CloudFront Distribution

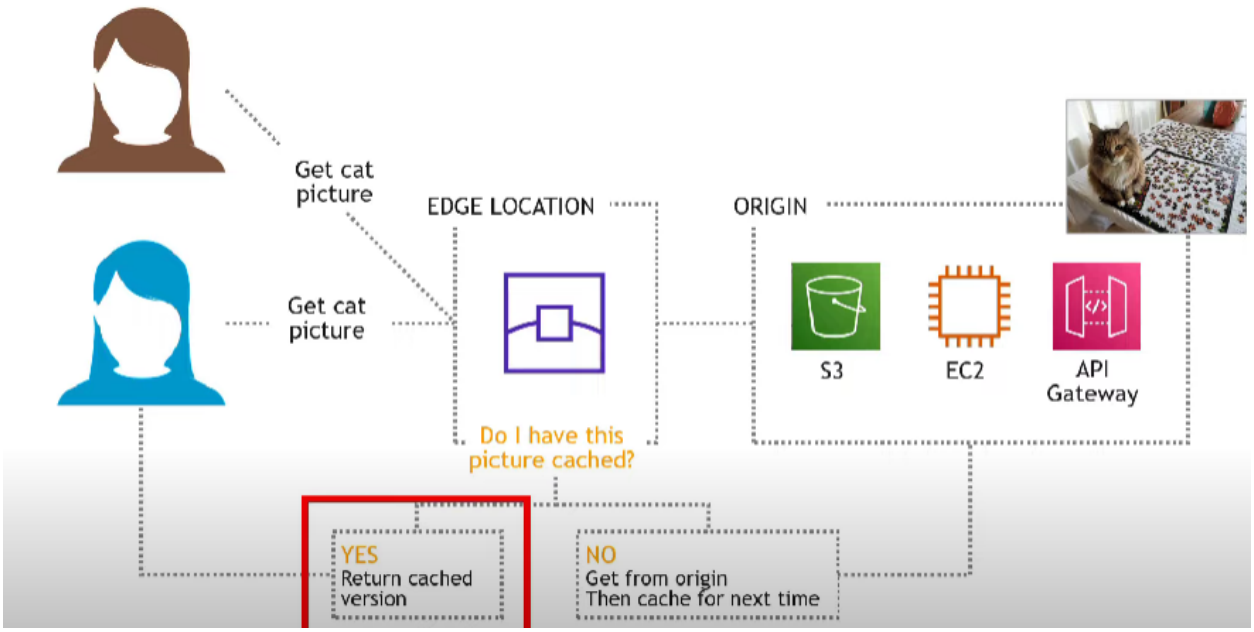
CLOUDFRONT : It’s a low latency content delivery service. CloudFront uses Edge location for fast access of data.

Technologies used

Using S3 or Ec2
API gateway

In-order to create Cloud front we can use S3 or EC2 and to use API gateway to create that connectivity.

ARCHITECTURE :



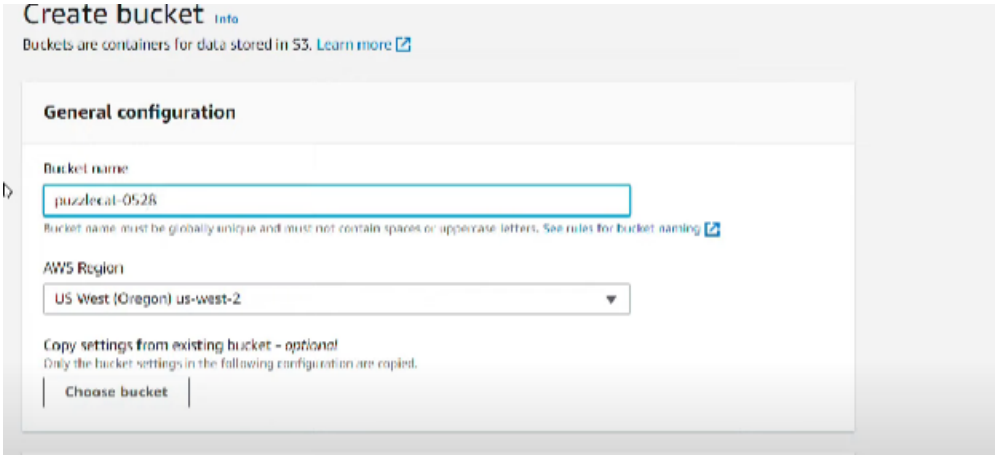
Architecture goes this way . Suppose we have a picture of a cat , as we know **CLOUDFRONT** uses **EDGE LOCATION**
for fast access to data. Hence the picture gets cached inside the edge location when you store it for the first time.

