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# Automating Away Your DevSecOps Toil

# Application Support and Operations takes up to 55% of Developer time

# DevSecOps

- Certificate Renewals
- Permissions

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# DevSecOps

- **Certificate Renewals**
- **Permissions**

Two Outages:
April 2023

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# DevSecOps


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# DevSecOps



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# DevSecOps



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# DevSecOps




**Elon Musk** · Apr 7, 2023
@elonmusk · **Follow**
Sorry, slight glitch with @SpaceX Starlink. Coming back online now.

**Elon Musk**
@elonmusk · **Follow**

Caused by expired ground station cert. We're scrubbing the system for other single-point vulnerabilities.

9:00 PM · Apr 7, 2023

19.2K Reply Copy link

**Read 1.5K replies**

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# DevSecOps

- **Certificate Renewals**
- **Permissions**

Two Outages:
April 2023

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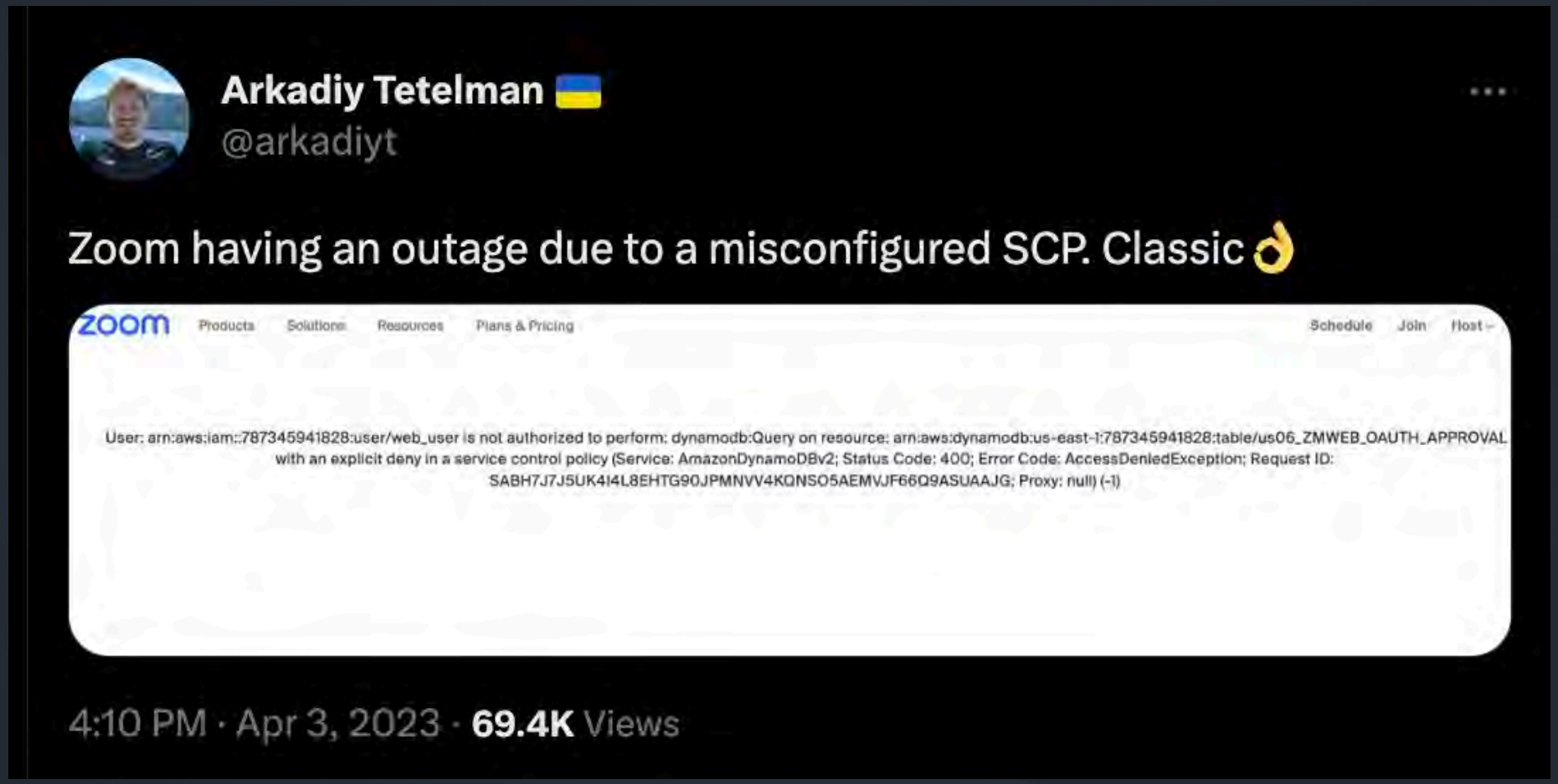
# DevSecOps

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# Automation

the state of being
operated automatically

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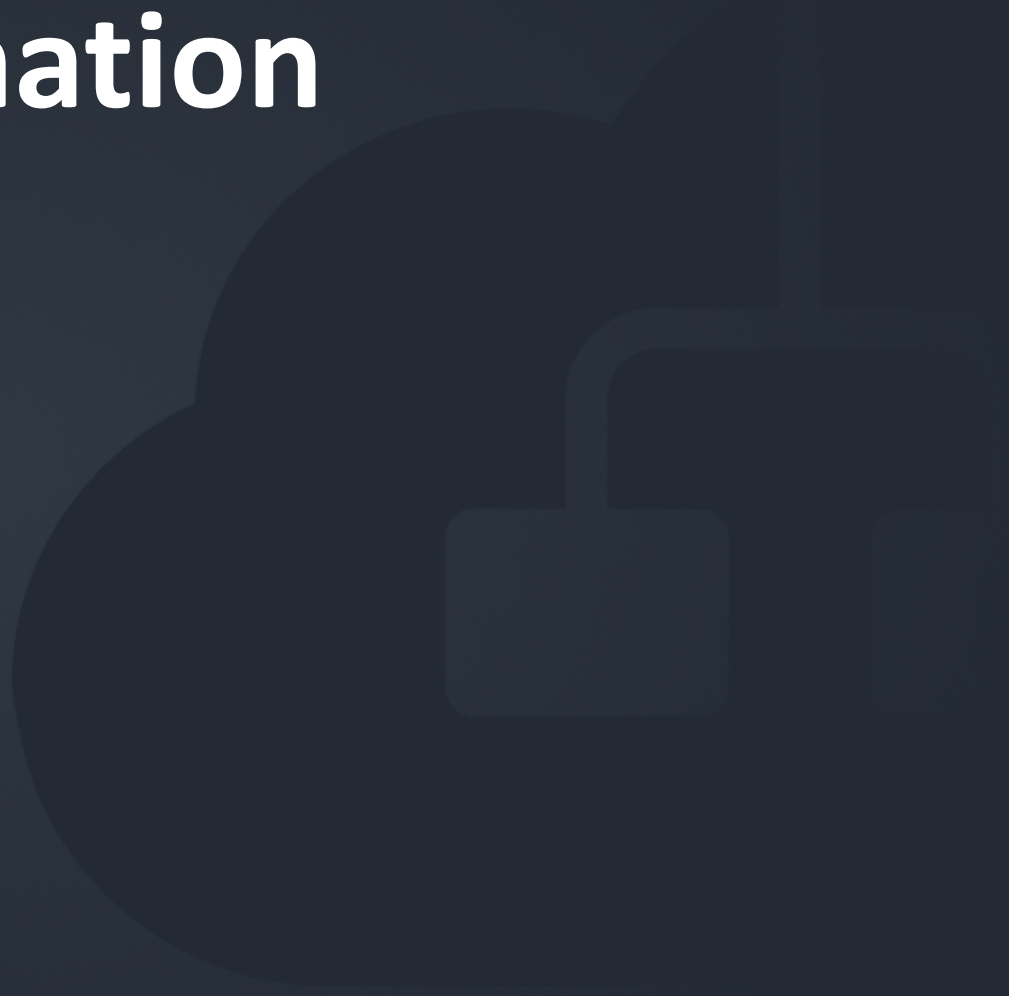
# UNSKRIPT, INC.

# Open Source RunBook Automation



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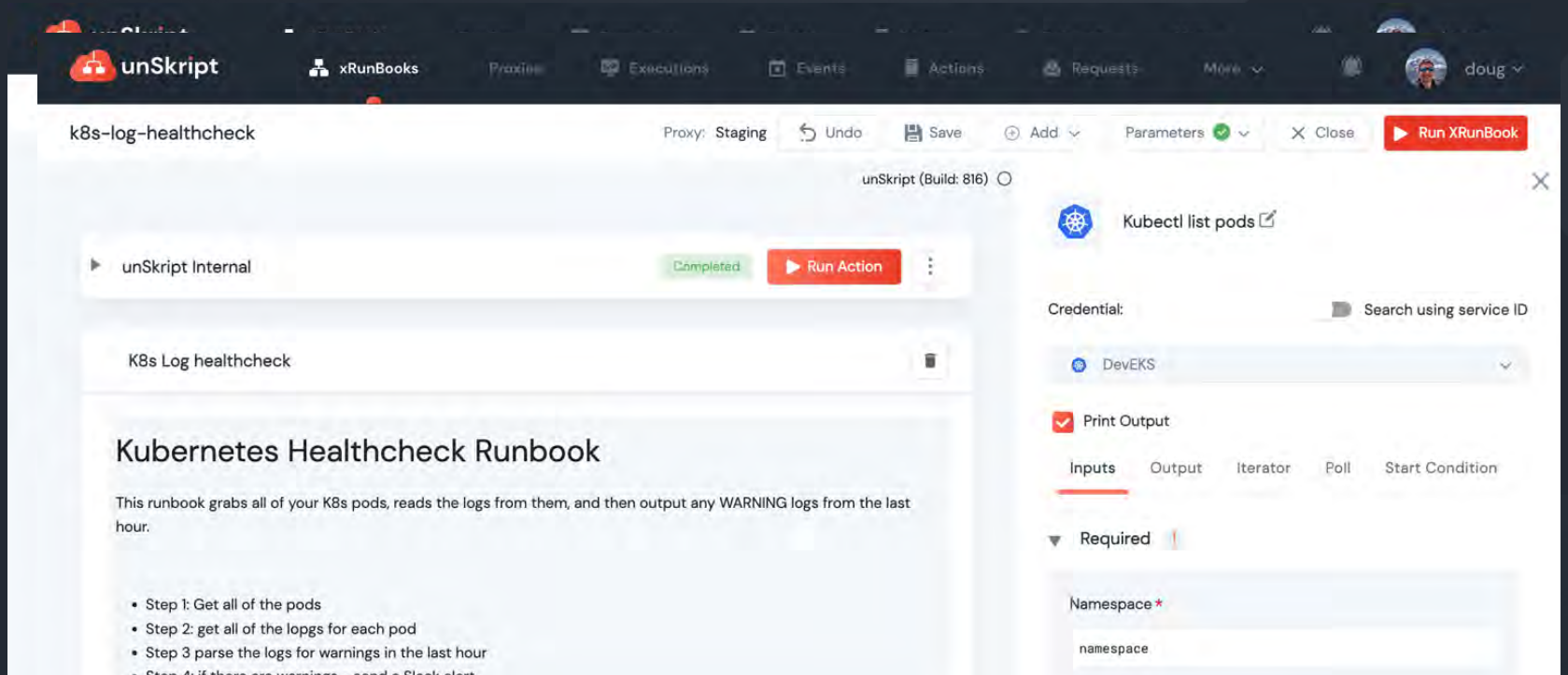
# Open Source RunBook Automation

