PERSONAL BLOG ON IBM CLOUD STATIC WEB APPS

College : Sri krishna engineering college

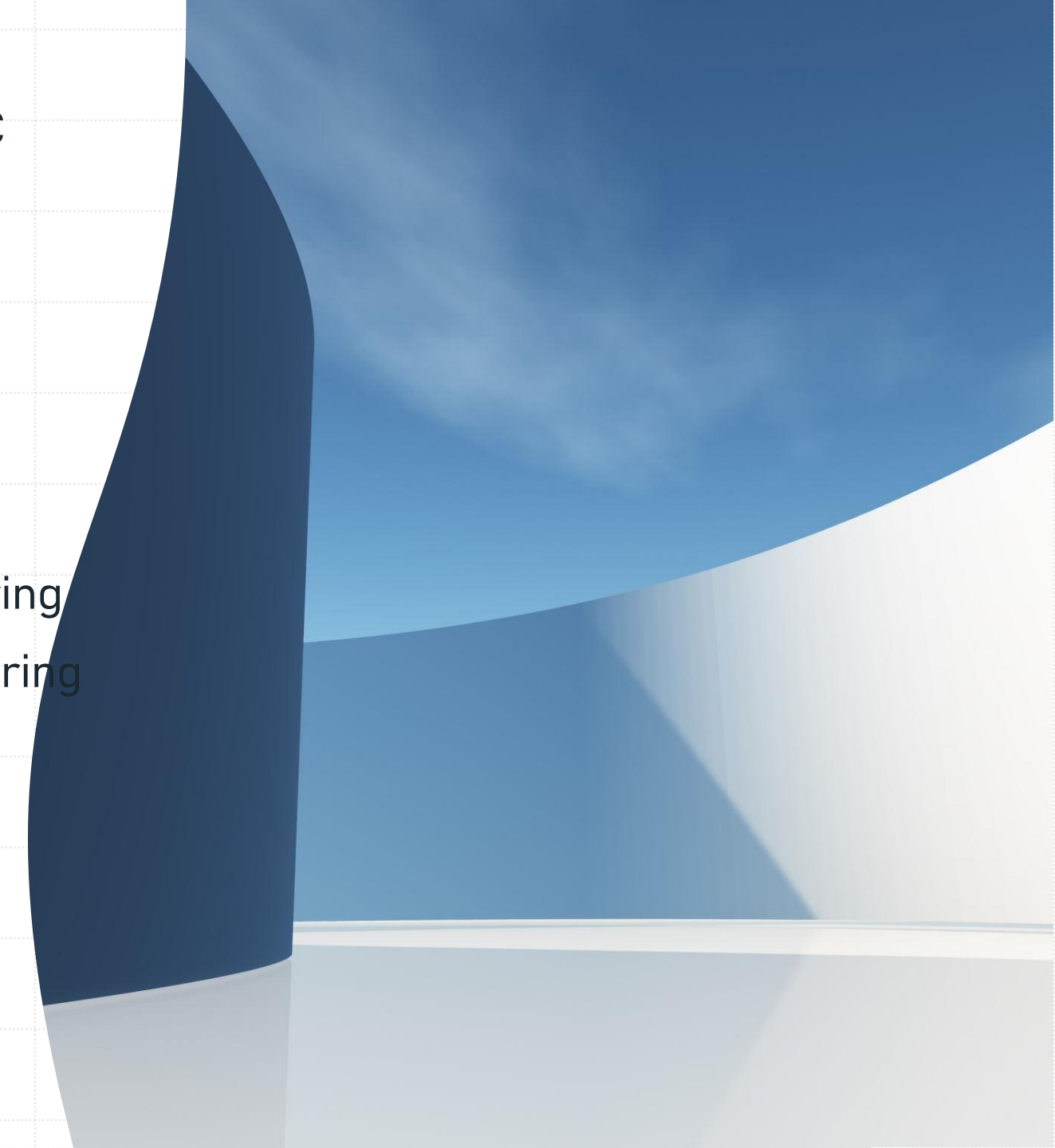
Domain : computer science and engineering

Dept : BE computer science and engineering

Submitted by

D.Hariprasath

Reg.no:412021104003



Introduction:

IBM cloud is a suite of cloud computing services which offers both platform as a service (PaaS) and Infrastructure as a Service (IaaS) and Software as a service (SaaS) . With IBM, IaaS cloud organizations can deploy virtualized IT resources such as computing power, storage and networking over the internet.

Characteristics:

IBM Cloud Object Storage is **easy to start small and can grow seamlessly with investment protection from TB to EB of capacity**. IBM Cloud Object Storage is a parallel storage system and provides concurrent access from anywhere with an any-to- any-to any architecture.