So next time when the user comes and looks for the cat picture the edge location will say "YES I HAVE THE CAT PICTURE" and return it

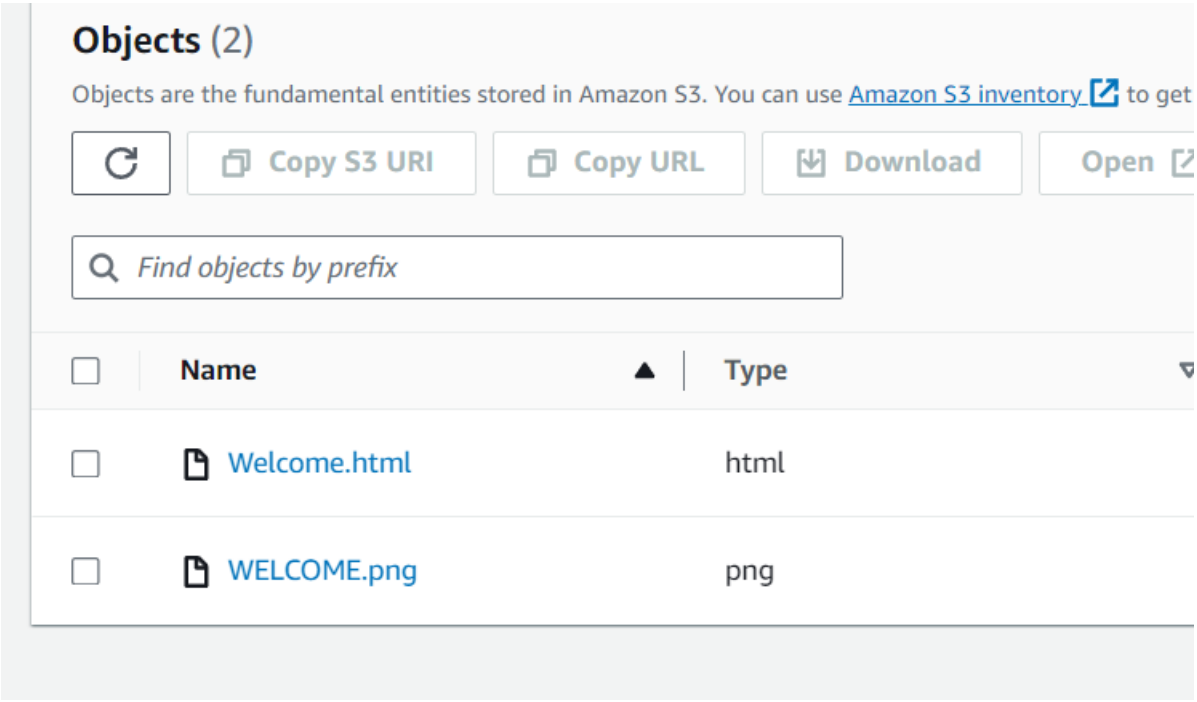
If the picture doesn't exist users need to cache/create it for the next time use by creating the origin.
i.e to create an EC2 instance or S3 bucket and cache the image.

