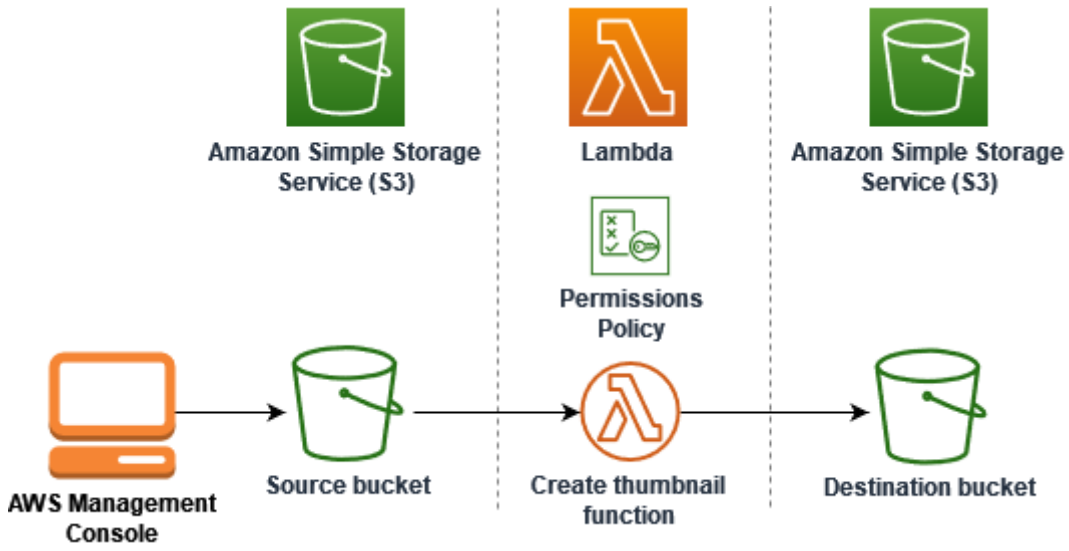
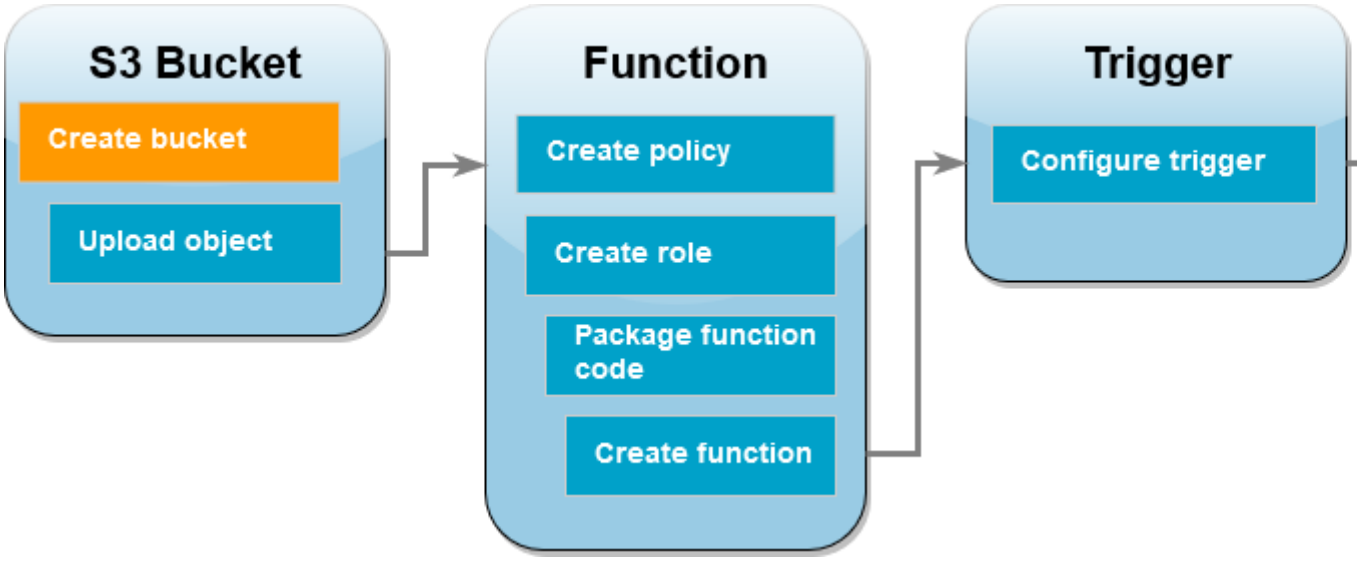
Project 1-Serverless image processing