Hosting Technique:

This blog post explains how to host a static website on IBM Cloud. These websites are rendered client-side by the browser from static assets, like HTML, CSS and JS files. They do not need a server-side component to create pages dynamically at runtime. Static websites are often combined with backend APIs to create Single Page Applications.

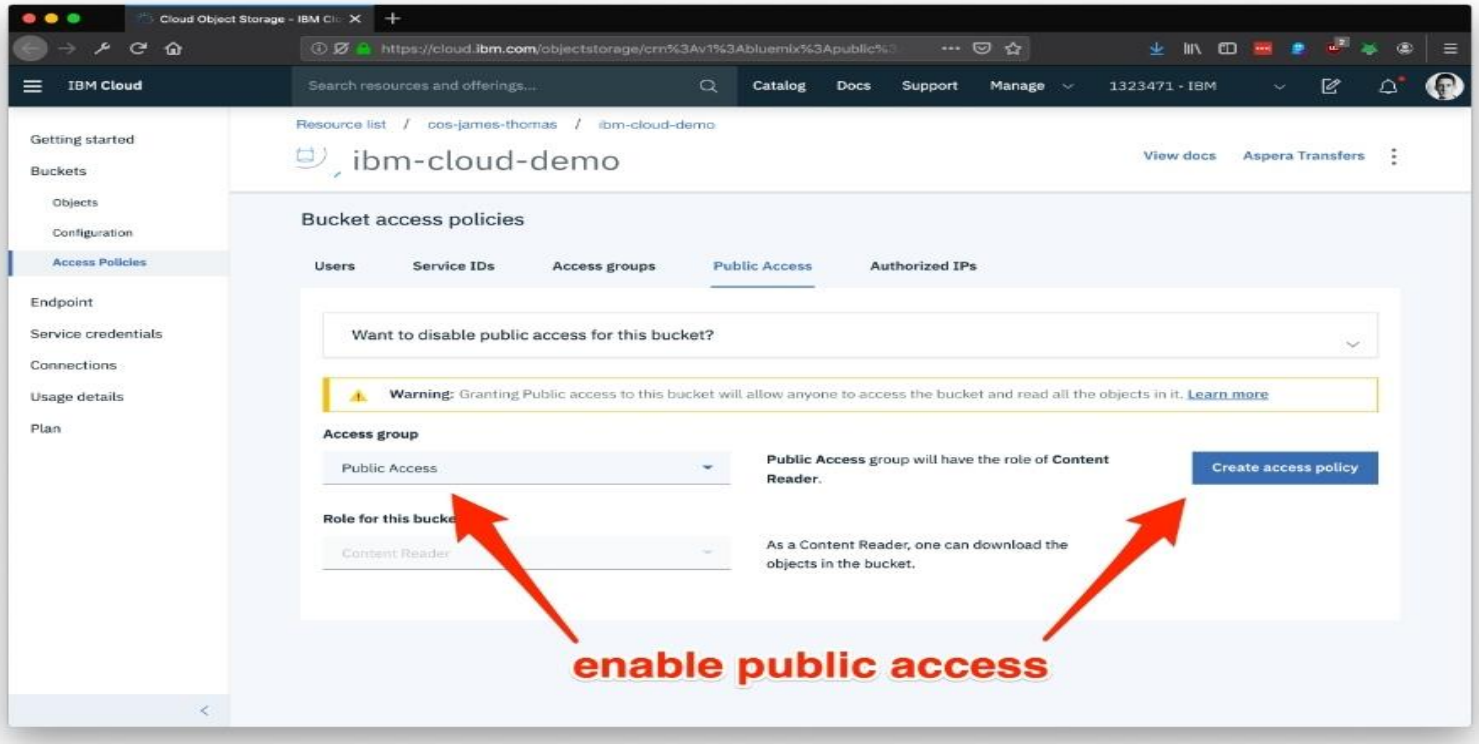
Hosting static websites on IBM Cloud uses Cloud Object Storage (COS) and Cloud Internet Services (CIS) (with Page Rules and Edge Functions). These services provide the following features needed to serve static websites.

- **Auto-serving static assets from provider-managed HTTP service (Cloud Object Storage).**
- **Custom domain support to serve content from user-controlled domain name (CIS - Page Rules).**
- **Configurable Index and Error documents (CIS - Edge Functions).**

Enable public access to bucket files

- Click the *"Access Policies"* menu item from the bucket level menu.
- Click the "*Public Access*" tab from the bucket access policy page.
- Check the Access Group drop-down has "*Public Access*" option selected.
- Click the "*Create access policy*" and then "*Enable*" on the pop menu.

