

Host a react application on an S3 Bucket and deliver it through cloudfront.

Installing NodeJS

```
curl -o- https://raw.githubusercontent.com/nvm-sh/nvm/v0.37.2/install.sh | bash
export NVM_DIR="$([ -z "${XDG_CONFIG_HOME-}" ] && printf %s "${HOME}/.nvm" || printf %s "${XDG_CONFIG_HOME}/nvm")"
[ -s "$NVM_DIR/nvm.sh" ] && \. "$NVM_DIR/nvm.sh" # This loads nvm
nvm install 12
```

```
[ec2-user@ip-10-15-32-111 react]$ nvm install 12
Downloading and installing node v12.22.7...
Downloading https://nodejs.org/dist/v12.22.7/node-v12.22.7-linux-x64.tar.xz
#####
Computing checksum with sha256sum
Checksums matched!
Now using node v12.22.7 (npm v6.14.15)
Creating default alias: default -> 12 (-> v12.22.7)
[ec2-user@ip-10-15-32-111 react]$ npm --version
6.14.15
[ec2-user@ip-10-15-32-111 react]$ node --version
v12.22.7
[ec2-user@ip-10-15-32-111 react]$
```

Installing create-react-app

```
npm -g install create-react-app
create-react-app devops-demo
```

```
[ec2-user@ip-10-15-32-111 react]$ npm -g install create-react-app
npm WARN deprecated tar@2.2.2: This version of tar is no longer supported
/home/ec2-user/.nvm/versions/node/v12.22.7/bin/create-react-app ->
act-app/index.js
+ create-react-app@4.0.3
added 67 packages from 25 contributors in 4.331s
[ec2-user@ip-10-15-32-111 react]$
```

```
removed 1 package and audited 1915 packages in 13.527s

154 packages are looking for funding
  run `npm fund` for details

found 13 vulnerabilities (8 moderate, 4 high, 1 critical)
  run `npm audit fix` to fix them, or `npm audit` for details

Success! Created devops-demo at /home/ec2-user/react/devops-demo
Inside that directory, you can run several commands:

  npm start
    Starts the development server.

  npm run build
    Bundles the app into static files for production.

  npm test
    Starts the test runner.

  npm run eject
    Removes this tool and copies build dependencies, configuration files
    and scripts into the app directory. If you do this, you can't go back!

We suggest that you begin by typing:

  cd devops-demo
  npm start

Happy hacking!
[ec2-user@ip-10-15-32-111 react]$ ls
devops-demo
[ec2-user@ip-10-15-32-111 react]$ ||
```

npm start

```
Compiled successfully!

You can now view devops-demo in the browser.

  Local:            http://localhost:3000
  On Your Network:  http://10.15.32.111:3000

Note that the development build is not optimized.
To create a production build, use npm run build.
```

npm run build

```
[ec2-user@ip-10-15-32-111 devops-demo]$ npm run build
> devops-demo@0.1.0 build /home/ec2-user/react/devops-demo
> react-scripts build

Creating an optimized production build...
Compiled successfully.

File sizes after gzip:

  41.34 KB  build/static/js/2.693a0ffc.chunk.js
  1.63 KB   build/static/js/3.98dc922f.chunk.js
  1.17 KB   build/static/js/runtime-main.3a77b86b.js
  593 B     build/static/js/main.7f32f9d5.chunk.js
  556 B     build/static/css/main.a617e044.chunk.css

The project was built assuming it is hosted at /.
You can control this with the homepage field in your package.json.

The build folder is ready to be deployed.
You may serve it with a static server:

  npm install -g serve
  serve -s build

Find out more about deployment here:

  https://cra.link/deployment

[ec2-user@ip-10-15-32-111 devops-demo]$
```

Creating Public Bucket

Amazon S3 > Create bucket

Create bucket [Info](#)

Buckets are containers for data stored in S3. [Learn more](#)

General configuration

Bucket name

reactapp-bibek

Bucket name must be unique and must not contain spaces or uppercase letters. [See rules for bucket naming](#)

AWS Region

US East (Ohio) us-east-2

Copy settings from existing bucket - *optional*

Only the bucket settings in the following configuration are copied.

[Choose bucket](#)

Object Ownership [Info](#)

Control ownership of objects written to this bucket from other AWS accounts and granted using access control lists (ACLs). Object ownership determines who can specify access to objects.

- ☐ **ACLs disabled (recommended)**
All objects in this bucket are owned by this account. Access to this bucket and its objects is specified using only policies.


- ☒ **ACLs enabled**
Objects in this bucket can be owned by other AWS accounts. Access to this bucket and its objects can be specified using ACLs.

Object Ownership

- ☒ **Bucket owner preferred**
If new objects written to this bucket specify the bucket-owner-full-control canned ACL, they are owned by the bucket owner. Otherwise, they are owned by the object writer.
- ☐ **Object writer**
The object writer remains the object owner.