## Based on Jupyter Notebooks

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# Jupyter Notebooks

- **Online - Collaborative**

# Jupyter Notebooks

- Online – Collaborative
- Python: No Domain Specific Language

# Jupyter Notebooks

- Online – Collaborative
- Python: No Domain Specific Language
- Documentation via text/markdown

# Jupyter Notebooks

- Online – Collaborative
- Python: No Domain Specific Language
- Documentation via text/markdown
- Easy Automation

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# DevSecOps

- Certificate Renewals
- Permissions

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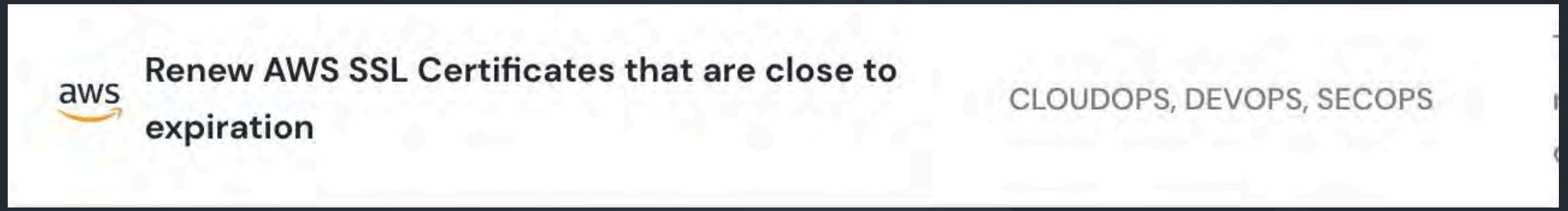
# Certificate Renewal

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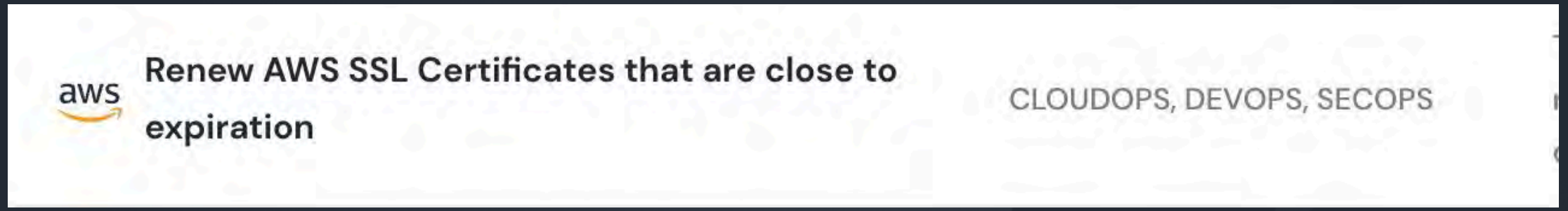
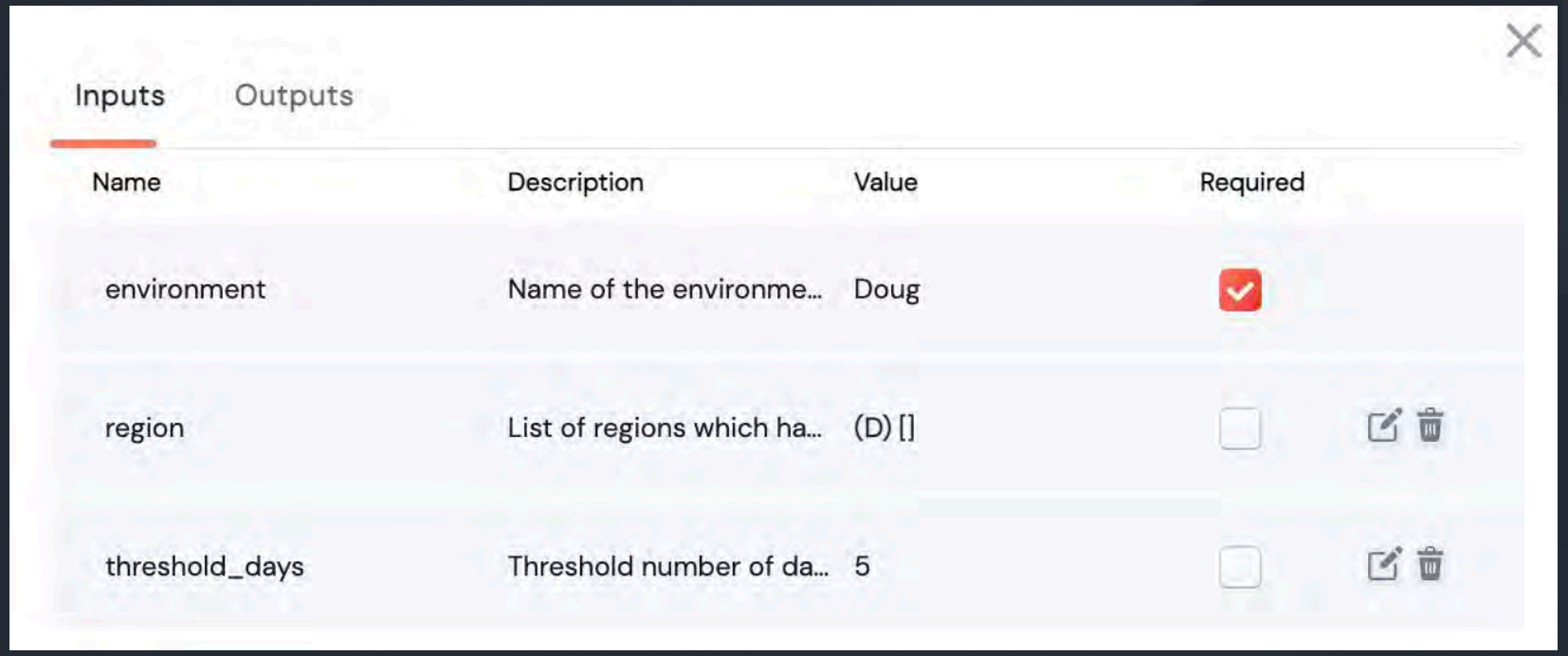
# Certificate Renewal

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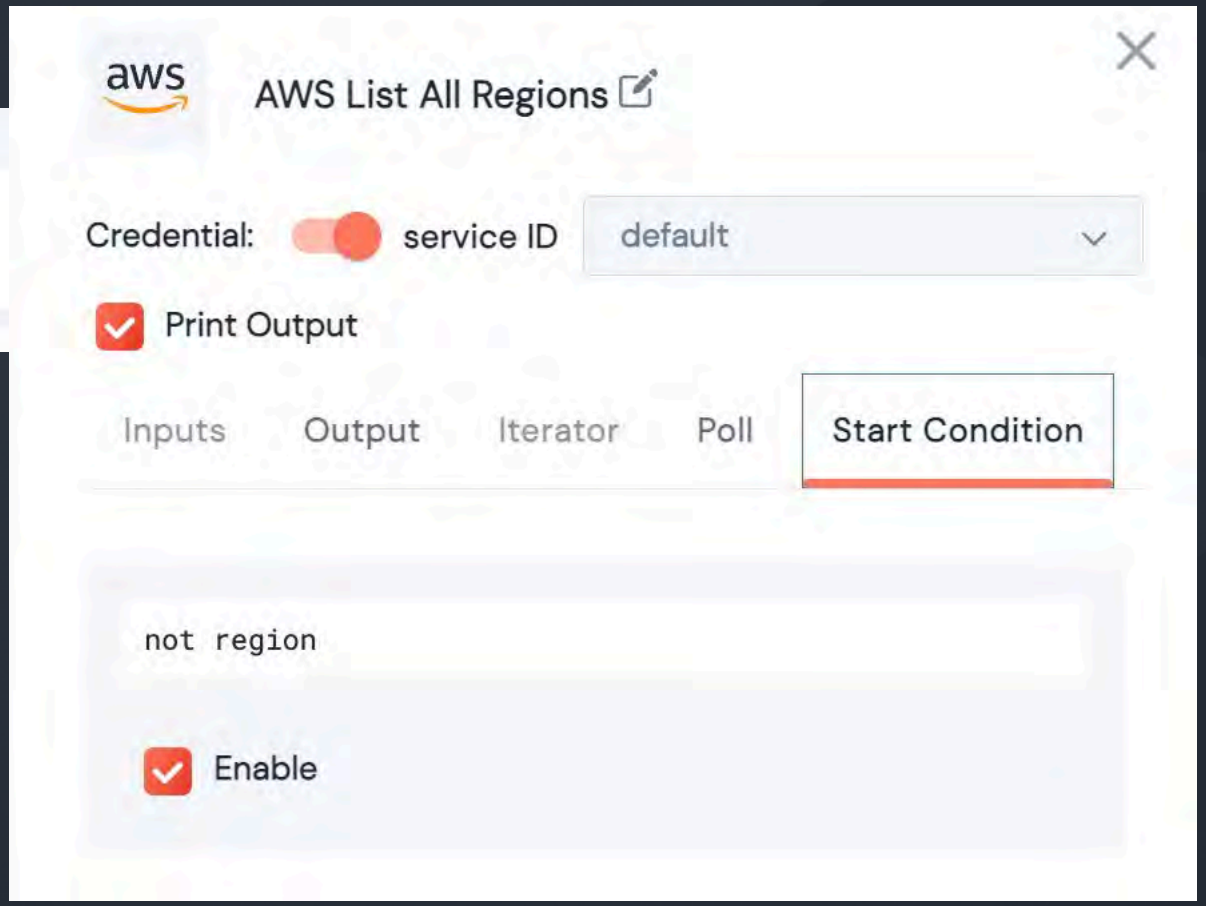
# Certificate Renewal