Step 1- sign in to your aws account.

step 2-Create two Amazon S3 buckets



To create the Amazon S3 buckets (console)

1. Open the Buckets page of the Amazon S3 console.
2. Choose **Create bucket**.

3. Under **General configuration**, do the following:

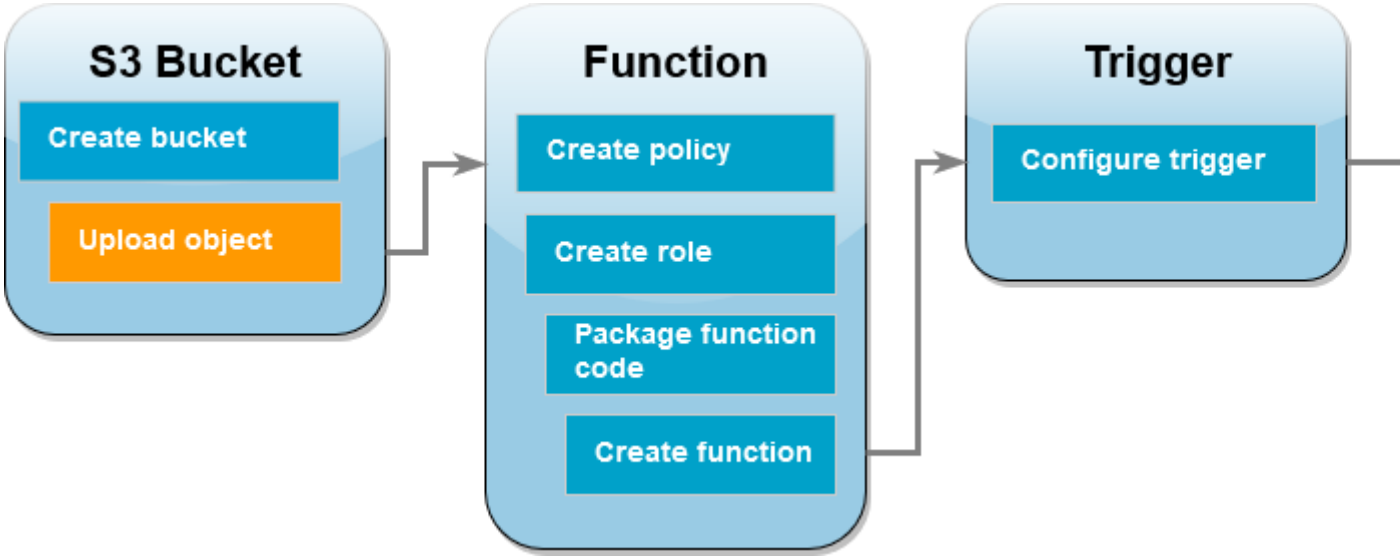
    1. We create our source bucket ***msmainbucket.***

    2. For **AWS Region**, choose ***the Asia Pacific (Mumbai) south-ap-1***.

4. Leave all other options set to their default values and choose **Create bucket**.

5. Repeat steps 1 to 4 to create your destination bucket ***msresizebucket.***

Step 3-Upload a test image to your source bucket



To upload a jpg image to your source bucket (console)

