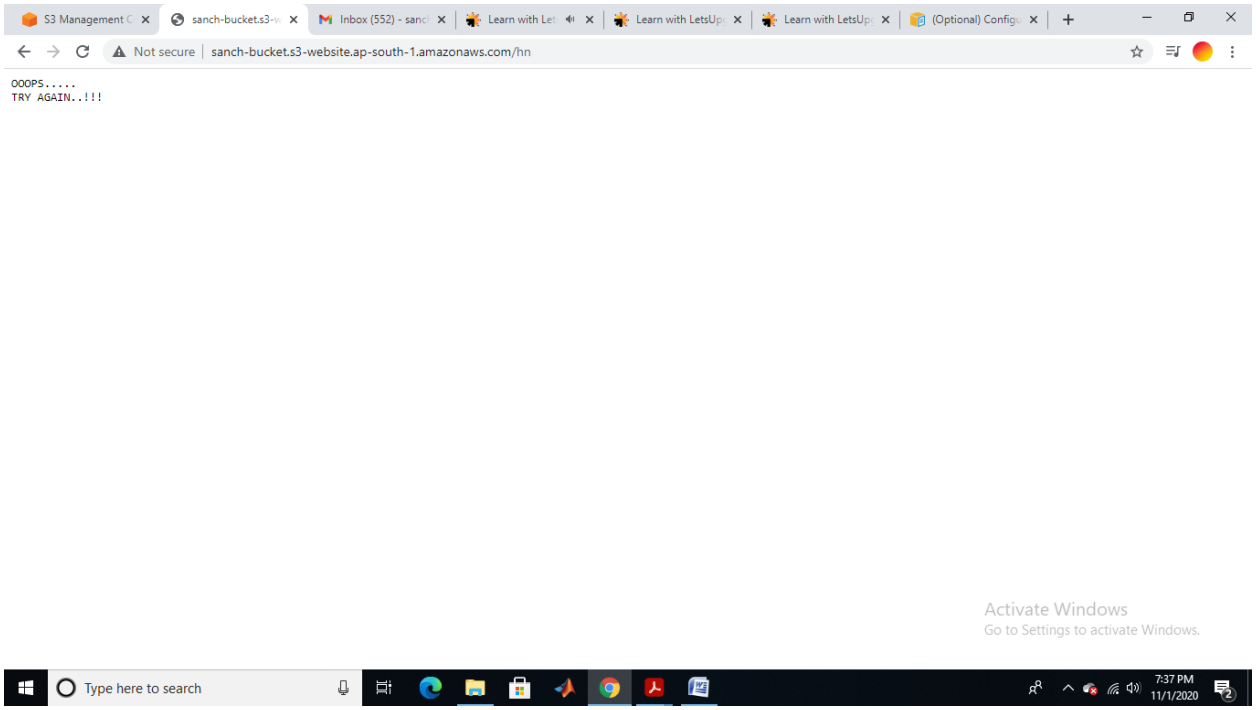
ORIGINAL MESSAGE

FILE INDEX.HTML IS UPLOADED AS OBJECT OF S3 BUCKET AND DISPLAYED.



