

Execute a State Machine on AWS

<https://docs.aws.amazon.com/step-functions/latest/dg/tutorial-cloudwatch-events-s3.html>

Create functions

Create State Machine

Add S3 Buckets for Event to occur

Add S3 Bucket for State Machine Logging Storage

Add a Cloud Trail

Add a Cloud Watch Event

IAM Roles & Policies

Lambda Functions need AWSLambdaFullAccess policy to run

State Machine needs AWSLambdaFullAccess policy to run

Printing Event when file is uploaded will provide JSON Output Record you can parse:

```

{
  "version": "0",
  "id": "88af1952-66fe-5fa0-ab59-9ff7a2a9e1a5",
  "detail-type": "AWS API Call via CloudTrail",
  "source": "aws.s3",
  "account": "811315030605",
  "time": "2019-07-16T02:16:12Z",
  "region": "us-east-1",
  "resources": [],
  "detail": {
    "eventVersion": "1.05",
    "userIdentity": {
      "type": "IAMUser",
      "principalId": "AIDAIK2YZTSXWVLFWRMH2",
      "arn": "arn:aws:iam::811315030605:user/jbarnett",
      "accountId": "811315030605",
      "accessKeyId": "ASIA3ZZRE5JGU4DSXPUR",
      "userName": "jbarnett",
      "sessionContext": {
        "attributes": {
          "creationDate": "2019-07-15T19:28:42Z",
          "mfaAuthenticated": "false"
        }
      }
    },
    "invokedBy": "signin.amazonaws.com"
  },
  "eventTime": "2019-07-16T02:16:12Z",
  "eventSource": "s3.amazonaws.com",
  "eventName": "PutObject",
  "awsRegion": "us-east-1",
  "sourceIPAddress": "156.68.176.184",
  "userAgent": "signin.amazonaws.com",
  "requestParameters": {
    "X-Amz-Date": "20190716T021612Z",
    "bucketName": "sdt-data",
    "X-Amz-Algorithm": "AWS4-HMAC-SHA256",
    "x-amz-acl": "private",
    "X-Amz-SignedHeaders": "content-md5;host;x-amz-acl;x-amz-storage-class",
    "Host": "s3.amazonaws.com",
    "X-Amz-Expires": "300",
    "key": "ceres/SYNldeg-1Hour/Terra-Aqua-MODIS_Edition4A/2018/06/CER_SYNldeg-1Hour_Terra-Aqua-MODIS_Edition4A_407406.20180601.hdf",
    "x-amz-storage-class": "STANDARD"
  },
  "responseElements": null,
  "additionalEventData": {
    "SignatureVersion": "SigV4",
    "CipherSuite": "ECDHE-RSA-AES128-GCM-SHA256",
    "bytesTransferredIn": 354,
    "AuthenticationMethod": "QueryString",
    "x-amz-id-2": "BLGSosTkdNrHZwL+fBXujdFxFW4US+IHJjA0/lH+rdcwYHsbwzNQq66FkFbDr4YEZRG+t3NjBXl8=",
    "bytesTransferredOut": 0
  },
  "requestID": "3952169B4B65B650",
  "eventID": "1a4f25e6-cb0a-4971-afd3-329d1dc0b68c",
  "readOnly": false,
  "resources": [
    {
      "type": "AWS::S3::Object",
      "ARN": "arn:aws:s3:::sdt-data/ceres/SYNldeg-1Hour/Terra-Aqua-MODIS_Edition4A/2018/06/CER_SYNldeg-1Hour_Terra-Aqua-MODIS_Edition4A_407406.20180601.hdf"
    },
    {
      "accountId": "811315030605",
      "type": "AWS::S3::Bucket",
      "ARN": "arn:aws:s3:::sdt-data"
    }
  ],
  "eventType": "AwsApiCall",
  "recipientAccountId": "811315030605"
}

```