1. Open the Buckets page of the Amazon S3 console.

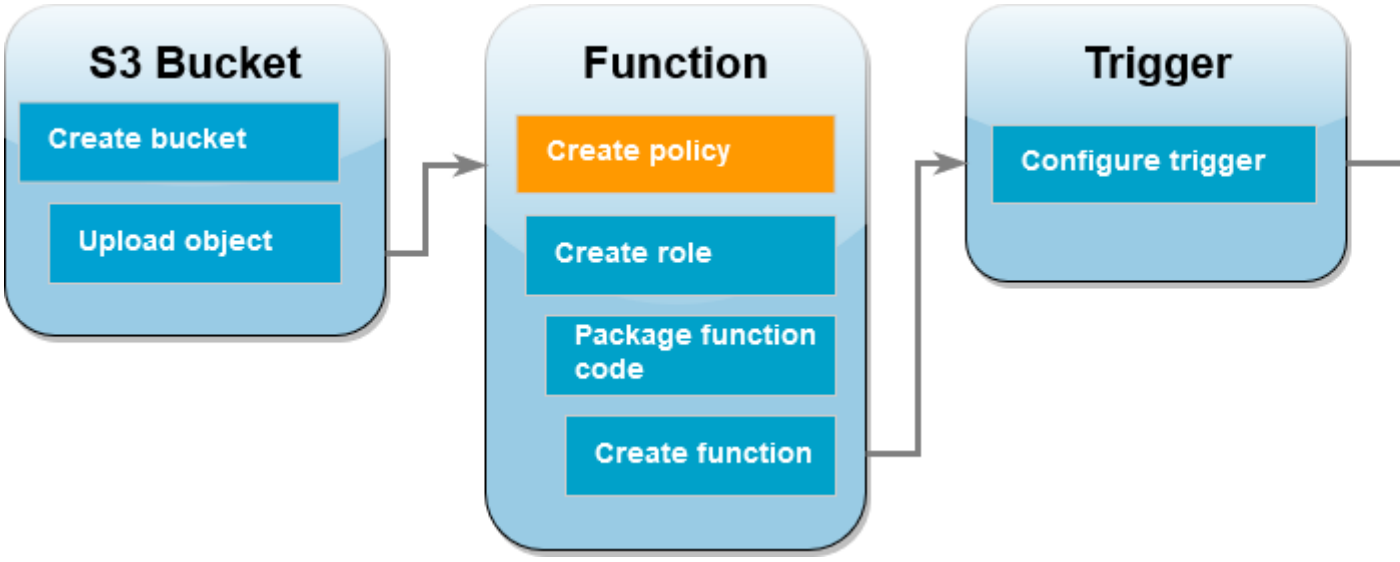
2. Select the source bucket you created in the previous step.

3. Choose **Upload**.

4. Choose **Add files** and use the file selector to choose the object you want to upload.

5. Choose **Open**, then choose **Upload**.

Step 4-Create a permissions policy



To create the policy (console)