## Step 1

# Certificate Renewal

## Step 1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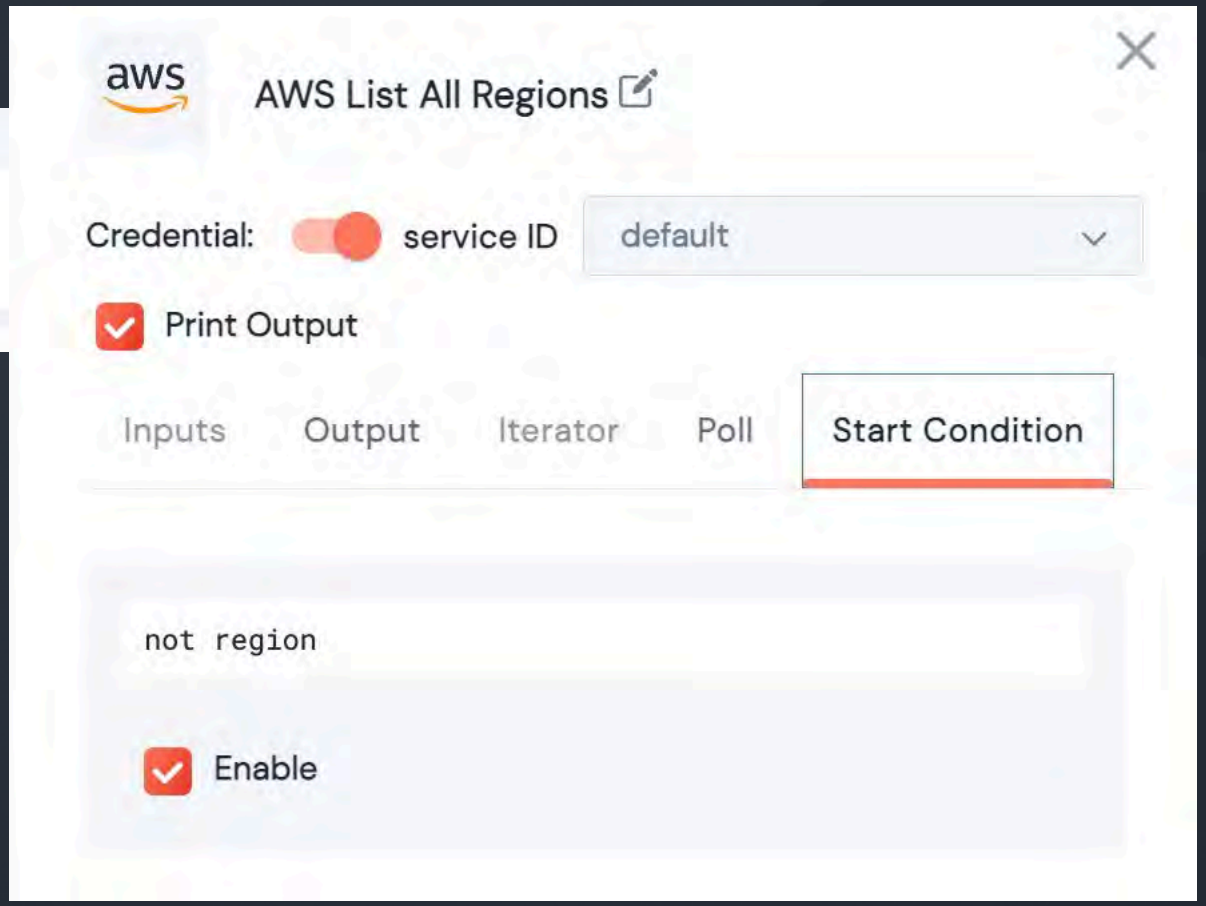
# Certificate Renewal

## Step 1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# Certificate Renewal

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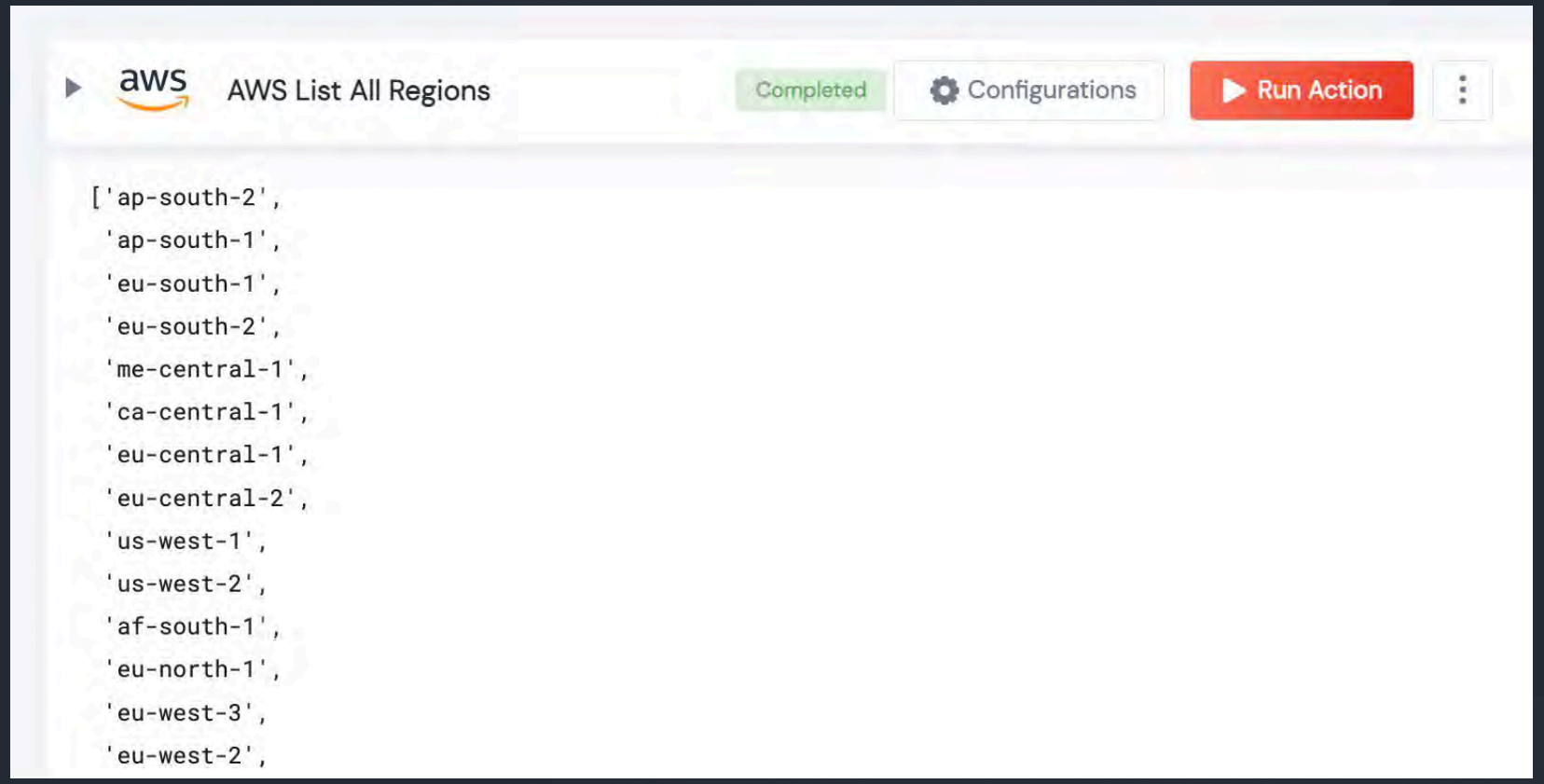
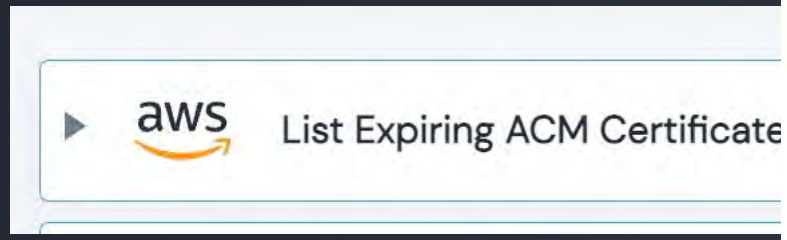