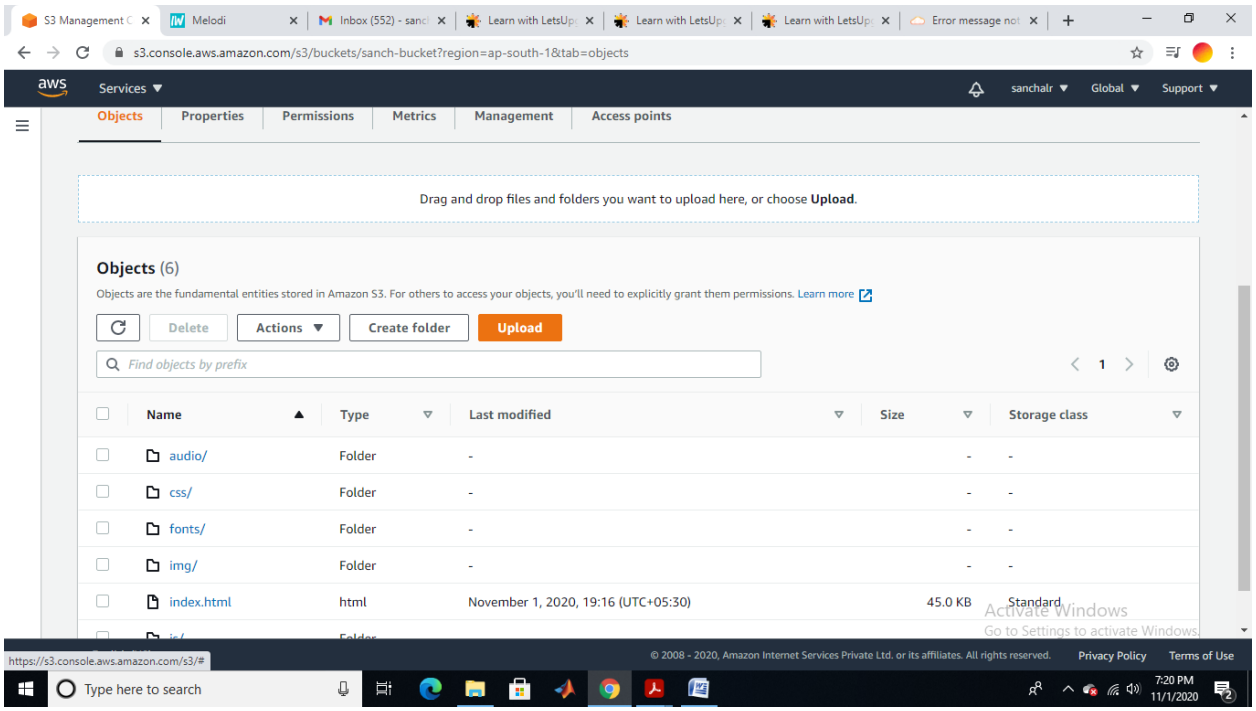
ERROR MESSAGE

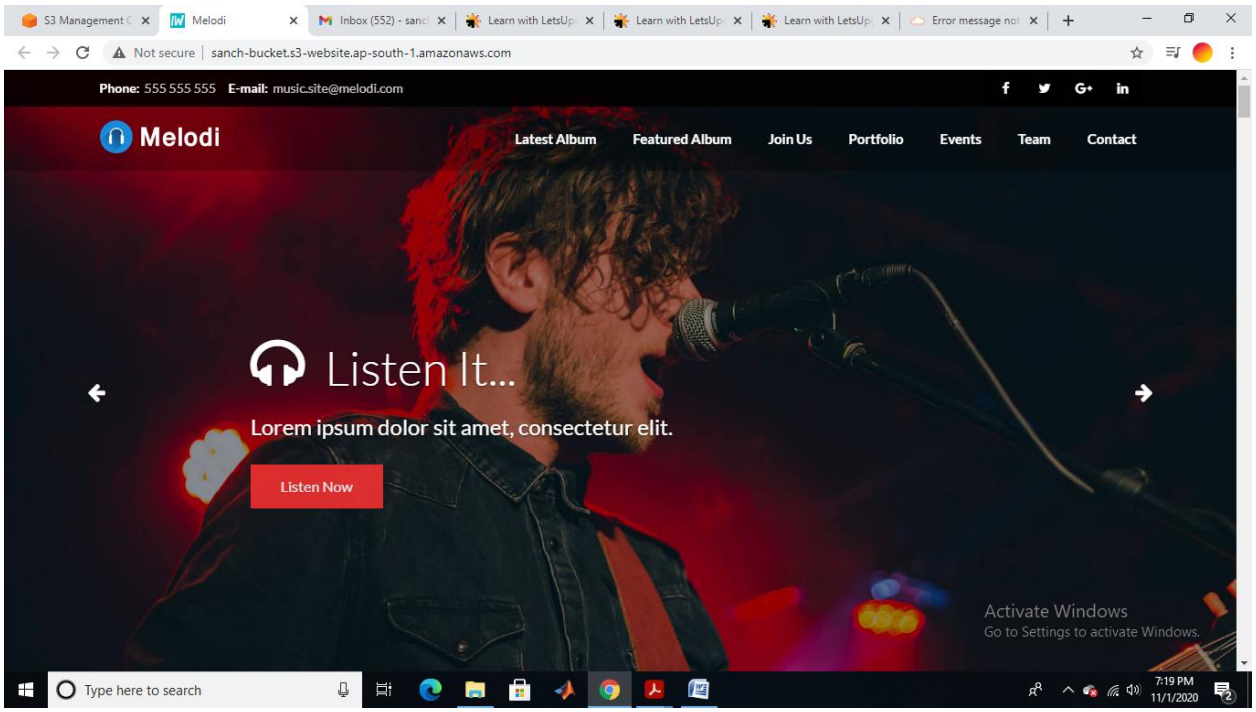
FILE ERROR.HTML IS UPLOADED AS OBJECT OF S3 BUCKET AND DISPLAYED.