- i** If you want to enforce object ownership for new objects only, your bucket policy must specify that the bucket-owner-full-control canned ACL is required for object uploads. [Learn more](#)

Block Public Access settings for this bucket

Public access is granted to buckets and objects through access control lists (ACLs), bucket policies, access point policies, or all. In order to ensure that public access to this bucket and its objects is blocked, turn on Block all public access. These settings apply only to this bucket and its access points. AWS recommends that you turn on Block all public access, but before applying any of these settings, ensure that your applications will work correctly without public access. If you require some level of public access to this bucket or objects within, you can customize the individual settings below to suit your specific storage use cases. [Learn more](#) 

☐ Block *all* public access

Turning this setting on is the same as turning on all four settings below. Each of the following settings are independent of one another.

☐ Block public access to buckets and objects granted through *new* access control lists (ACLs)

S3 will block public access permissions applied to newly added buckets or objects, and prevent the creation of new public access ACLs for existing buckets and objects. This setting doesn't change any existing permissions that allow public access to S3 resources using ACLs.

☐ Block public access to buckets and objects granted through *any* access control lists (ACLs)

S3 will ignore all ACLs that grant public access to buckets and objects.

☐ Block public access to buckets and objects granted through *new* public bucket or access point policies

S3 will block new bucket and access point policies that grant public access to buckets and objects. This setting doesn't change any existing policies that allow public access to S3 resources.

☐ Block public and cross-account access to buckets and objects through *any* public bucket or access point policies


S3 will ignore public and cross-account access for buckets or access points with policies that grant public access to buckets and objects.



Turning off block all public access might result in this bucket and the objects within becoming public

AWS recommends that you turn on block all public access, unless public access is required for specific use cases.

Tags (1) - optional

Track storage cost or other criteria by tagging your bucket. [Learn more](#) 

Key

Name


Value - optional

reactApp-Bibek

Remove

Add tag

Default encryption

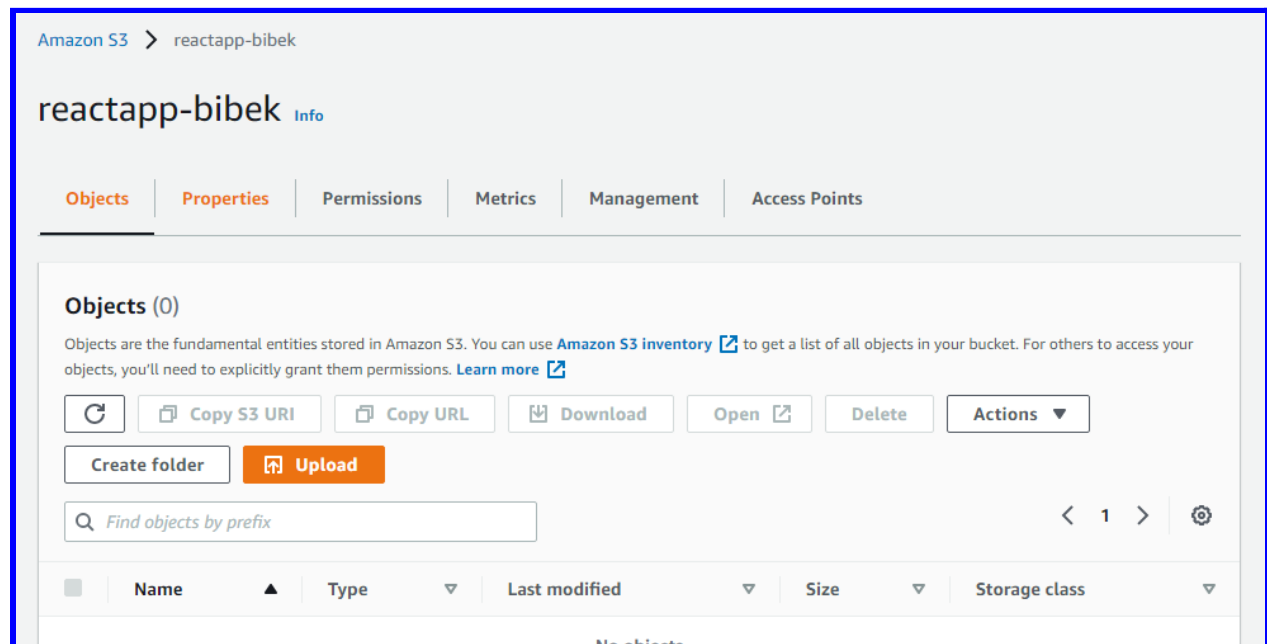
Automatically encrypt new objects stored in this bucket. [Learn more](#) 