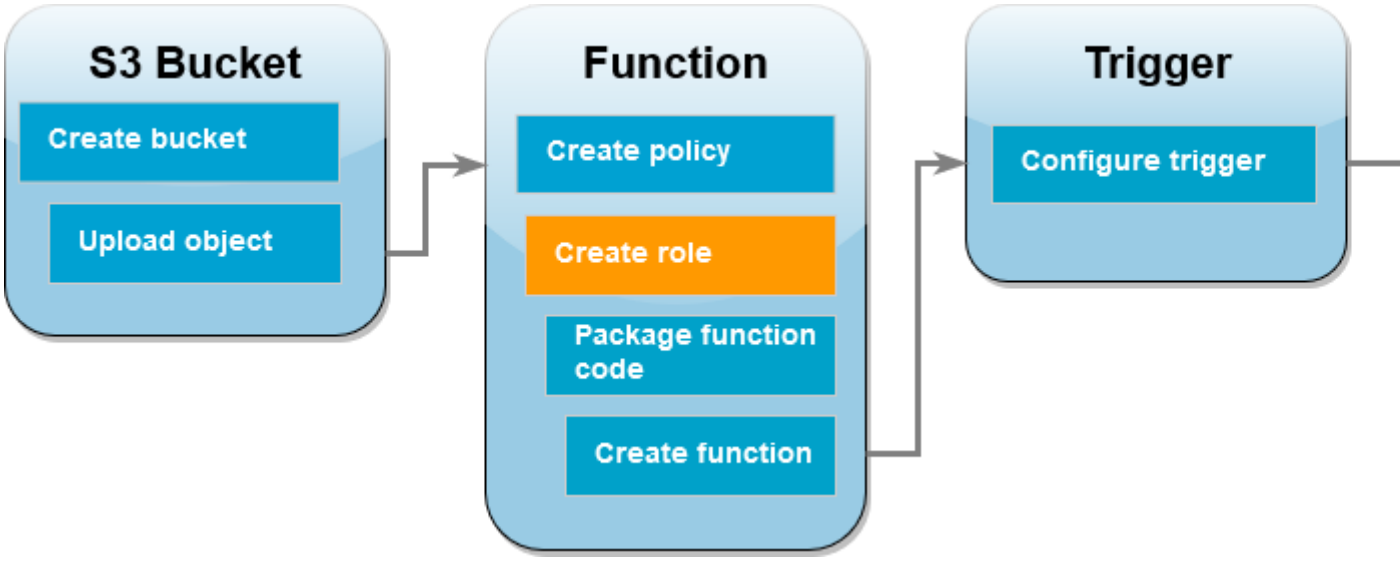
1. Open the Policies page of the AWS Identity and Access Management (IAM) console.
2. Choose **Create policy**.
3. Choose the **JSON** tab, and then paste the following custom policy into the JSON editor.

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Action": [
                "logs:PutLogEvents",
                "logs:CreateLogGroup",
                "logs:CreateLogStream"
            ],
            "Resource": "arn:aws:logs:*:*:*"
```