WEBSITE HOSTED

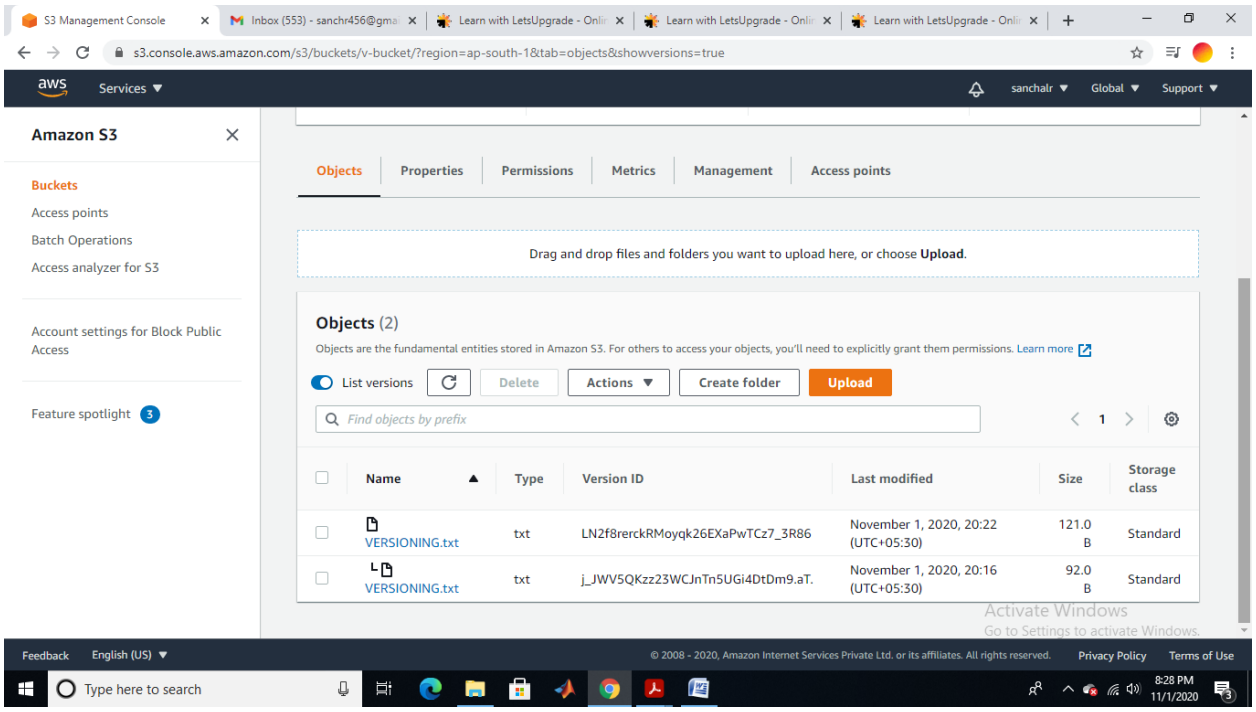
A TEMPLATE IS DOWNLOADED FROM INTERNET AND ITS CONTENTS ARE UPLOADED AS OBJECTS IN S3 BUCKET AND THE WEBSITE IS DISPLAYED ON SCREEN. INDEX.HTML FILE IS COMPULSORY