1. Create an S3 bucket (name needs to be unique) and leave the rest settings as default and create bucket

   S3 bucket name : myawsbucket-19922



2. Navigate to the bucket and upload the html file . Drag and drop the image and html file
3. Here I have created a simple Welcome page with an image and uploaded it to bucket

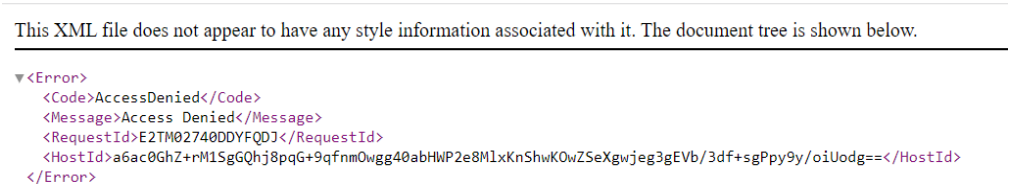


1. If I try to access the object, welcome. PNG I get access denied message

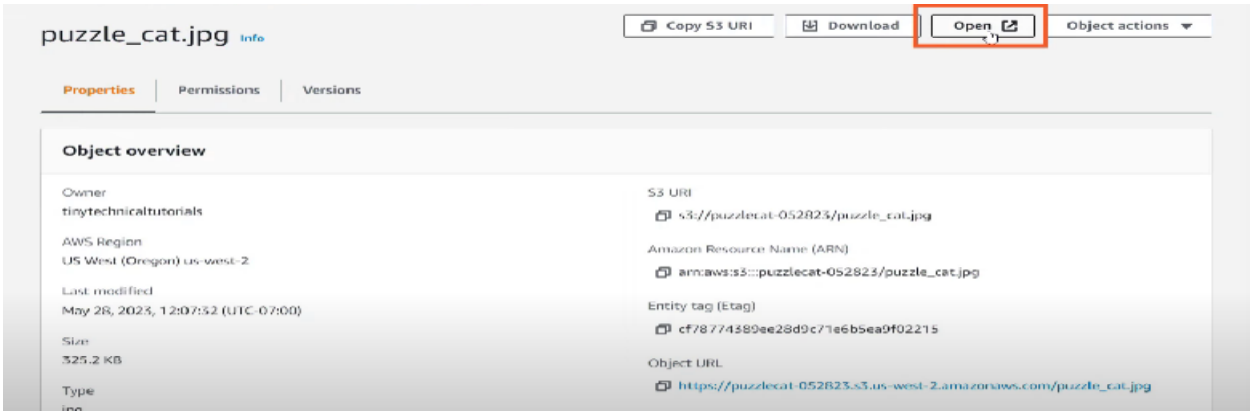
OBJECT URL : https://myawsbucket-19922.s3.us-east-2.amazonaws.com/WELCOME.png

I will get access denied message as it's not we didn't allow public access

Hence we get an error message



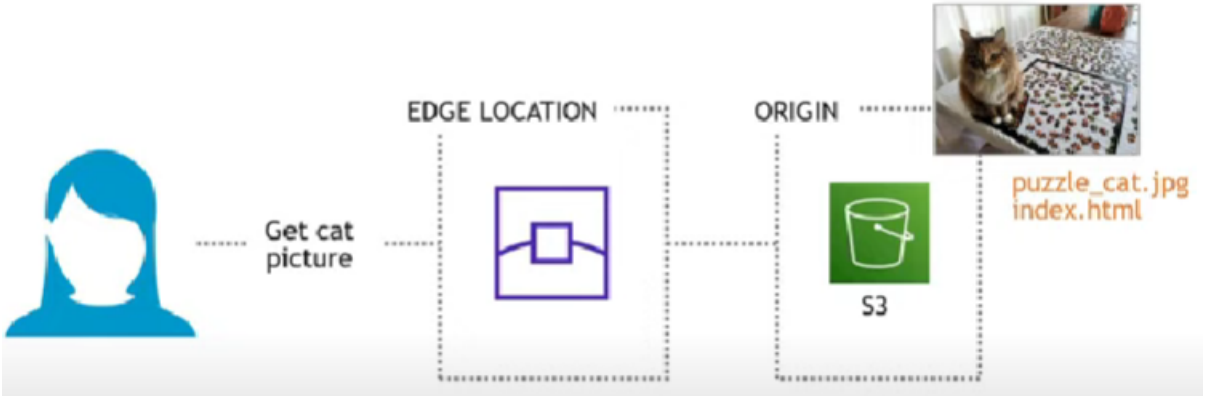
1. We can open using the open button on the top right corner . It will give access to the image temporarily.