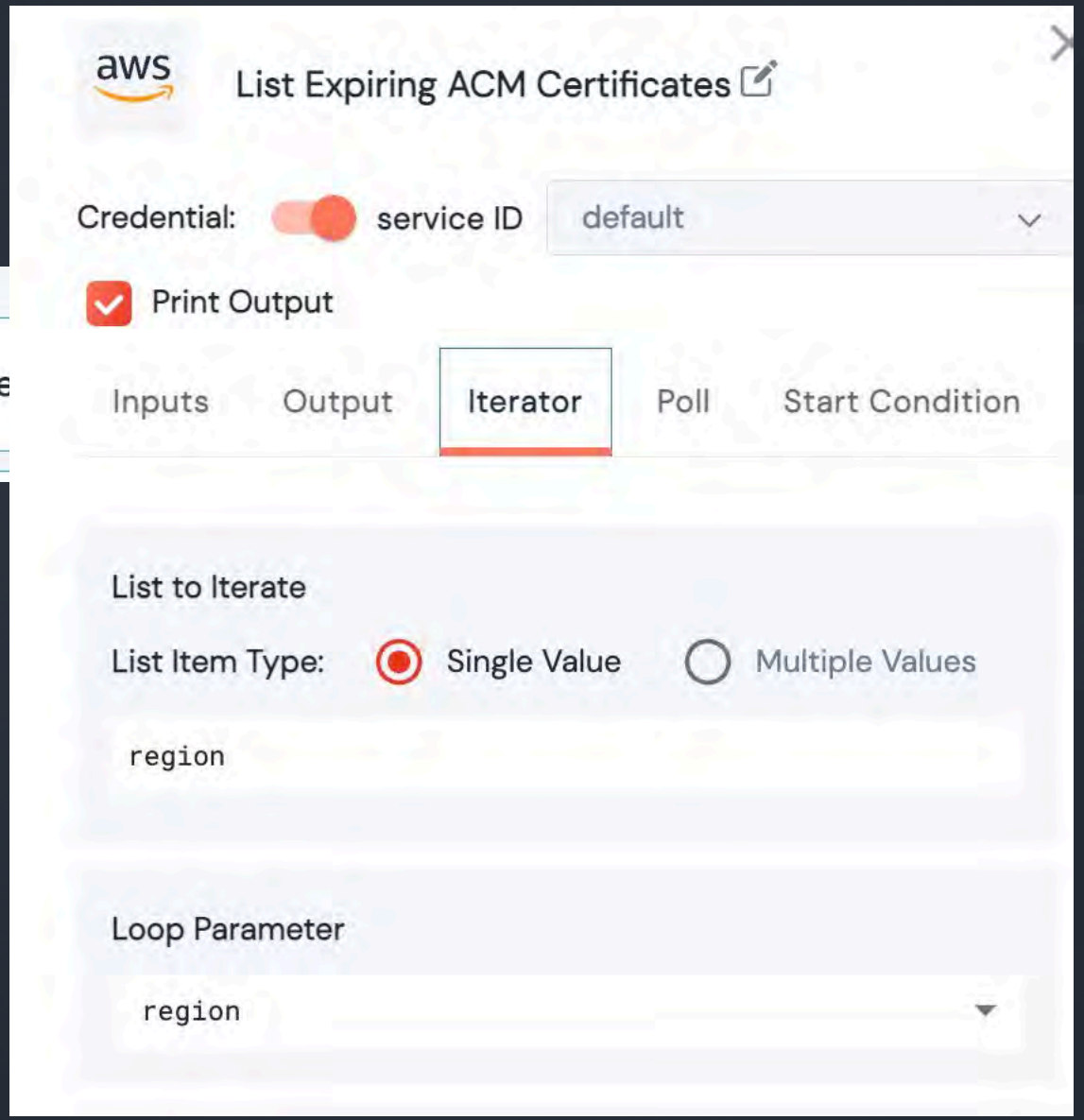
# Certificate Renewal

## Step 2

# Certificate Renewal

## Step 2

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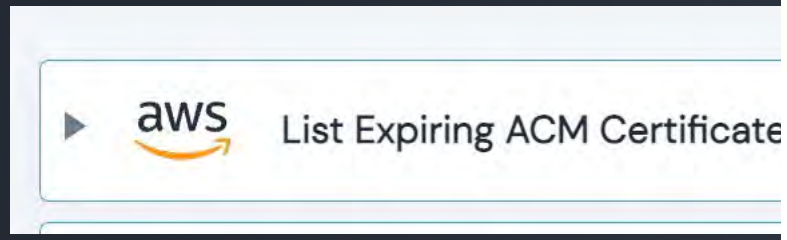
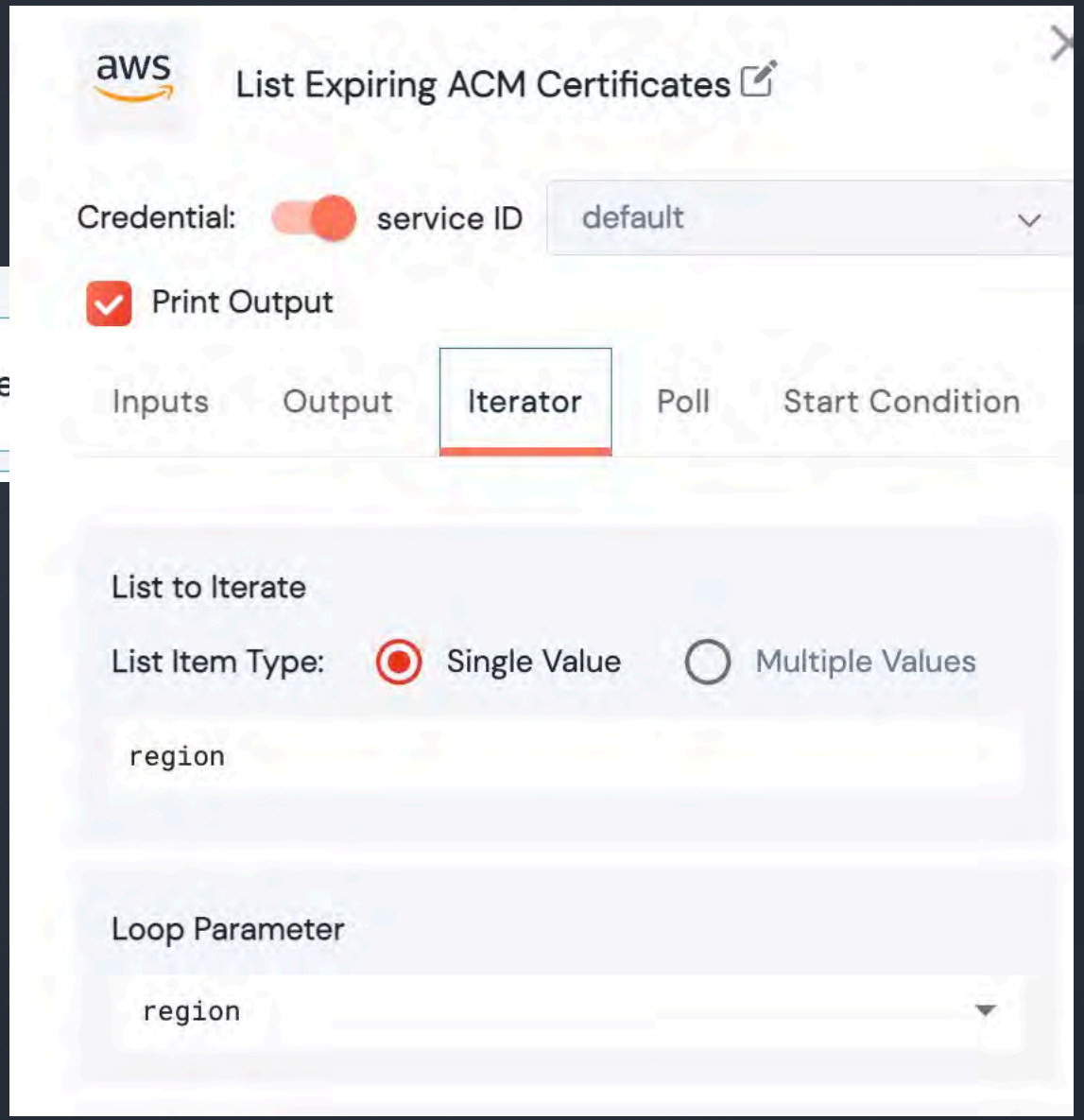
# Certificate Renewal

## Step 2

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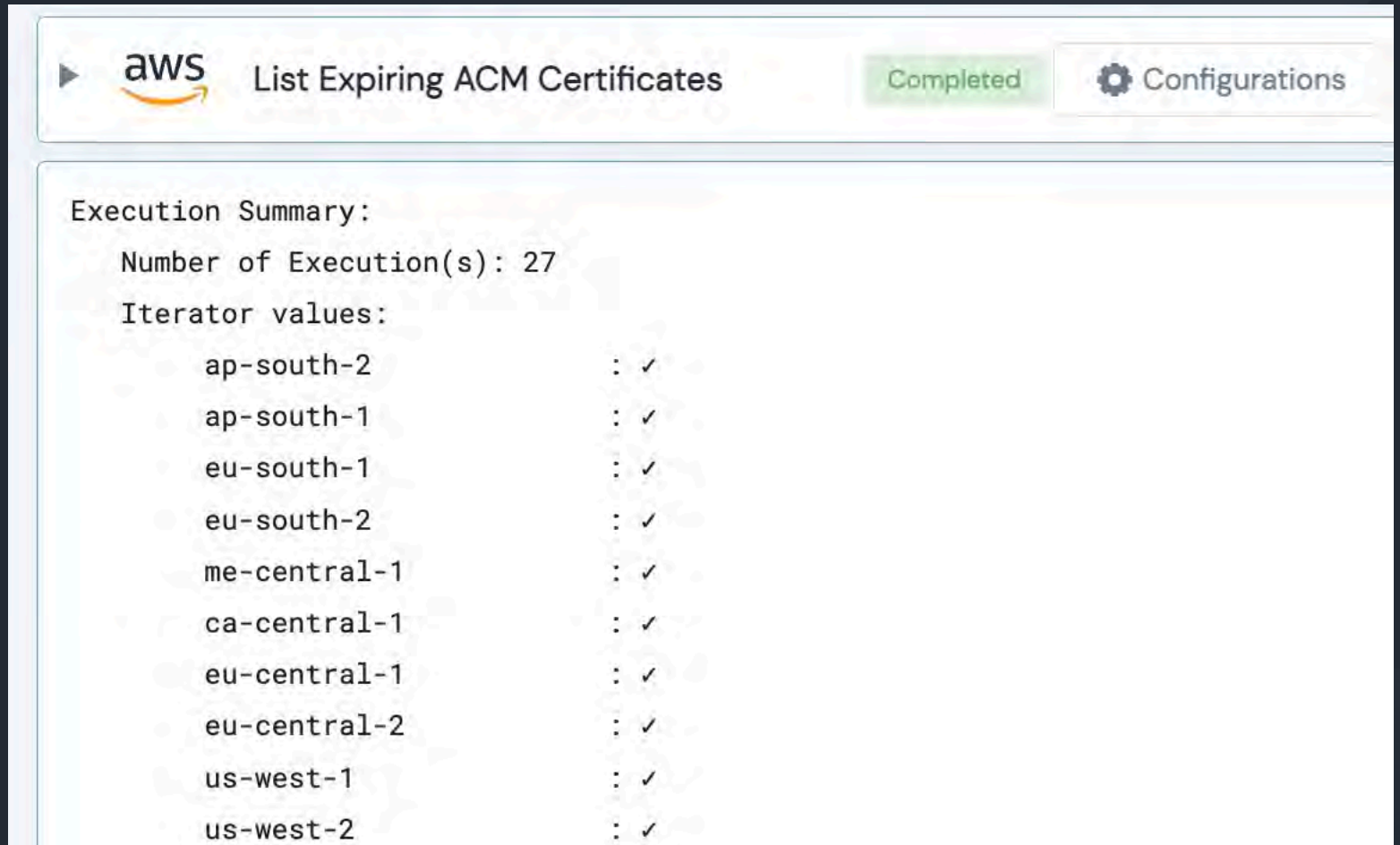
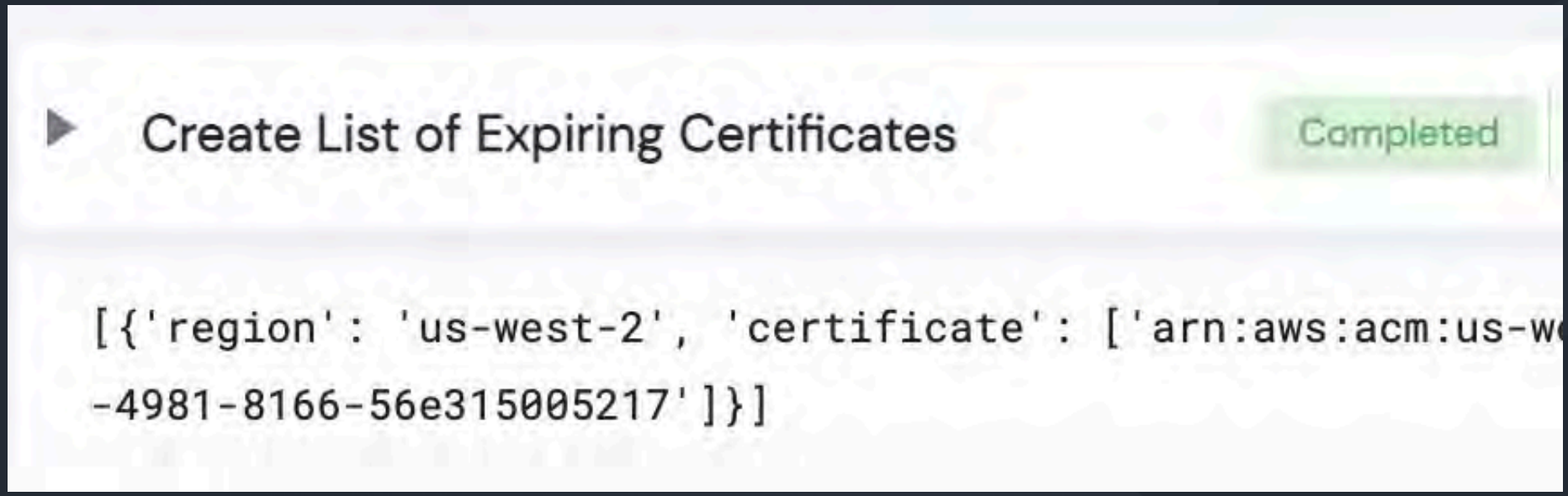
# Certificate Renewal