Server-side encryption

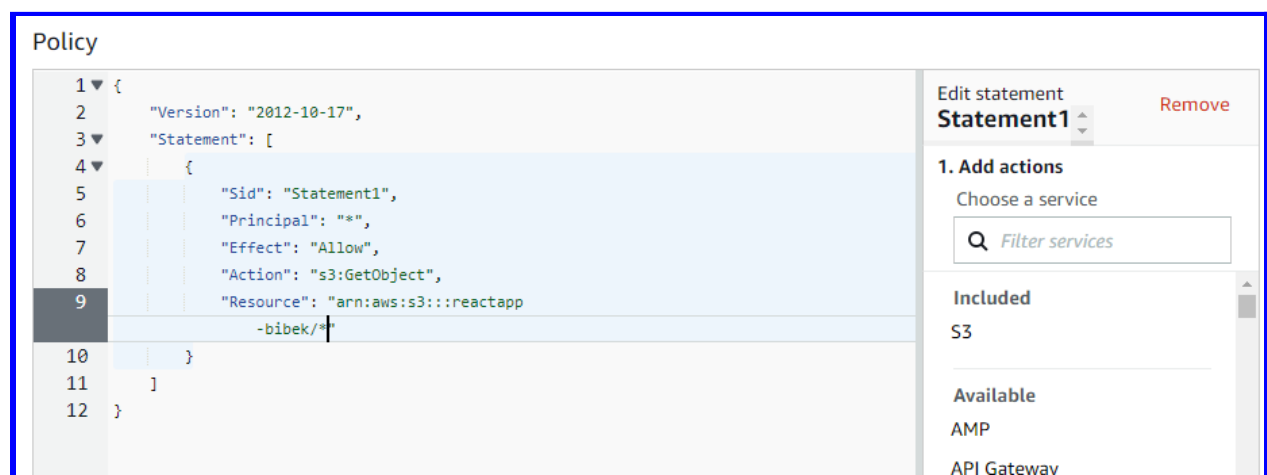
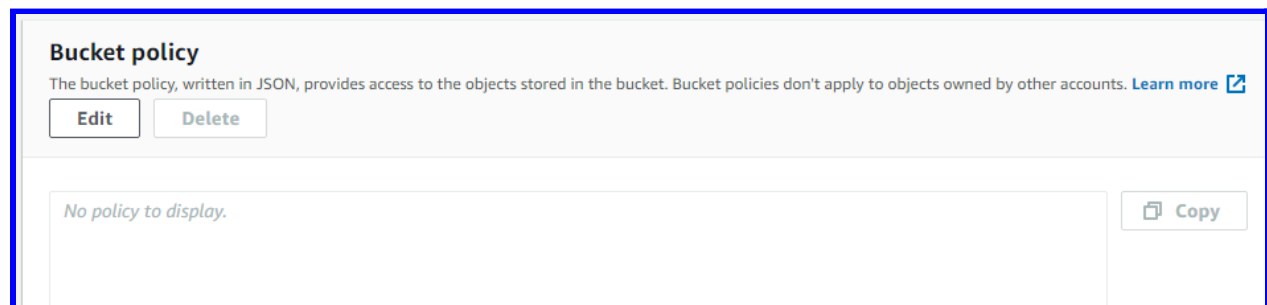
☒ Disable

☐ Enable

Successfully created bucket



Creating Bucket Policy for making all Objects Public Inside S3 Bucket



After Creating Bucket Policy

We're continuing to improve the S3 console to make it faster and easier to use. If you have feedback on the updated experience, choose **Provide feedback**.

Successfully edited bucket policy.

Amazon S3 > reactapp-bibek

reactapp-bibek Info

Publicly accessible

[Objects](#) | [Properties](#) | **[Permissions](#)** | [Metrics](#) | [Management](#) | [Access Points](#)