s3.console.aws.amazon.com/s3/buckets/sanch-bucket?region=ap-south-1&tab=objects
Services
Objects
Properties
Permissions
Metrics
Management
Access points
Drag and drop files and folders you want to upload here, or choose Upload.
Objects (6)
Objects are the fundamental entities stored in Amazon S3. For others to access your objects, you'll need to explicitly grant them permissions. Learn more
Delete
Actions
Create folder
Upload
Find objects by prefix
Name
Type
Last modified
Size
Storage class
audio/ Folder
css/ Folder
fonts/ Folder
img/ Folder
index.html html November 1, 2020, 19:16 (UTC+05:30) 45.0 KB Standard
© 2008 - 2020, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved.
Privacy Policy
Terms of Use
Type here to search
7:20 PM
11/1/2020


Not secure
sanch-bucket.s3-website.ap-south-1.amazonaws.com
Phone: 555 555 555
E-mail: music.site@melodi.com
Melodi
Latest Album
Featured Album
Join Us
Portfolio
Events
Team
Contact
Listen It...
Lorem ipsum dolor sit amet, consectetur elit.
Listen Now
Type here to search
7:19 PM
11/1/2020

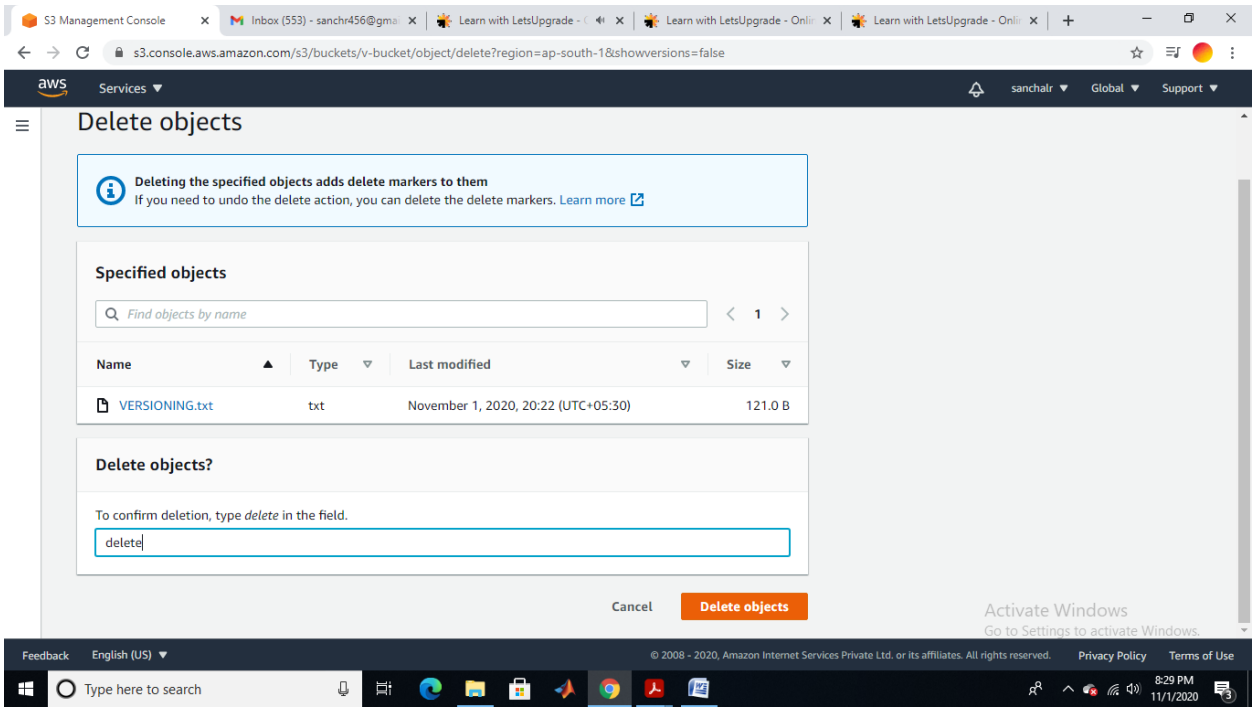
5.3) VERSIONING

TO KEEP MULTIPLE VERSIONS OF AN OBJECT IN SAMEBUCKET, VERSIONING IS USED.IT IS USED FOR RECOVERY PURPOSES MAINLY. IF THE OBJECT GETS DELETED ACCIDENTALLY, THROUGH VERSIONING, THE OBJECT CAN STILL BE USED.