## Step 2



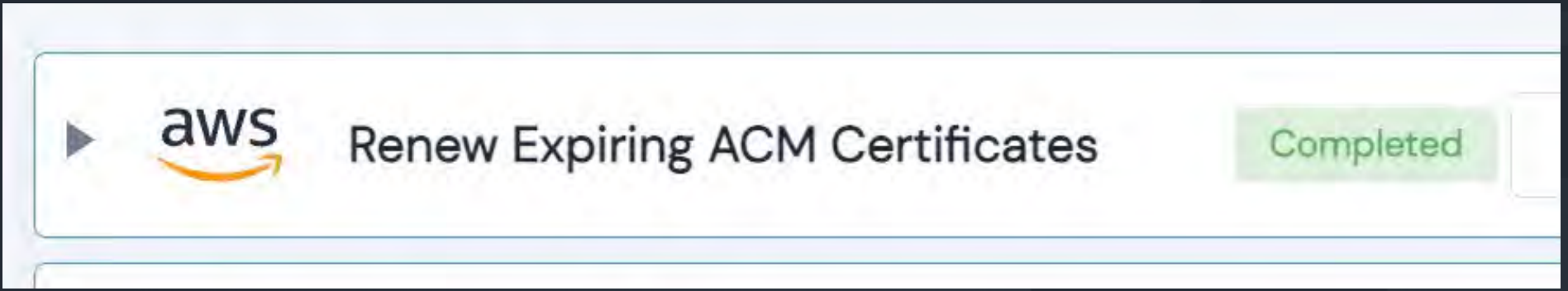
# Certificate Renewal

**Step 3**



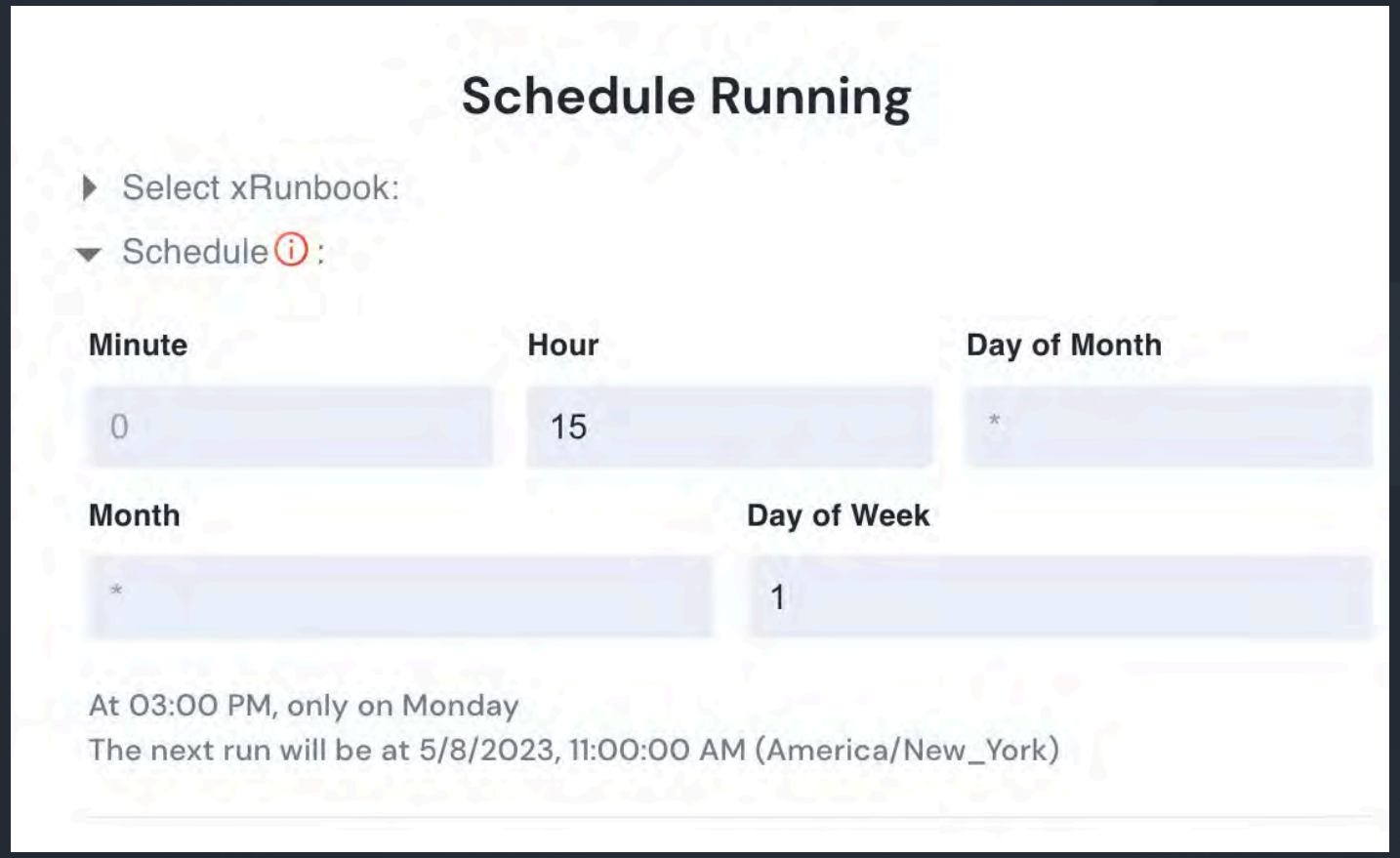
# Certificate Renewal

## Step 4



# Certificate Renewal

## Bonus Step



# DevSecOps

- Certificate Renewals
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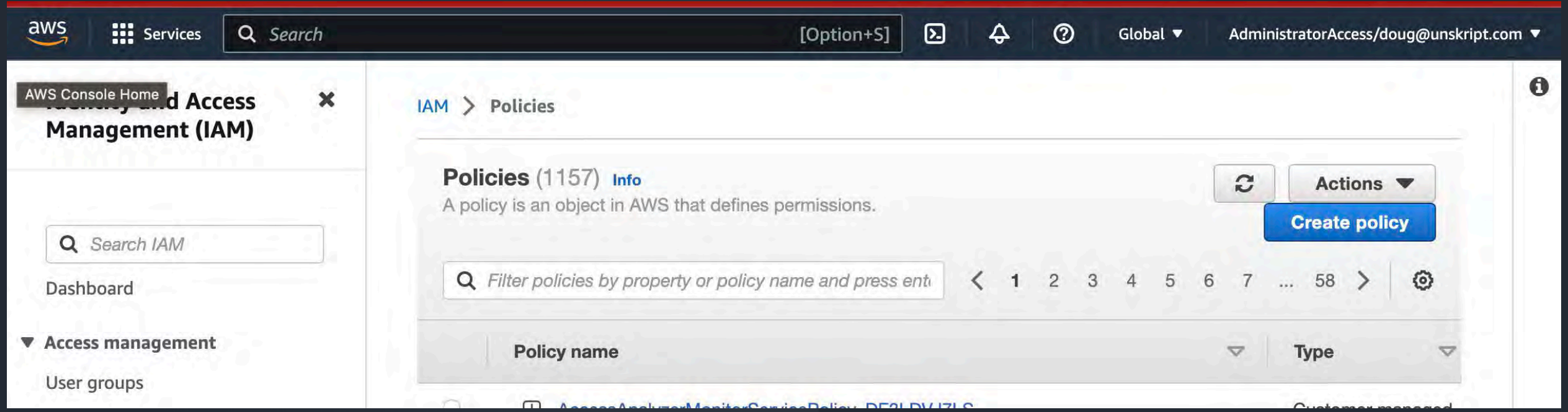
# Permissions Toil

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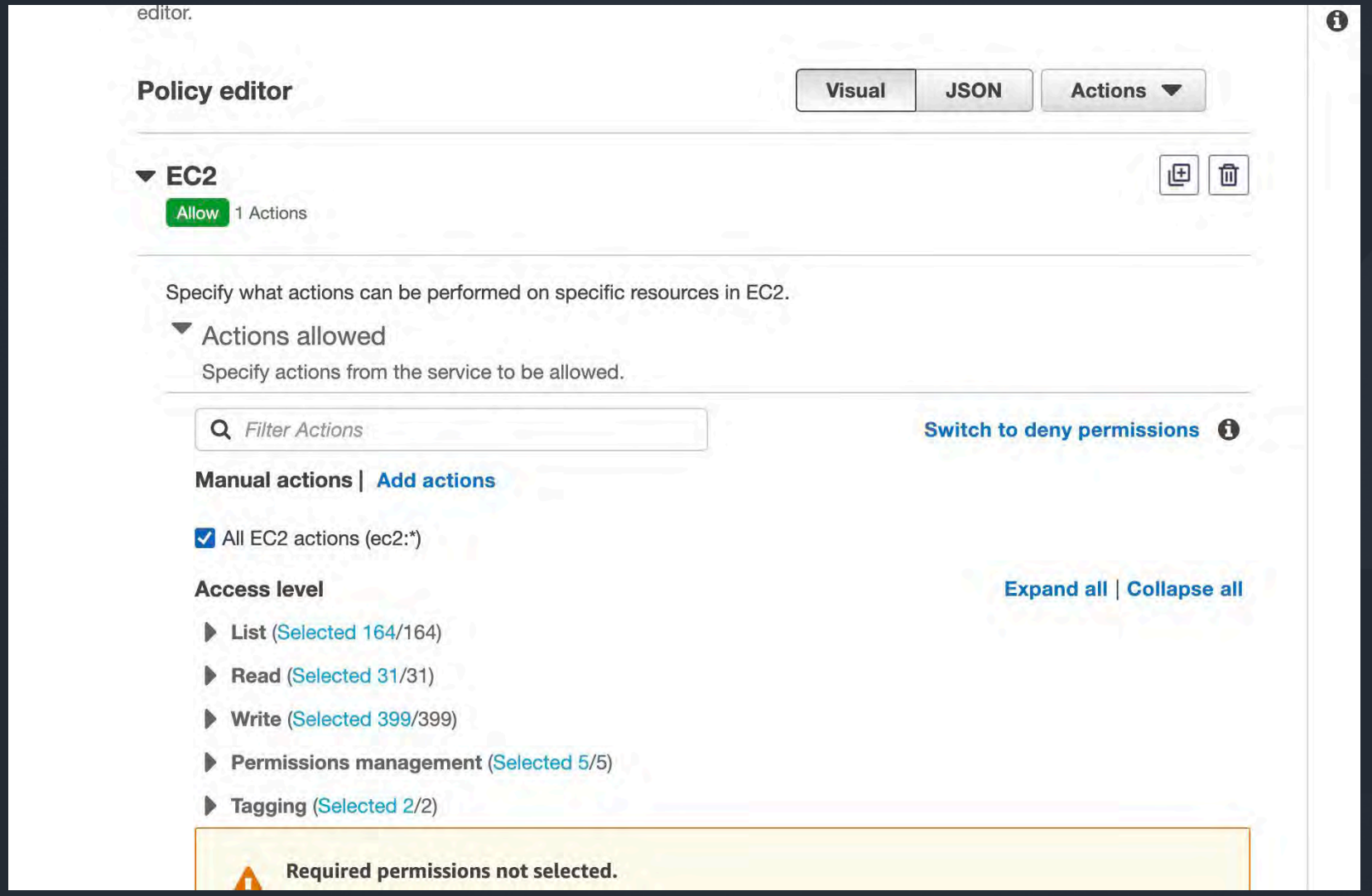
# Permissions Toil