Permissions overview

Access

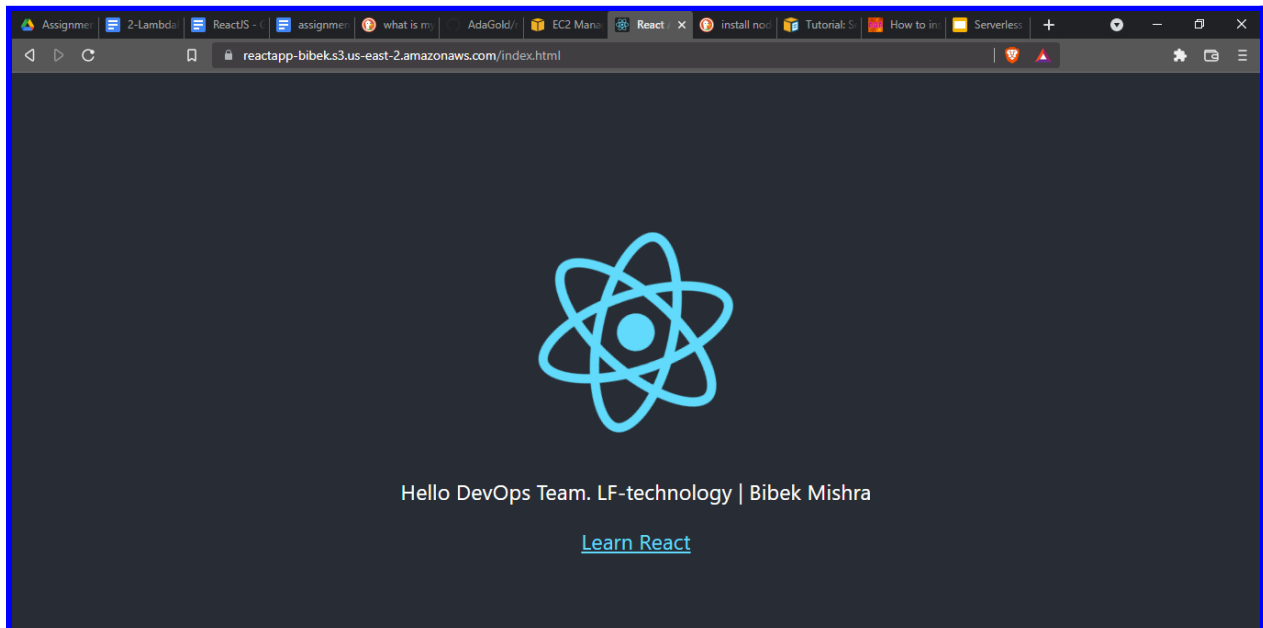
Public

Syncing Up the build directory of React App to the S3 Bucket

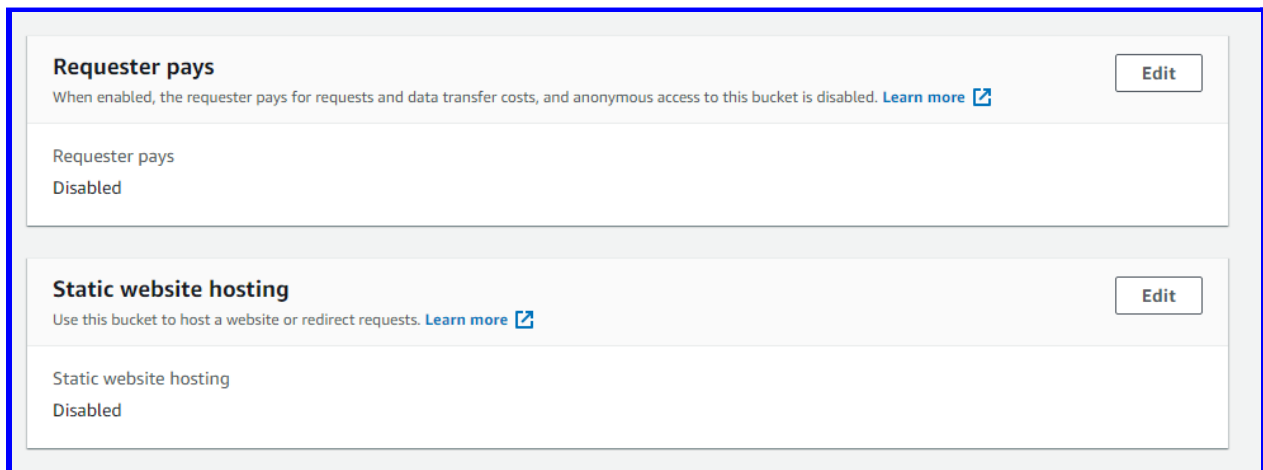
aws s3 sync build s3://reactapp-bibek --profile lft-training

```
[ec2-user@ip-10-15-32-111 devops-demo]$ aws s3 sync build s3://reactapp-bibek --profile lft-training
upload: build/index.html to s3://reactapp-bibek/index.html
upload: build/static/js/2.693a0ffc.chunk.js.LICENSE.txt to s3://reactapp-bibek/static/js/2.693a0ffc.chunk.js.LICENSE.txt
upload: build/static/js/main.7f32f9d5.chunk.js.map to s3://reactapp-bibek/static/js/main.7f32f9d5.chunk.js.map
upload: build/asset-manifest.json to s3://reactapp-bibek/asset-manifest.json
upload: build/favicon.ico to s3://reactapp-bibek/favicon.ico
upload: build/static/js/runtime-main.3a77b86b.js to s3://reactapp-bibek/static/js/runtime-main.3a77b86b.js
upload: build/static/js/3.98dc922f.chunk.js to s3://reactapp-bibek/static/js/3.98dc922f.chunk.js
upload: build/logo192.png to s3://reactapp-bibek/logo192.png
upload: build/manifest.json to s3://reactapp-bibek/manifest.json
upload: build/static/css/main.a617e044.chunk.css.map to s3://reactapp-bibek/static/css/main.a617e044.chunk.css.map
upload: build/static/js/runtime-main.3a77b86b.js.map to s3://reactapp-bibek/static/js/runtime-main.3a77b86b.js.map
upload: build/static/media/logo.6ce24c58.svg to s3://reactapp-bibek/static/media/logo.6ce24c58.svg
upload: build/static/js/main.7f32f9d5.chunk.js to s3://reactapp-bibek/static/js/main.7f32f9d5.chunk.js
upload: build/robots.txt to s3://reactapp-bibek/robots.txt
upload: build/static/css/main.a617e044.chunk.css to s3://reactapp-bibek/static/css/main.a617e044.chunk.css
upload: build/static/js/3.98dc922f.chunk.js.map to s3://reactapp-bibek/static/js/3.98dc922f.chunk.js.map
upload: build/logo512.png to s3://reactapp-bibek/logo512.png
upload: build/static/js/2.693a0ffc.chunk.js to s3://reactapp-bibek/static/js/2.693a0ffc.chunk.js
upload: build/static/js/2.693a0ffc.chunk.js.map to s3://reactapp-bibek/static/js/2.693a0ffc.chunk.js.map
[ec2-user@ip-10-15-32-111 devops-demo]$
```

Index.html file inside S3 bucket



Hosting Static web page in S3 bucket



Edit static website hosting [Info](#)

Static website hosting

Use this bucket to host a website or redirect requests. [Learn more](#) [↗](#)

Static website hosting

- ☐ Disable
- ☒ Enable

Hosting type

- ☒ Host a static website
Use the bucket endpoint as the web address. [Learn more](#) [↗](#)
- ☐ Redirect requests for an object
Redirect requests to another bucket or domain. [Learn more](#) [↗](#)

[i](#) For your customers to access content at the website endpoint, you must make all your content publicly readable. To do so, you can edit the S3 Block Public Access settings for the bucket. For more information, see

[i](#) For your customers to access content at the website endpoint, you must make all your content publicly readable. To do so, you can edit the S3 Block Public Access settings for the bucket. For more information, see [Using Amazon S3 Block Public Access](#) [↗](#)

Index document

Specify the home or default page of the website.

index.html

Error document - *optional*

This is returned when an error occurs.