```
        },
        {
            "Effect": "Allow",
            "Action": [
                "s3:GetObject"
            ],
            "Resource": "arn:aws:s3:::msmainbucket/*"
        },
        {
            "Effect": "Allow",
            "Action": [
                "s3:PutObject"
            ],
            "Resource": "arn:aws:s3:::msresizebucket/*"
        }
    ]
}
```

31. Choose **Next**.
32. Under **Policy details**, for **Policy name**, enter ***resizepolicy.***
33. Choose **Create policy**.

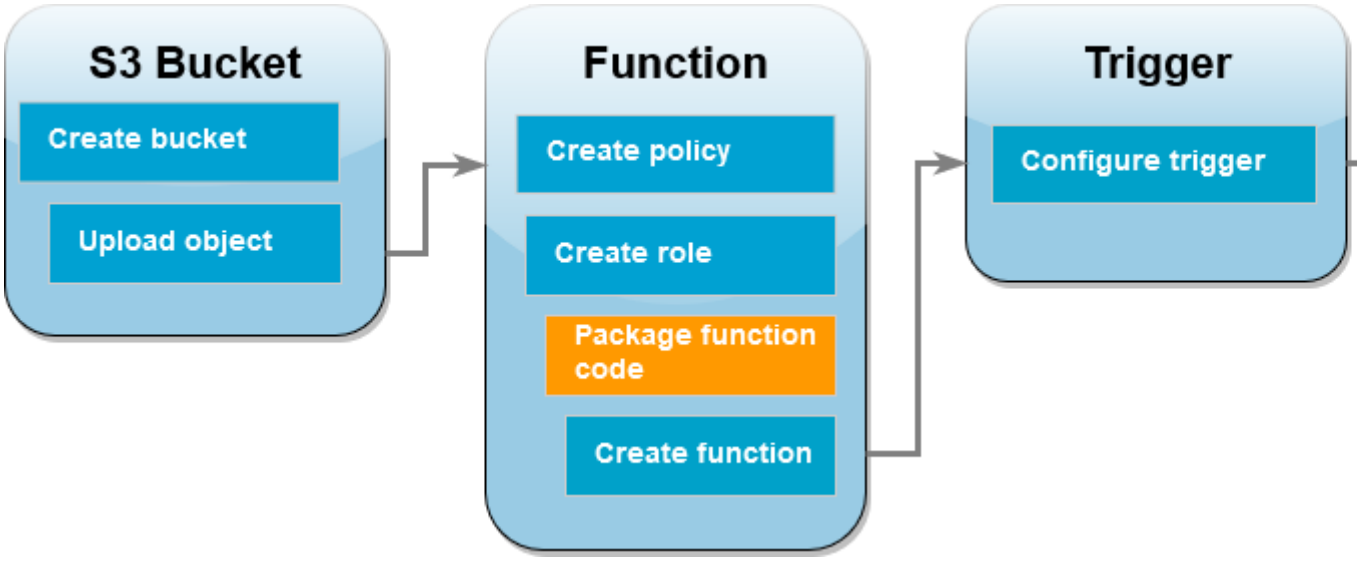
Step 5-Create an execution role



To create an execution role and attach your permissions policy (console)

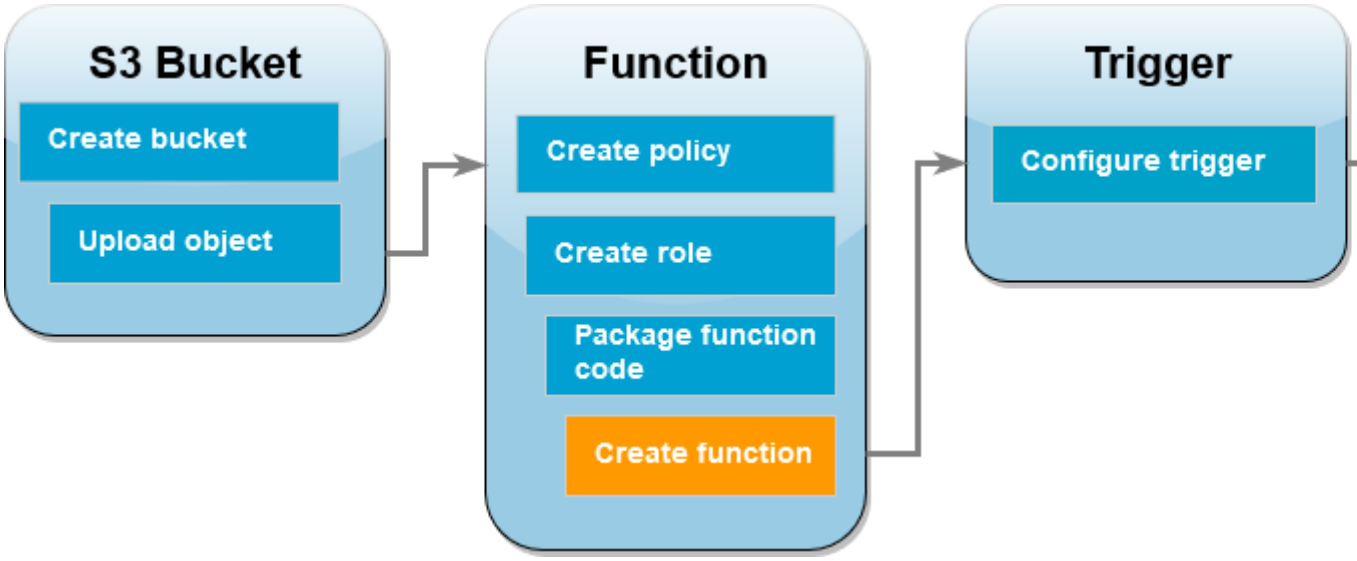
1. Open the Roles page of the (IAM) console.
2. Choose **Create role**.
3. select **AWS service**, and for **Use case**, select **Lambda**.
4. Choose **Next**.
5. Add the permissions policy you created in the previous step by doing the following:
    1. In the policy search box, enter ***`resize policy`*** and choose it.
    2. Choose **Next**.
6. Under **Role details**, for the **Role name** enter ***`resizerole.`***
7. Choose **Create role**.

Step 6-Create the function deployment package



1. We create function.zip file.

Step 7-Create the Lambda function



To create the function (console)

1. 1. Open the Functions page of the Lambda console.
2. 2. Choose **Create function**.
3. 3. Choose **Author from scratch**.
4. 4. Under **Basic information**, do the following:

a. 5. For **Function name**, enter `resizelambda`.

b. 6. For **Runtime**choose either **Node.js 18.x** .

c. 7. For **Architecture**, choose **x86_64**.

5. 8. In the **Change default execution role** tab, do the following:

a. 9. Expand the tab, then choose **Use an existing role**.

b. 10. Select the ***resizerole*** you created earlier.

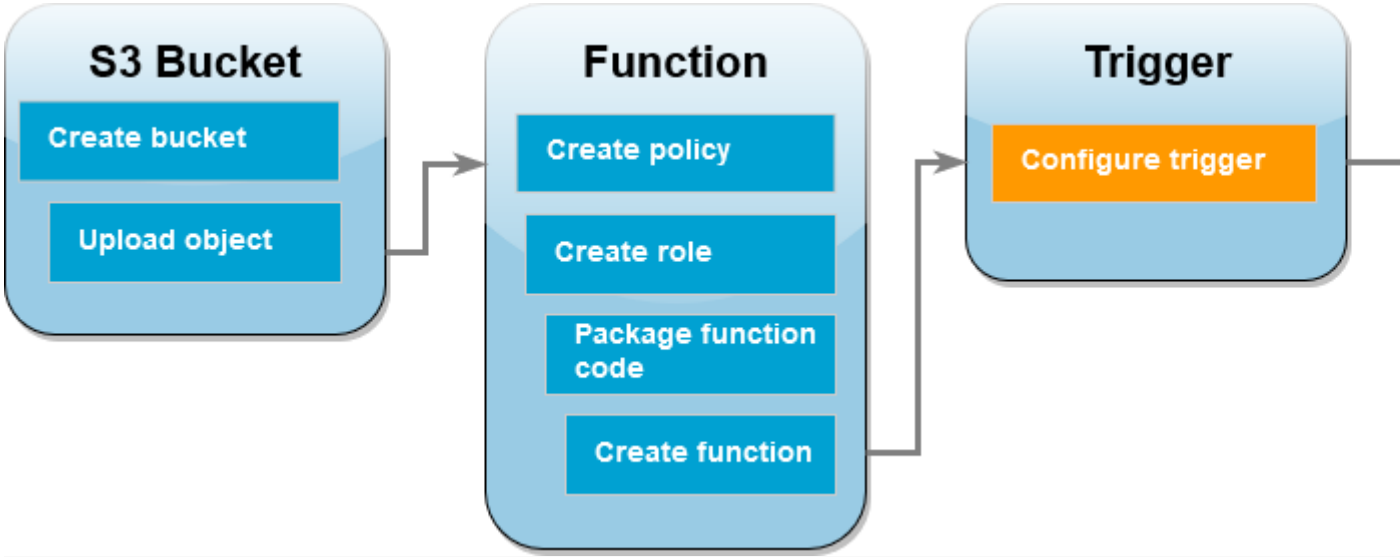
6. 11. Choose **Create function**.

7.

Step 8-To upload the function code (console)

1. 1. In the **Code source** pane, choose **Upload from**.
2. 2. Choose **.zip file**.
3. 3. Choose **Upload**.
4. 4. In the file selector, select your .zip file and choose **Open**.
5. 5. Choose **Save**.

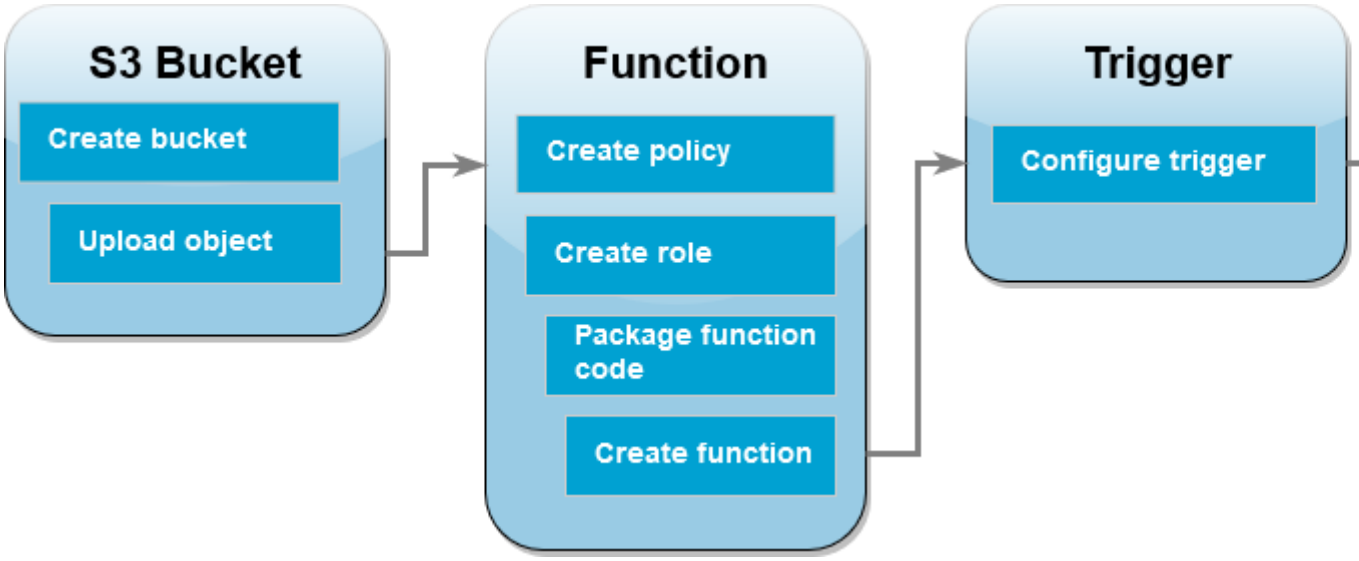
Step 9-Configure Amazon S3 to invoke the function



To configure the Amazon S3 trigger (console)

1. Open the Functions page of the Lambda console and choose your function (`CreateThumbnail`).
2. Choose **Add trigger**.
3. Select **S3**.
4. Under **Bucket**, select your source bucket.
5. Set all options are as default.
6. Choose **save**.

Test your Lambda function with a dummy event



To test your Lambda function with a dummy event (console)

- Open the Functions page of the Lambda console and choose your function (`resizelambda`).
- Choose the **Test** tab.
- To create your test event, in the **Test event** pane, do the following:
  - Under **Test event action**, select **Create new event**.
  - For **Template**, select **S3 Put**.
  - Replace the values for the following parameters with your own values.
    - For `awsRegion`, replace `us-east-1` with the AWS Region you created your Amazon S3 buckets in.
    - For `name`, replace `DOC-EXAMPLE-BUCKET` with the name of your own Amazon S3 source bucket.
    - For `key`, replace `test%2Fkey` with the filename of the test object you uploaded to your source bucket in the step Upload a test image to your source bucket.

  - {