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# AWS Permissions


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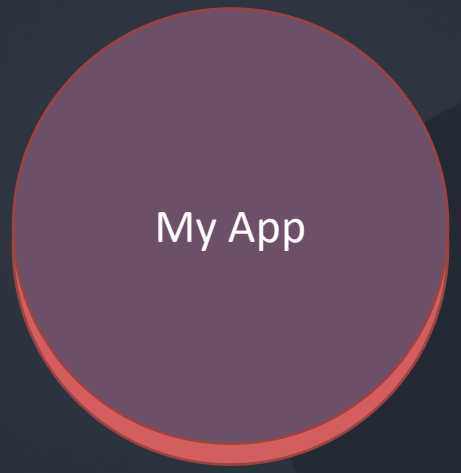
# AWS Permissions

## Principle of Least Privilege:

Minimum access that is required for the application to run




Credentials

# AWS Permissions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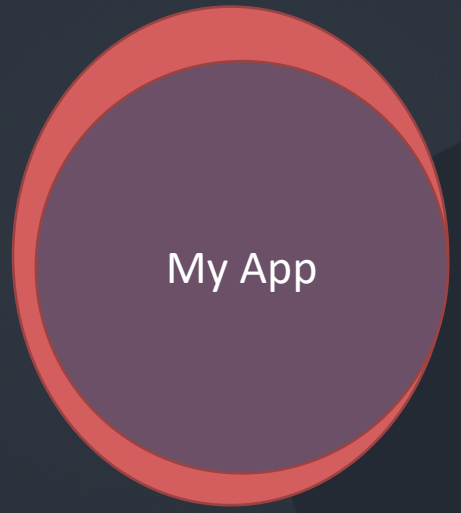
# AWS Permissions




Prod Credentials

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# AWS Permissions

Too Little Access


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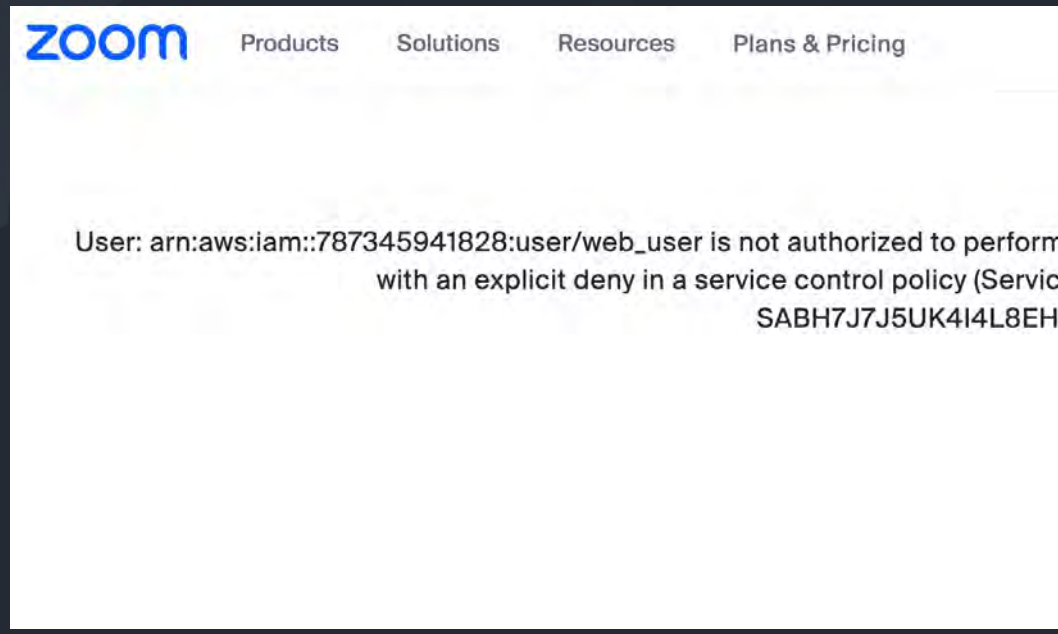
# AWS Permissions

Too Little Access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# AWS Permissions

Too Much Access


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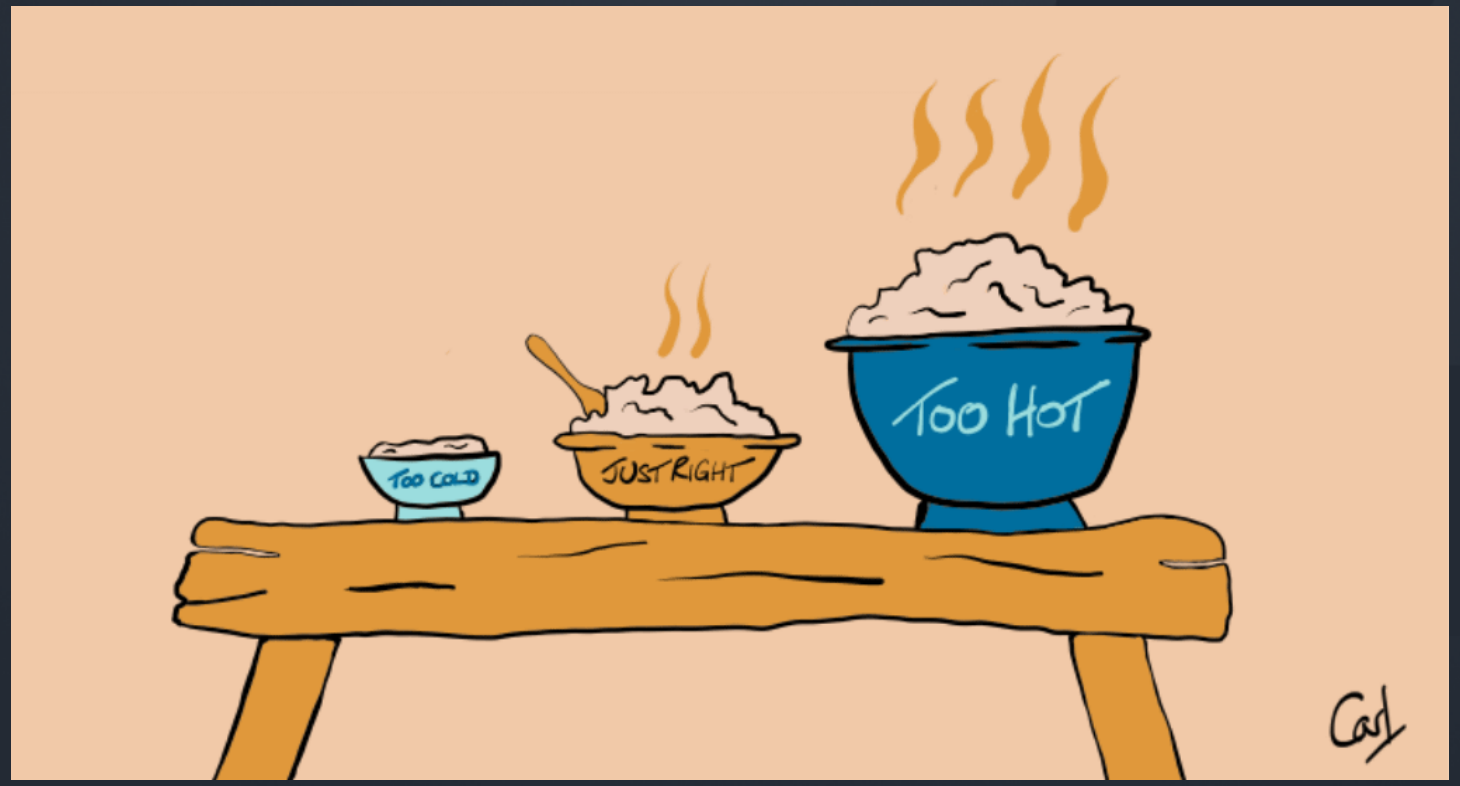
# AWS Permissions

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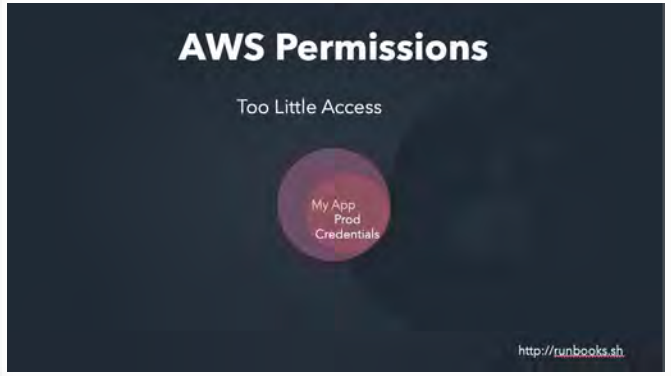