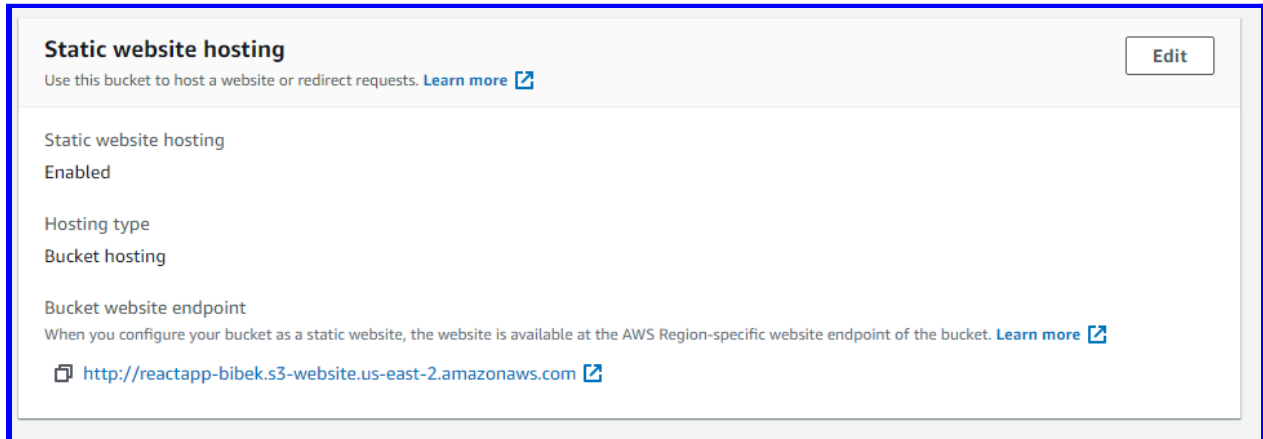
error.html

Redirection rules – *optional*

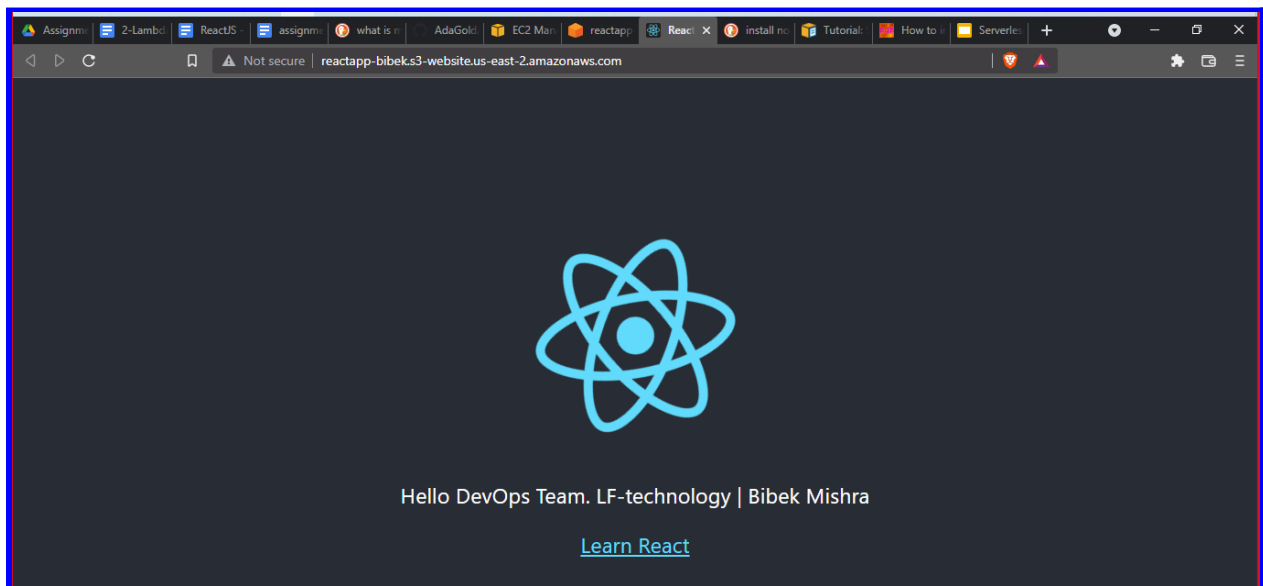
Redirection rules, written in JSON, automatically redirect webpage requests for specific content. [Learn more](#) [↗](#)

1

After Hosting static we page



Static webpage link



Creating Distribution In CloudFont for static web page of s3

CloudFront

Distributions

Policies

Functions

CloudFront > Distributions

Distributions (8) Info

Search all distributions

Enable

Disable

Delete

Create distribution

CloudFront > Distributions > create

Create distribution

Origin

Origin domain
Choose an Amazon Web Services origin, or enter your origin's domain name.

reactapp-bibek.s3-website.us-east-2.amazonaws.com

Origin path - optional Info
Enter a URL path to append to the origin domain name for origin requests.