```
a.   "Records": [
b.     {
c.       "eventVersion": "2.0",
d.       "eventSource": "aws:s3",
e.       "awsRegion": "south-ap-1",
```

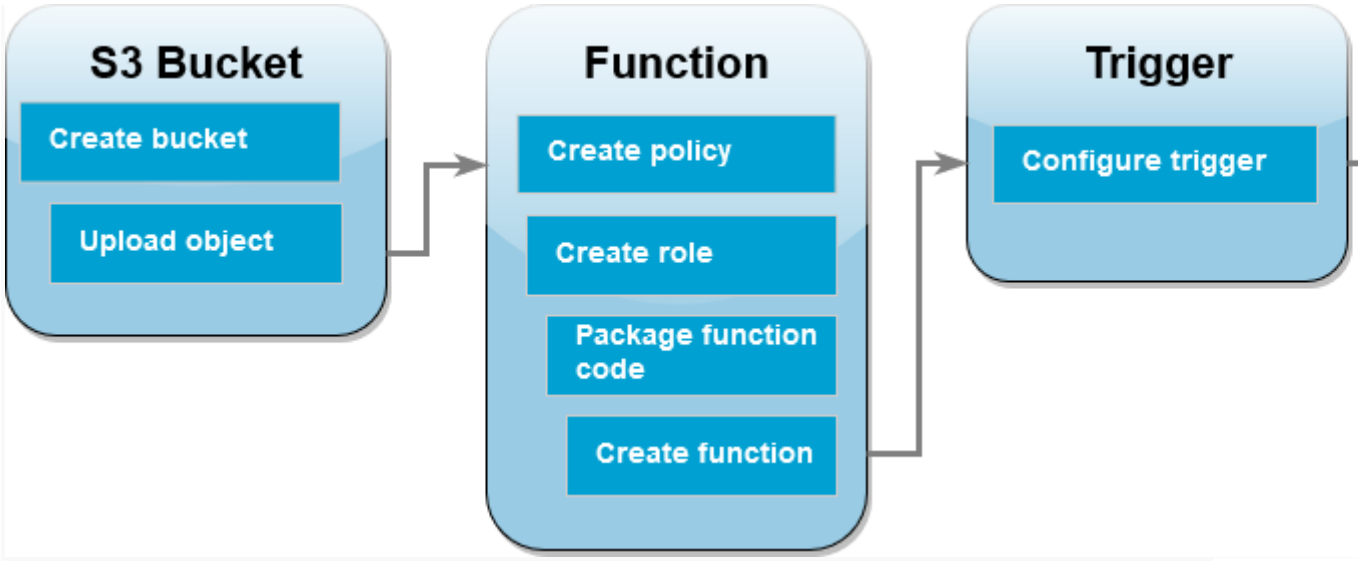
```
f.        "eventTime": "1970-01-01T00:00:00.000Z",
g.        "eventName": "ObjectCreated:Put",
h.        "userIdentity": {
i.          "principalId": "EXAMPLE"
j.        },
k.        "requestParameters": {
l.          "sourceIPAddress": "127.0.0.1"
m.        },
n.        "responseElements": {
o.          "x-amz-request-id": "EXAMPLE123456789",
p.          "x-amz-id-2":
   "EXAMPLE123/5678abcdefghijklambdaisawesome/mnopqrstuvwxyzABCDEFGH"
q.        },
r.        "s3": {
s.          "s3SchemaVersion": "1.0",
t.          "configurationId": "testConfigRule",
u.          "bucket": {
v.            "name": "msmainbucket",
w.            "ownerIdentity": {
x.              "principalId": "EXAMPLE"
y.            },
z.            "arn": "arn:aws:s3:::msmainbucket "
aa.               },
bb.               "object": {
```