The challenging part comes here we don't need this temporary access we need to be able to access these files using

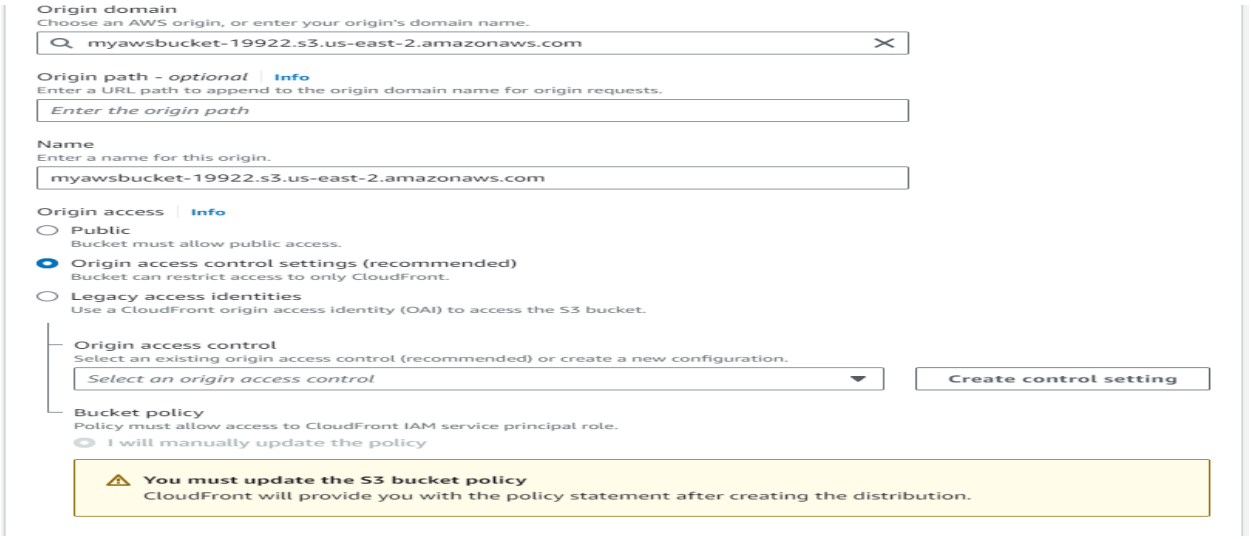
cloud front . Hence let's work on establishing a cloud front