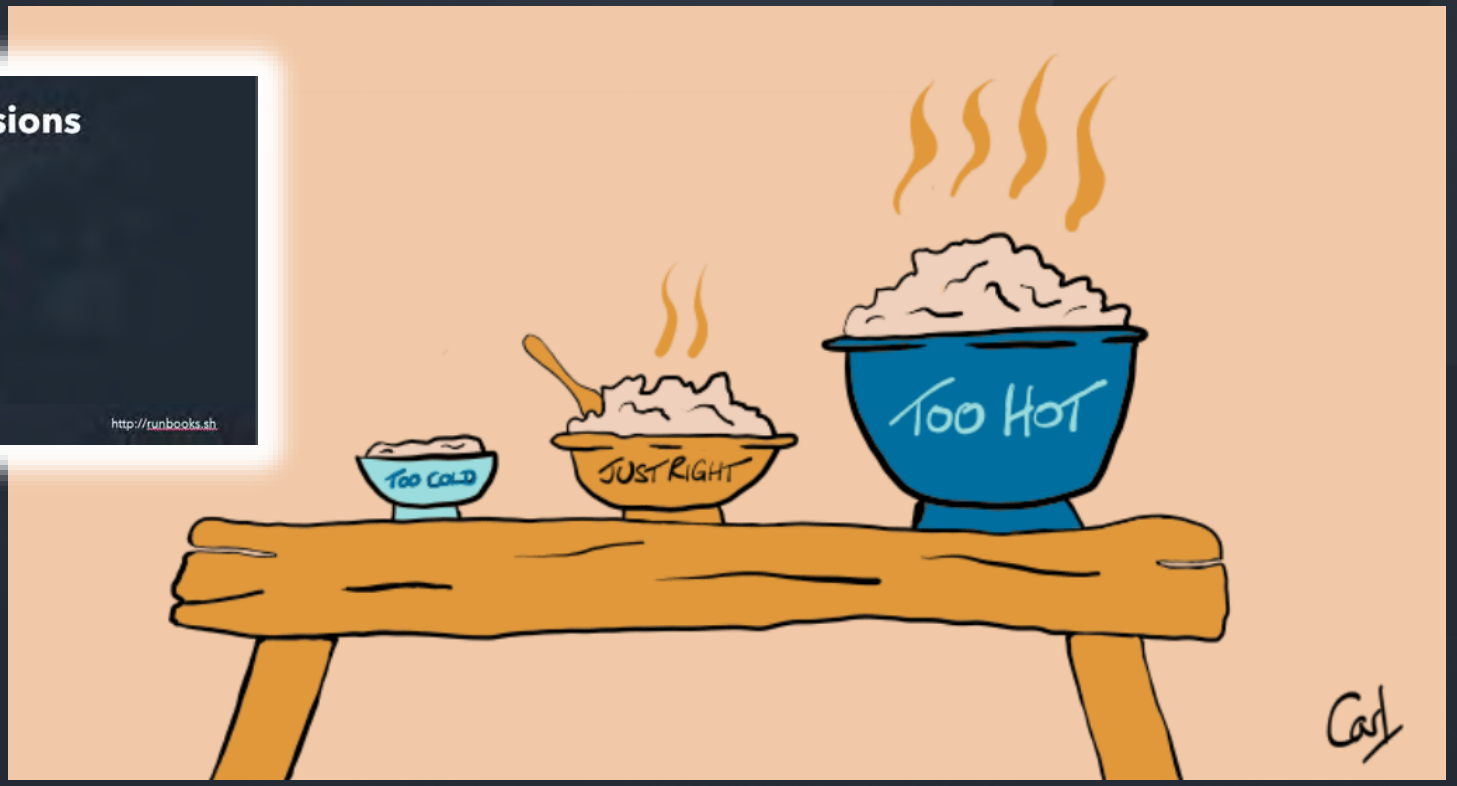


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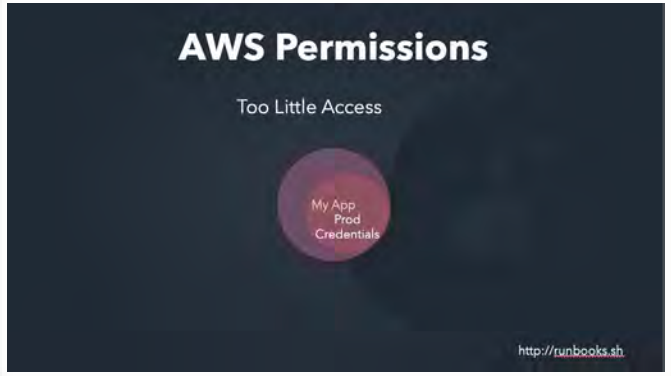


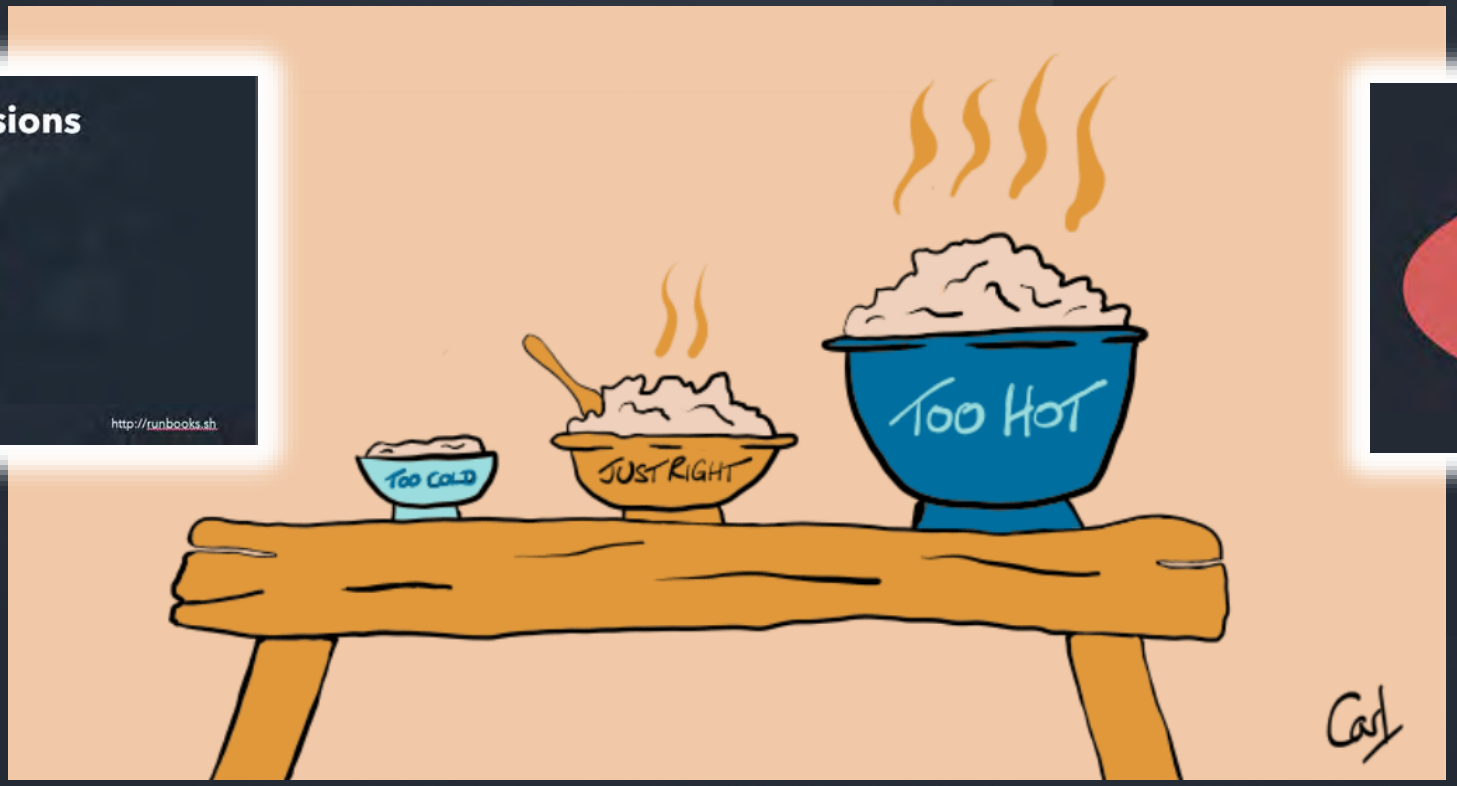


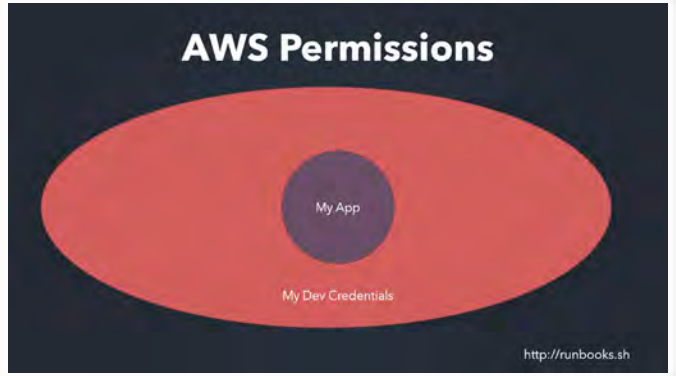


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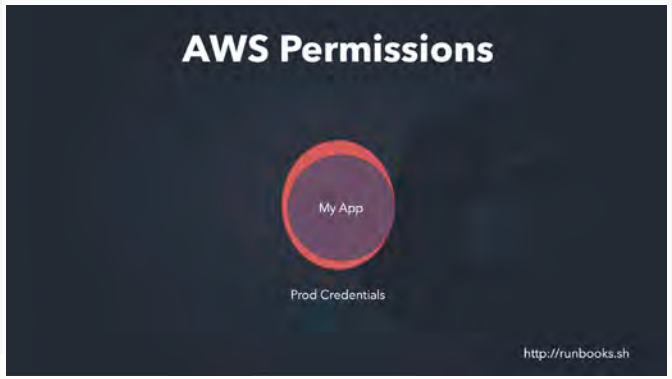


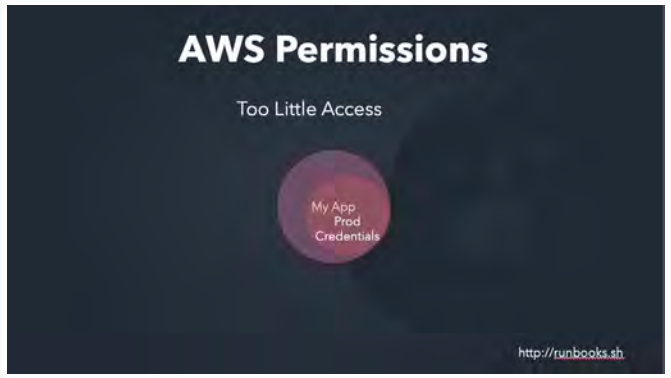



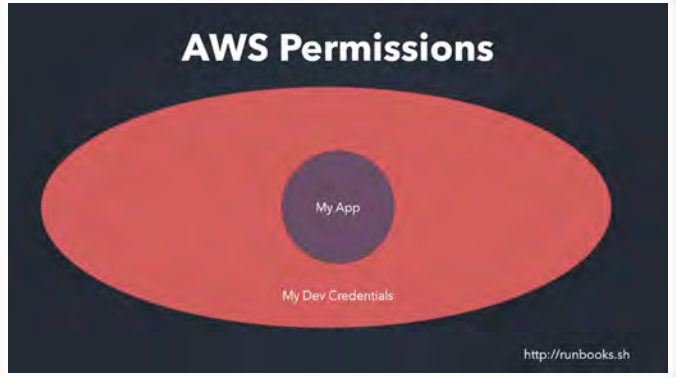


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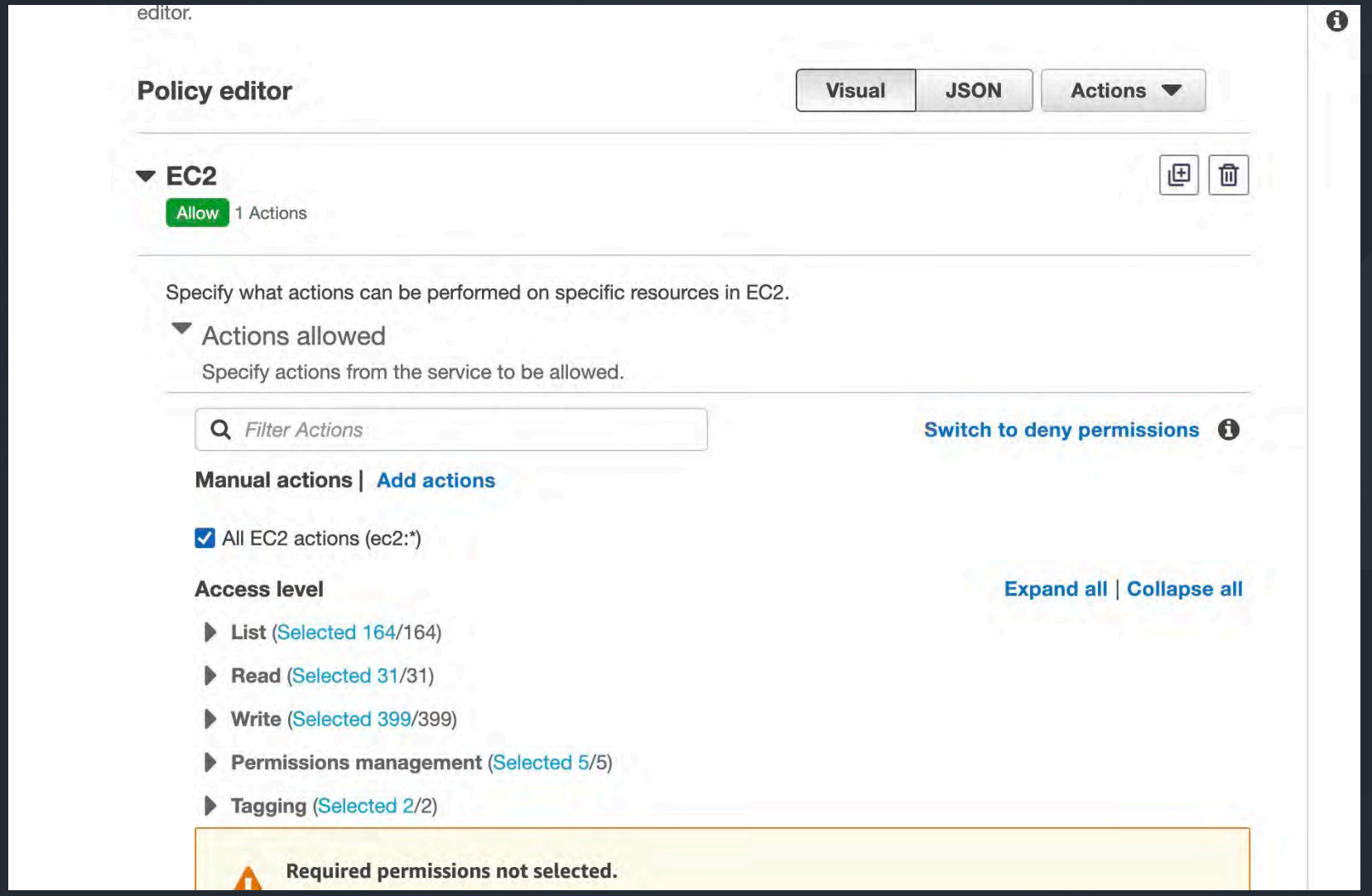
# DevSecOps Toil