Diagram:


Cloud Object Storage - IBM Cl
https://cloud.ibm.com/objectstorage/crn%3Av1%3Abluemix%3Apublic%3
IBM Cloud
Search resources and offerings...
Catalog
Docs
Support
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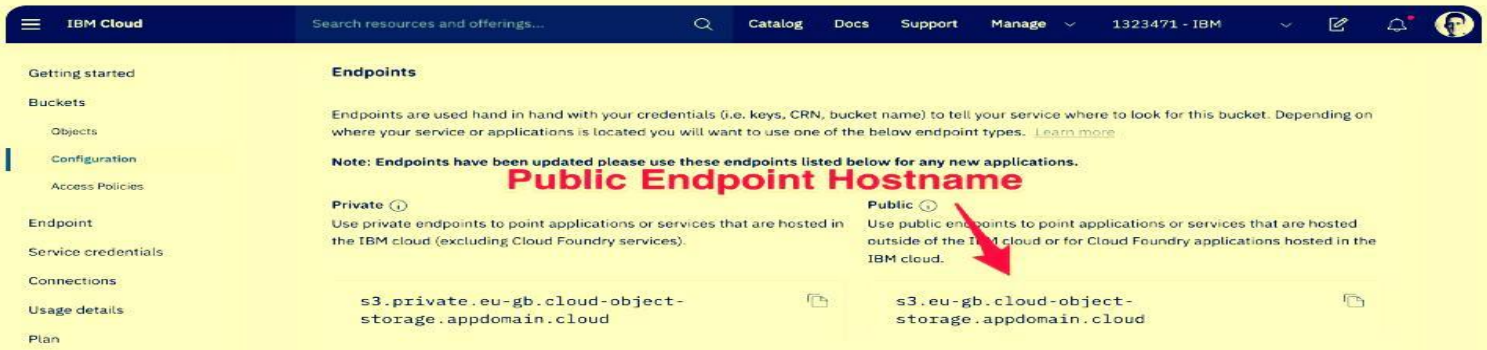
Resource list / cos-james-thomas / ibm-cloud-demo
ibm-cloud-demo
View docs
Aspera Transfers
Getting started
Buckets
Objects
Configuration
Access Policies
Endpoint
Service credentials
Connections
Usage details
Plan
Bucket access policies
Users
Service IDs
Access groups
Public Access
Authorized IPs
Want to disable public access for this bucket?
Warning: Granting Public access to this bucket will allow anyone to access the bucket and read all the objects in it. Learn more
Access group
Public Access
Public Access group will have the role of Content Reader.
Create access policy
Role for this bucke
Content Reader
As a Content Reader, one can download the objects in the bucket.
enable public access

Check bucket files are accessible:

- Open the "*Configuration*" panel on the bucket page.
- Retrieve the **public endpoint** shown, e.g. `s3.<REGION>.cloud-object-storage.appdomain.cloud`



URLs:

vhost addressing

```
<BUCKET_NANME>.s3.eu-gb.cloud-object-
storage.appdomain.cloud/index.html
```

url path addressing

```
s3.<REGION>.cloud-object-
storage.appdomain.cloud/<BUCKET_NANME>/index.html
```

Coding :

```
const INDEX_DOCUMENT = 'index.html'
const ERROR_DOCUMENT = '404.html'

addEventListener('fetch', event => {

event.respondWith(handleRequest(event.
})

async function handleRequest(request)
{
  const url = new URL(request.url)

  // if request is a directory path,
append the index document.
```

```
  if (url.pathname.endsWith('/')) {
    url.pathname =
`${url.pathname}${INDEX_DOCUMENT}`
    request = new Request(url,
request)
  }

  let response = await fetch(request)

  // if bucket file is missing,
return error page.
```

```
  if (response.status === 404) {
    url.pathname = ERROR_DOCUMENT
    request = new Request(url,
request)
    response = await fetch(request)

    response = new
Response(response.body, {
      status: 404,
      statusText: 'Not Found',
      headers: response.headers
    })
  }

  return response
}
```

Text index and error pages:

- Confirm that `http://<SUB_DOMAIN>.<CUSTOM_DOMAIN>/` returns the same page as `http://<SUB_DOMAIN>.<CUSTOM_DOMAIN>/index.html`
- Confirm that `http://<SUB_DOMAIN>.<CUSTOM_DOMAIN>/missing-page.html` returns the error page. This should be different to the XML error response returned by visiting `<BUCKET_NANME>.s3.<REGION>.cloud-object-storage.appdomain.cloud/missing-page.html`.

Conclusion:

Static web sites can be hosted on IBM Cloud using Cloud Object Storage and Cloud Internet Services.

Cloud Object stores page files needed to render the static website. Anonymous bucket file access means files are accessible as public HTTP endpoints, without having to run infrastructure to serve the assets.