6. Open a new tab and navigate to the cloud front on the management console.
7. Our origin here would be an S3 bucket

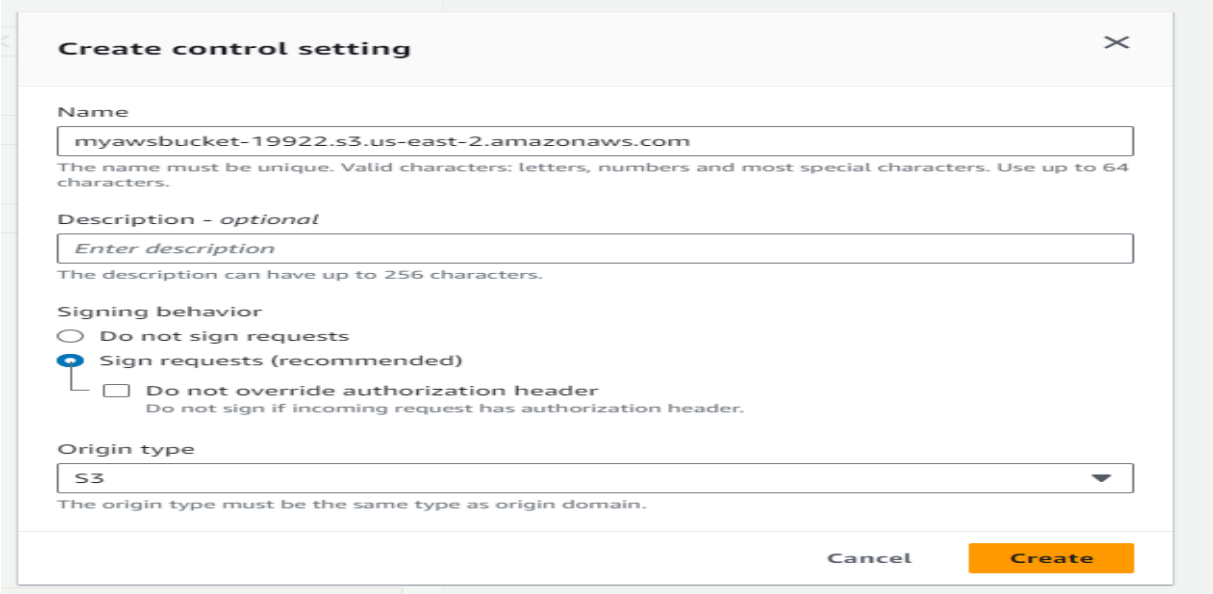


8. Now create a cloud distribution

We need to select Origin access settings as we want the origin to be an S3 bucket



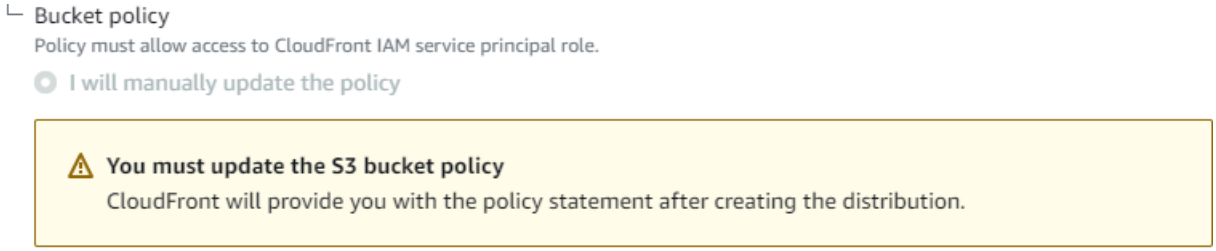
Once you click on Create control settings select S3 as origin type and click on create



Web Application Firewall (WAF) can be turned off i.e check on do not enable firewall.

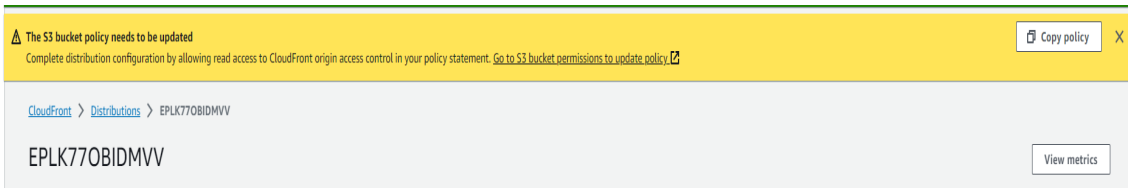
Rest all the options can be default

It will also show bucket policy update alert

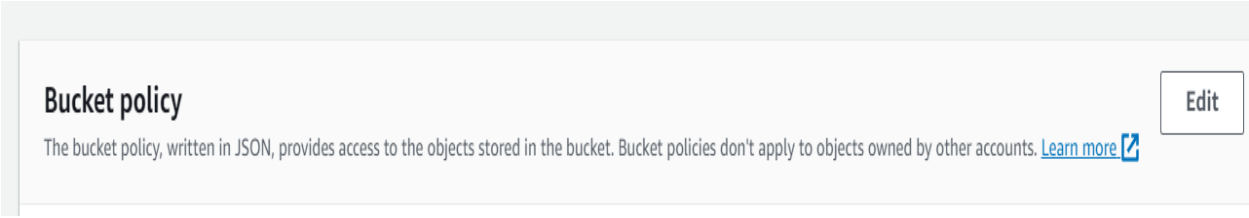


After creating distribution it will let us update the policy. So create the distribution using the above steps.