Enter the origin path

Name
Enter a name for this origin.

reactapp-bibek.s3

Add custom header - optional
CloudFront includes this header in all requests that it sends to your origin.

Add header

Compress objects automatically [Info](#)

☐ No

☒ Yes

Viewer

Viewer protocol policy

☐ HTTP and HTTPS

☒ Redirect HTTP to HTTPS

☐ HTTPS only

Allowed HTTP methods

☒ GET, HEAD

☐ GET, HEAD, OPTIONS

☐ GET, HEAD, OPTIONS, PUT, POST, PATCH, DELETE

Restrict viewer access

If you restrict viewer access, viewers must use CloudFront signed URLs or signed cookies to access your content.

☒ No

☐ Yes

Cache key and origin requests

We recommend using a cache policy and origin request policy to control the cache key and origin requests.

Other options are kept as default

☑ Successfully created new distribution.


CloudFront > Distributions > E2EJSP1X0QW9DN

E2EJSP1X0QW9DN


[General](#) | [Origins](#) | [Behaviors](#) | [Error pages](#) | [Geographic restrictions](#) | [Invalidations](#) | [Tags](#)

Details

Distribution domain name

 d2eotxgjdacp9o.cloudfront.net

ARN

 arn:aws:cloudfront::949263681218:distribution/E2EJSP1X0QW9DN

Last modified

 Deploying

Settings

Edit

Description

Bibek-React-DemoAPP

Alternate domain names

-

Standard logging

Off

Price class

Use all edge locations (best performance)

Cookie logging

Off

Creating Custom error response in CloudFont

CloudFront > Distributions > E2EJSP1X0QW9DN

E2EJSP1X0QW9DN

General | Origins | Behaviors | **Error pages** | Geographic restrictions | Invalidations | Tags

Error pages Edit Delete Create custom error response

HTTP error code ▲	Minimum TTL (seconds) ▼	Response page path ▼	HTTP response code ▼
<p>No error pages</p> <p>You don't have any error pages.</p> <p>Create custom error response</p>			

CloudFront > Distributions > E2EJSP1X0QW9DN > Create error page response

Create custom error response

Error response [Info](#)

HTTP error code
Customize the custom error response when the origin sends this error code.

404: Not Found ▼

Error caching minimum TTL
Enter the error caching minimum time to live (TTL), in seconds.

10

Customize error response
Send a custom error response instead of the error received from the origin.

☐ No

☒ Yes

Response page path
Enter the path to the custom error response page.

/

Customize error response

Send a custom error response instead of the error received from the origin.

☐ No

☒ Yes

Response page path

Enter the path to the custom error response page.