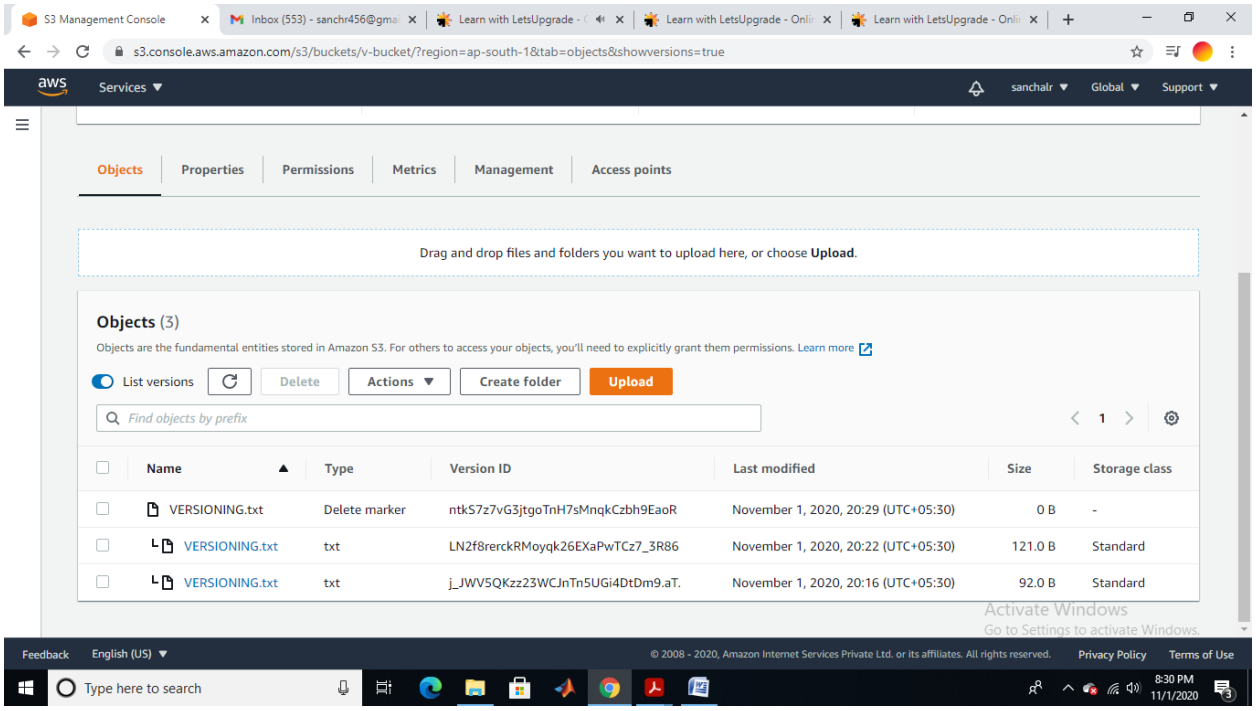
HIDE AND DELETE FILE

TO DELETE MULTIPLE VERSIONS, FIRST UNCHECK THE LIST VERSION OPTION AND THEN DELETE.