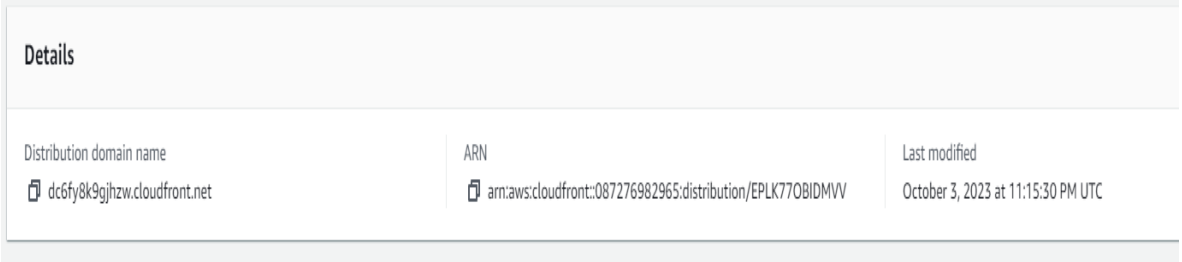
9.When you create a bucket you will find this alert to update the bucket policy



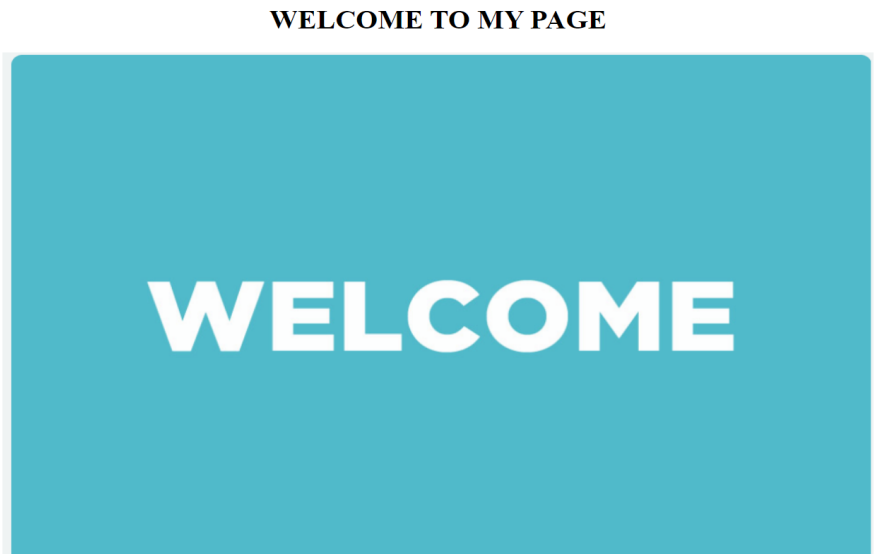
1. Copy the policy and **go the S3 bucket update policy link** paste the policy that you copied there.
2. Click on Edit under Bucket Policy and paste it there and also remember to block all pubic access.



1. The bucket says that Allow access to Cloud Front and get object/read from S3 Bucket that we created which is the origin.
2. Go back to the distribution where the modified section would give us date and time that's when we say that the distribution is ready or created.



1. Now copy the domain name https://dc6fy8k9gjhzw.cloudfront.net and open in a new tab
2. And we would see the Welcome Page



16.So this is our first time opening the files copied on S3 bucket which is the origin using the Cloud front. So now we need to refresh the page in order to cache them for them and can be stored in edge location. After refreshing it would be our cached copy.

1. The whole point of caching using cloud front is users can get the content faster.
2. Make sure you delete all the files once done .