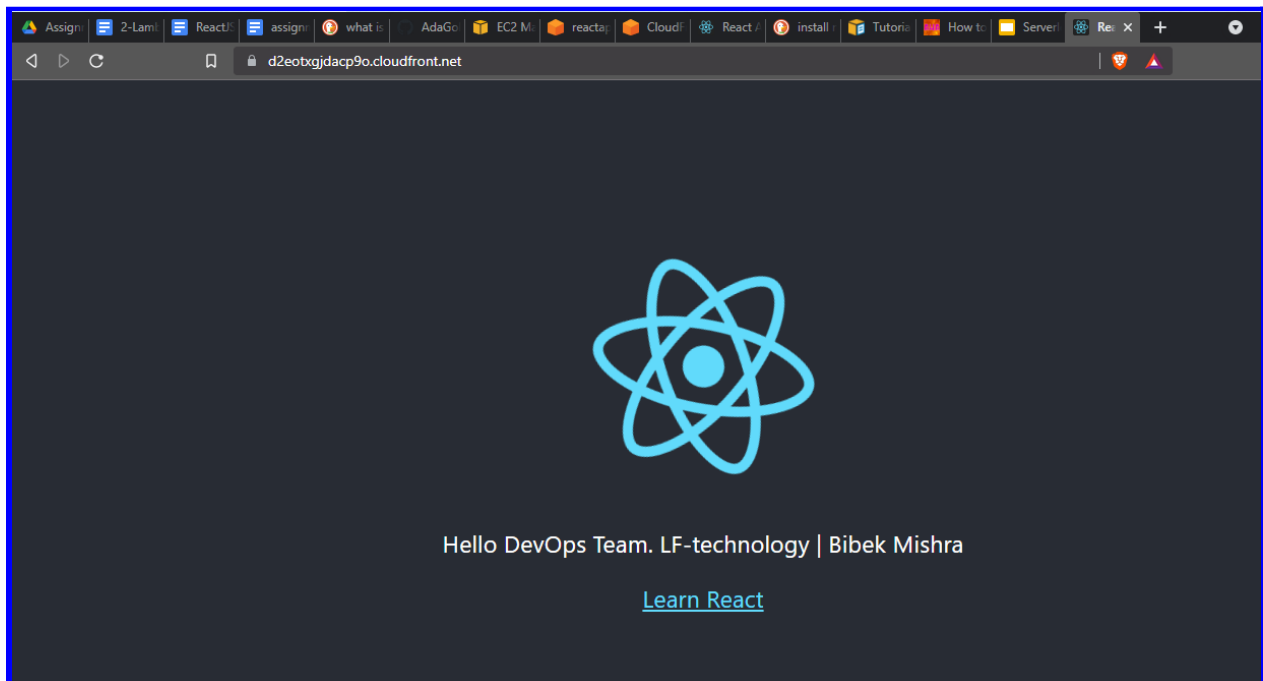
HTTP Response code

Choose the HTTP status code to return to the viewer. CloudFront can return a different status code to the viewer than what it received from the origin.

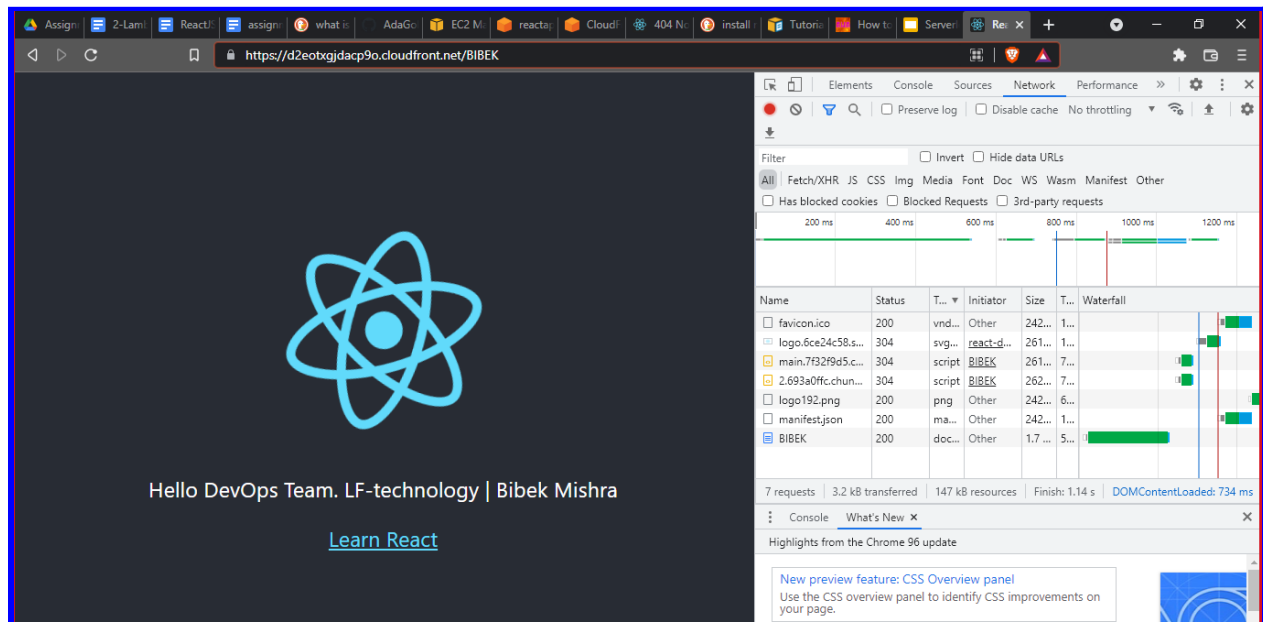
200: OK

CancelCreate custom error response

Browsing Domain Name of CloudFont



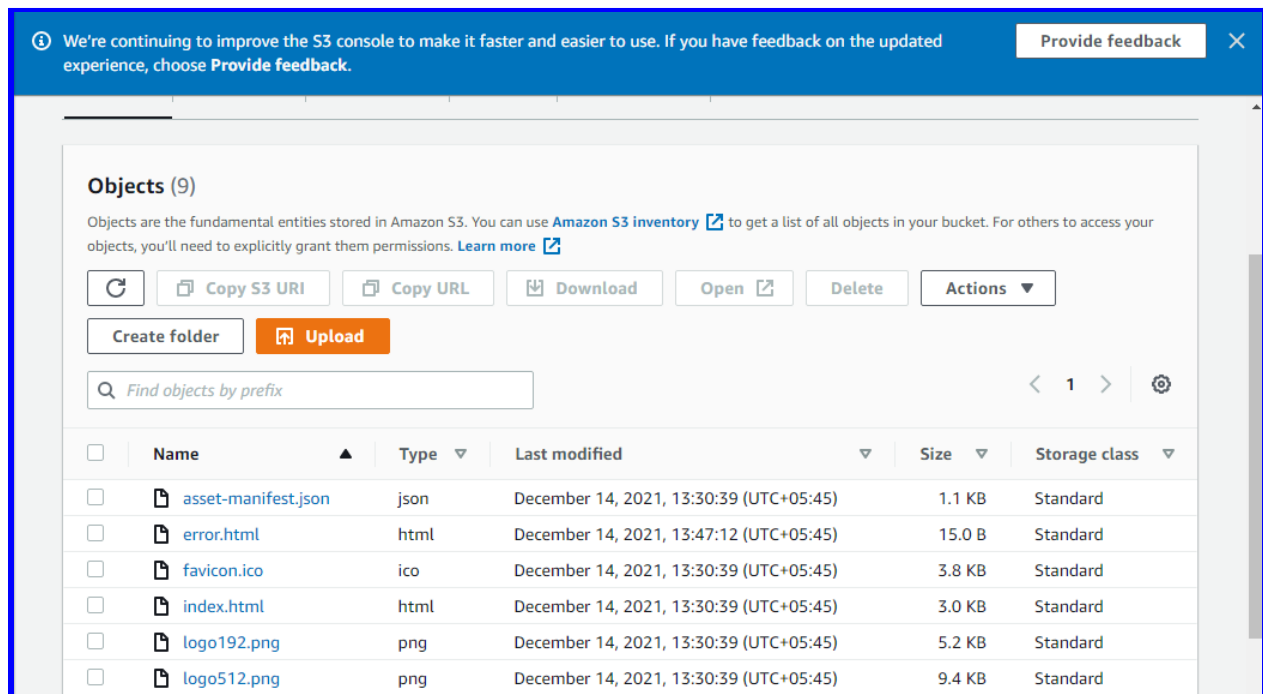
Error Page 200 response while Inspecting