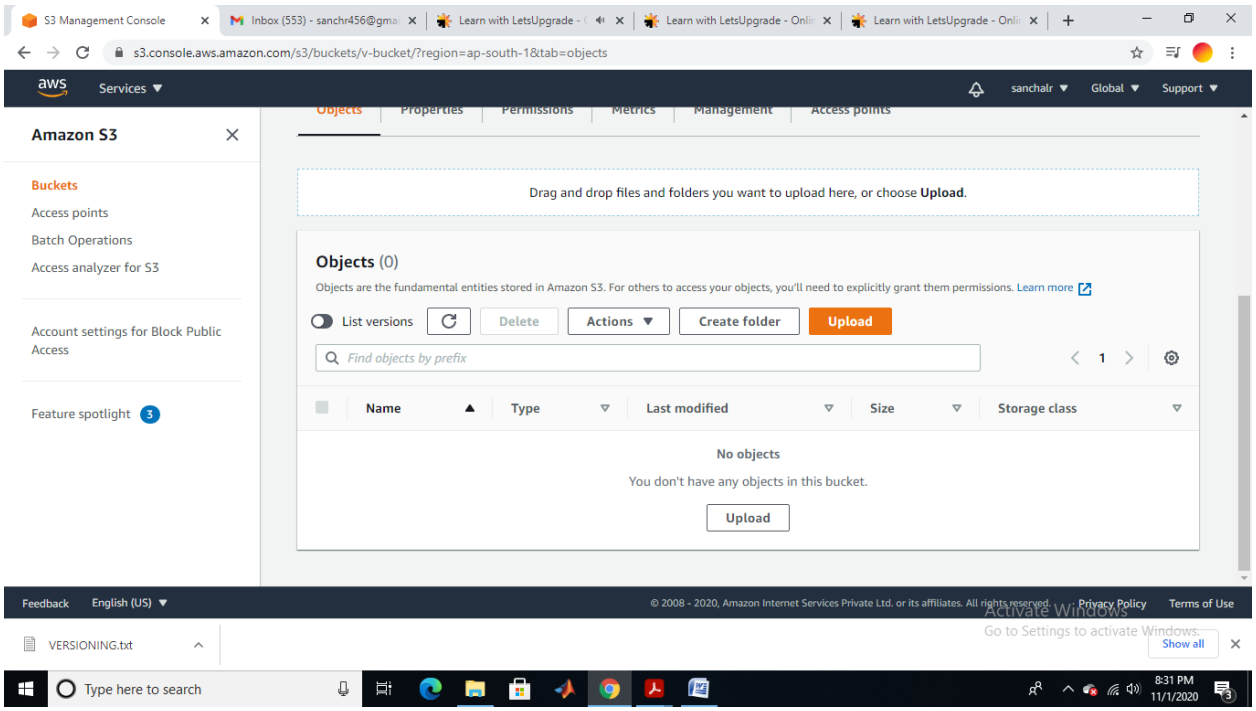
AFTER DELETION

EVEN AFTER DELETING ORIGINAL FILE (OBJECT), MULTIPLE VERSIONS CAN BE SEEN AND ACCESSED.