```
                "key": "SampleJPGImage_100kbmb.jpg",
                "size": 1024,
                "eTag": "0123456789abcdef0123456789abcdef",
                "sequencer": "0A1B2C3D4E5F678901"
            }
        }
    }
]
}
```

- Choose **Save**.

- In the **Test event** pane, choose **Test**.
- To check the your function has created a resized verison of your image and stored it in your target Amazon S3 bucket, do the following:
  - Open the Buckets page of the Amazon S3 console.
  - Choose your target bucket and confirm that your resized file is listed in the **Objects** pane.

Step 10-Test your function using the Amazon S3 trigger



To test your Lambda function using the Amazon S3 trigger (console)

1. To upload an image to your Amazon S3 bucket, do the following:
2. Open the Buckets page of the Amazon S3 console and choose your source bucket.
3. Choose **Upload**.
4. Choose **Add files** and use the file selector to choose the image file you want to upload. Your image object can be any .jpg or .png file.
5. Choose **Open**, then choose **Upload**.
6. Verify that Lambda has saved a resized version of your image file in your target bucket by doing the following:
7. Navigate back to the Buckets page of the Amazon S3 console and choose your destination bucket.
8. In the **Objects** pane, you should now see two resized image files, one from each test of your Lambda function. To download your resized image, select the file, then choose **Download**.