Creating error.html with text "404: Not found" And Storing it in the bucket

```
[ec2-user@ip-10-15-32-111 build]$ aws s3 cp error.html s3://reactapp-bibek --profile lft-training
upload: ./error.html to s3://reactapp-bibek/error.html
[ec2-user@ip-10-15-32-111 build]$
```

We can see error.html in S3 bucket



Edited Static Webpage Hosting of S3 Bucket and assigning error.html for error page

Index document

Specify the home or default page of the website.

index.html

Error document - *optional*

This is returned when an error occurs.

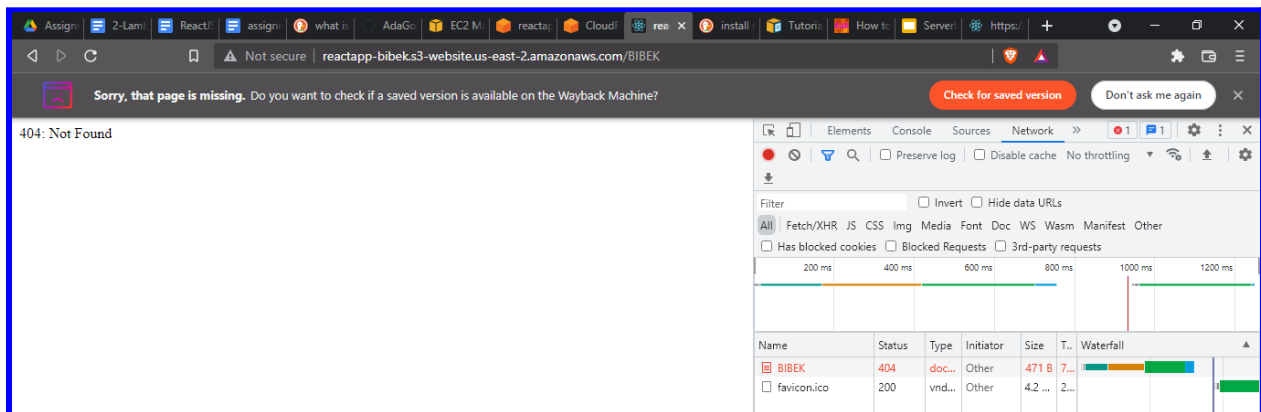
error.html

Redirection rules – *optional*

Redirection rules, written in JSON, automatically redirect webpage requests for specific content. [Learn more](#)

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Browsing Static Web-Page host link of S3 with /BIBEK



We can see the erro.html page message - 404: Not Found

Editing Error Response of CloudFront and assigning error.html for error page with 200:Ok

Error caching minimum TTL
Enter the error caching minimum time to live (TTL), in seconds.

Customize error response
Send a custom error response instead of the error received from the origin.

☐ No
☒ Yes

Response page path
Enter the path to the custom error response page.

HTTP Response code
Choose the HTTP status code to return to the viewer. CloudFront can return a different status code to the viewer than what it received from the origin.

200: OK

▼

Cancel

Save changes

Error Page Response with 200:Ok for CloudFront error page

Not Found

Elements

Console

Sources

Network

Filter

☐ Invert ☐ Hide data URLs

All Fetch/XHR JS CSS Img Media Font Doc WS Wasm Manifest Other

☐ Has blocked cookies ☐ Blocked Requests ☐ 3rd-party requests

50 ms

100 ms

150 ms

200 ms

250 ms

Name	Status	Type	Initiator	Size	Time	Waterfall
BIBEK	200	document	Other	317 B	5...	
favicon.ico	200	image	Other	4.2 KB	6...	

2 requests

4.5 kB transferred

3.9 kB resources

Finish: 233 ms

DOMContentLoaded: 163 ms

Console

What's New

Thank you !!