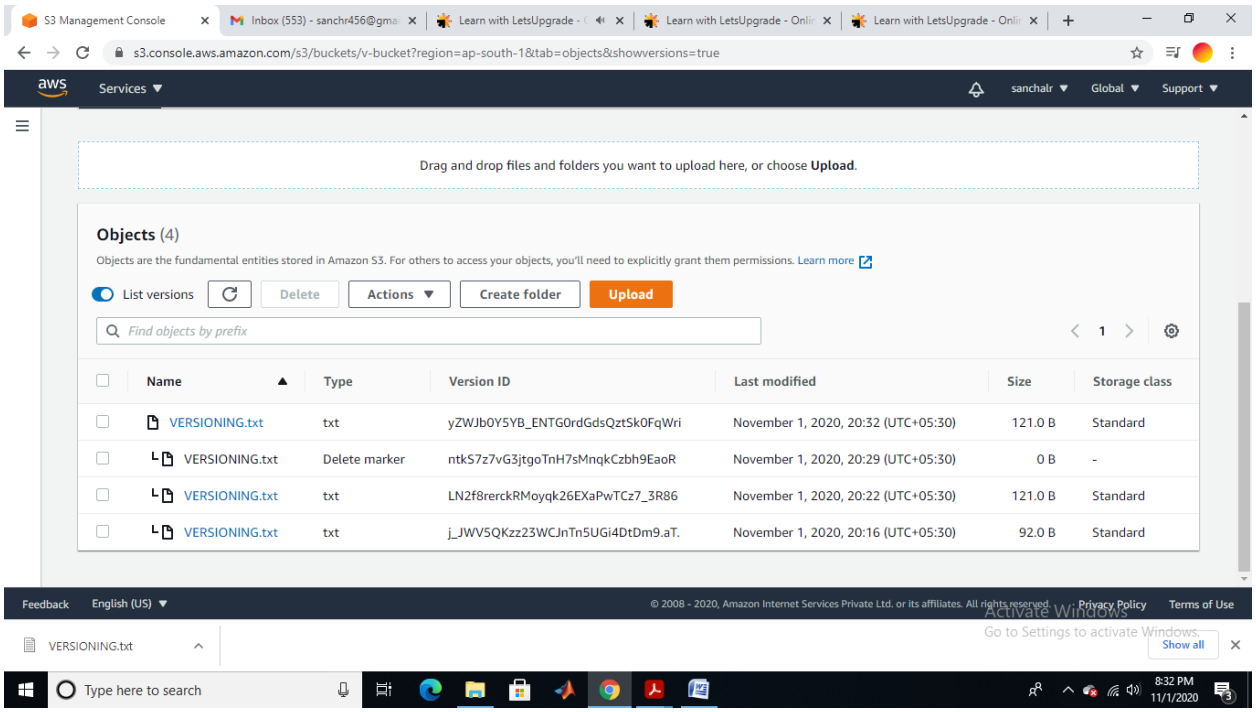


DOWNLOADED FILE

IN BOTTOM OF PAGE, ON LEFT CORNER THE VERSIONING.TXT FILE (OBJECT) IS DOWNLOADED.



FILE UPLOADED AGAIN



QUESTION 1:

THE LIFE-CYCLE EFFECTS ON AN INSTANCE.

START AN INSTANCE

- **A new instance is first created via launch instance option. This process is completed by initially selecting a AMI (Amazon machine image) which is a template including the Operating system type. Then, select the type of instance, that is, the hardware configuration. In the next step, choose the security group, add tags (optional), and choose the traffic allowed for this instance.**
- **Review the contents required for instance and select the key pair. Key pair is the pair of public and private instances which is used for proving the identity of the particular instance. Amazon EC2 stores the public key and private key is stored in users own physical machine.**
- **Followed by this, once the launch instance icon is selected, instance state is seeing as pending where all initialization steps are done and then when the status is seeing as running, instance rebooting has started wherein instance receives a public DNS name that is used for connection to instance via internet.**
- **The instance also receives a private DNS name that other instances within the same VPC can use to contact the instance.**

STOP AN INSTANCE

- **An instance can be stopped temporarily. However it has to be restarted later as soon as possible to stop incurring charges in case of paid AWS services and if free tier AWS console is being used then the hours will be wasted simply by keeping the instance stopped for a longer time.**
- **When an Instance is stopped, its private IPv4 or IPv6 address and application installed also remains the same but its public IPv4 or IPv6 address is released.**
- **EBS volume remains attached and its data also persists. Any data in RAM of host computer is gone.**
- **Elastic IP is retained when you stop an instance and that is chargeable.**
- **If instance is included in the Auto Scaling group, its health check fails.**
- **A fresh billing hour is started for the instance when you start it again.**

STOP AND START INSTANCE

- **When the instance is restarted, its private IPv4 or IPv6, elastic IPv4 or IPv6 if applicable, VPC ID, subnet ID and applications are retained.**

- **When stopped instance is started, the EBS volume is simply attached to the newly provisioned instance. New Public IPv4 or IPv6 address is assigned and has a new DNS name.**

REBOOT AN INSTANCE

- **When an instance is rebooted, its Public IP address, DNS name, Private IP address, VPC ID, subnet ID, Elastic IP if applicable, Applications remains the same and instance stays running on same hardware and local data is not wiped out.**
- **New billing hour is not started on a reboot and instance hardware is also the same.**

TERMINATE AND INSTANCE

- **When an Instance is terminated, it's Public IPv4 or IPv6, Private IPv4 or IPv6, DNS, VPC ID, subnet ID and resources and services attached to it, is deleted. Any Elastic IP will be disassociated.**
- **Also the default EBS volume is deleted and instance store volume having data is erased and RAM data is also erased. The shutting down state exists between the running and terminated state and no billing is done.**
- **Snapshots, resources, applications and additional disks attached to the default volume, if not deleted, become orphaned and can be chargeable if not using free tier account and wastage of free hours if using the free tier account.**