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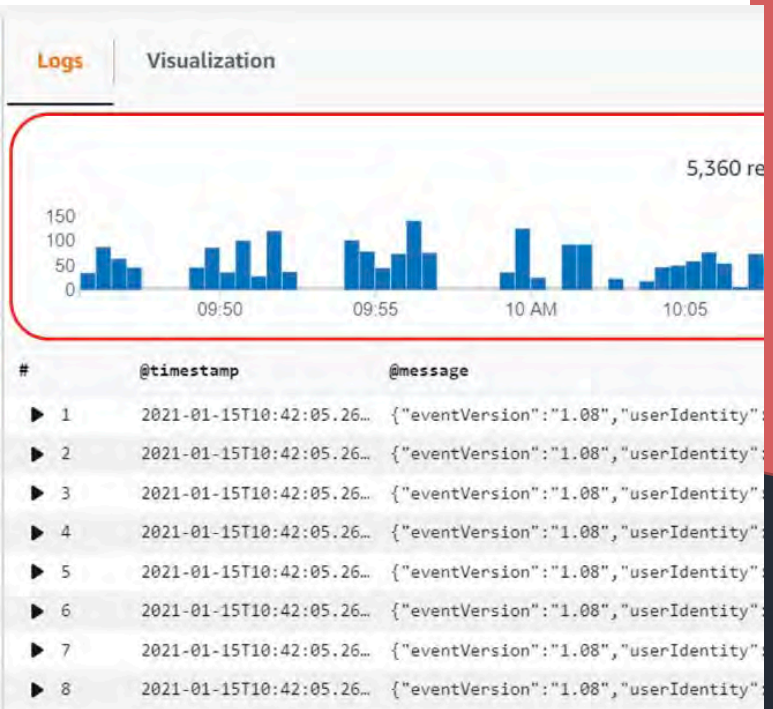
# AWS Permissions

Amazon
CloudTrail




My App

My Dev Credentials

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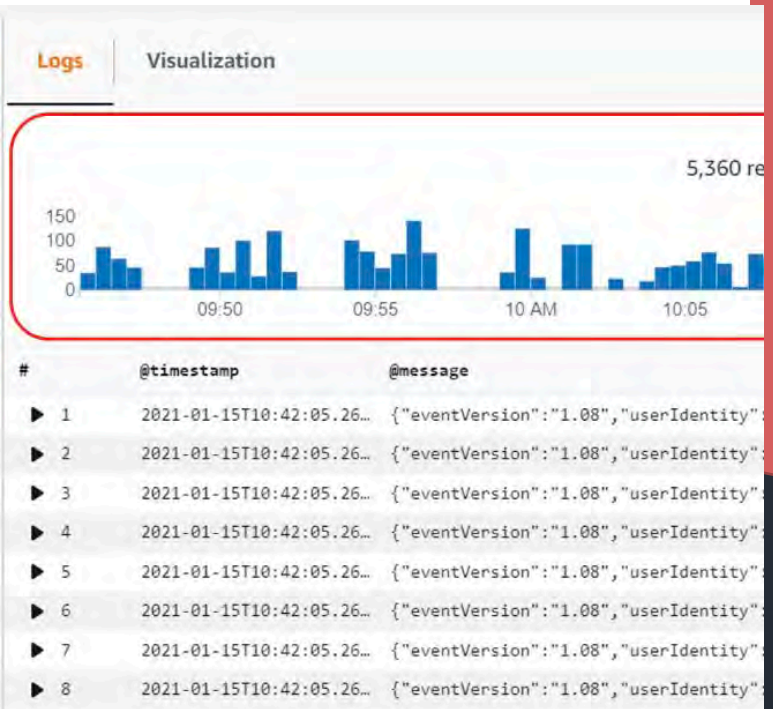
# AWS Permissions

Amazon
CloudTrail




My App

My Dev Credentials

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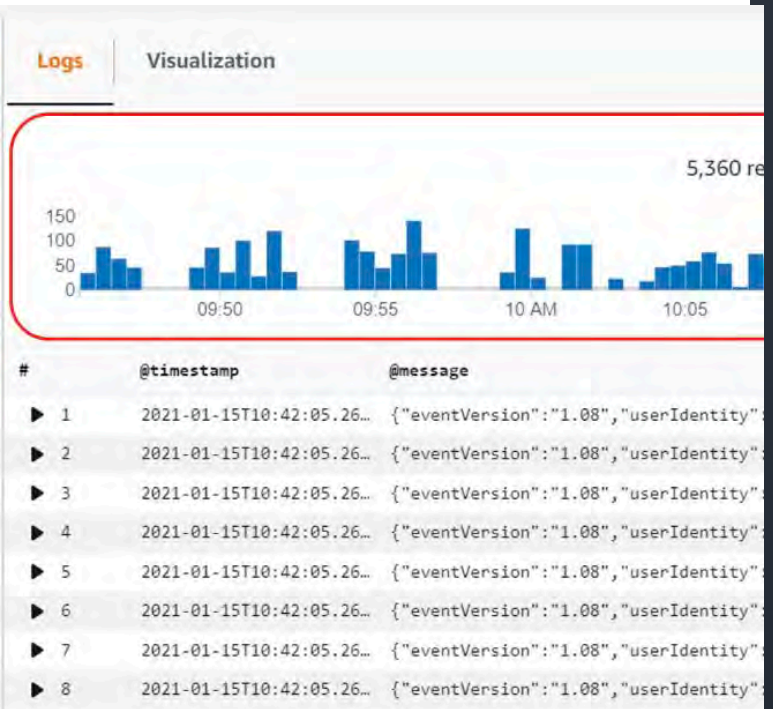


My App

- Create Customized Profil
- Create new IAM user

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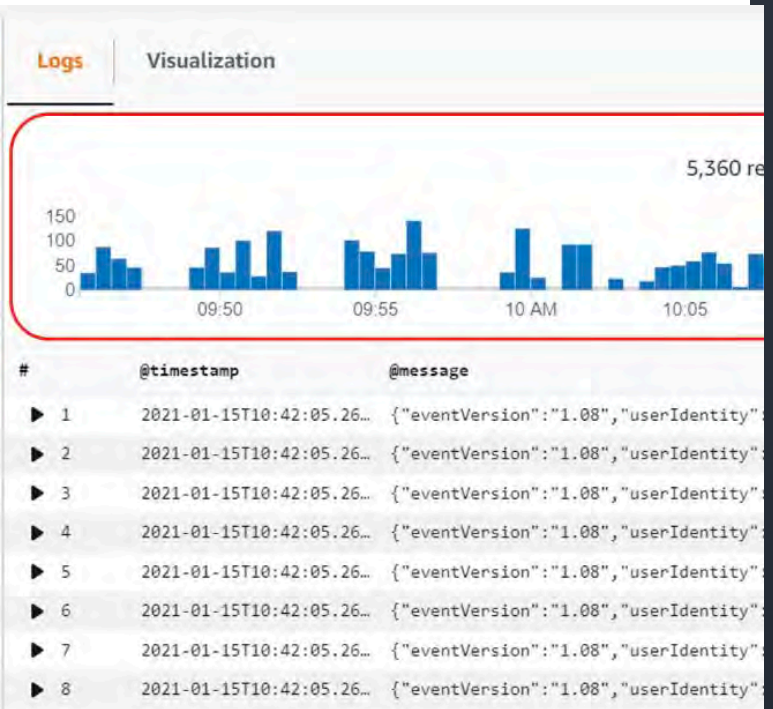
# AWS Permissions

Amazon
CloudTrail




My App

http://runbooks.sh

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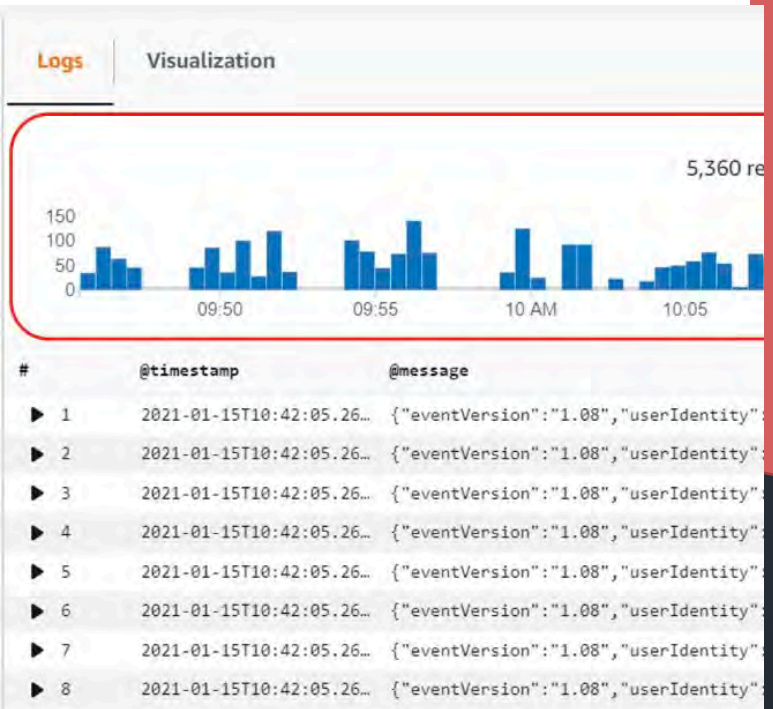
Amazon
**CloudTrail**




My App

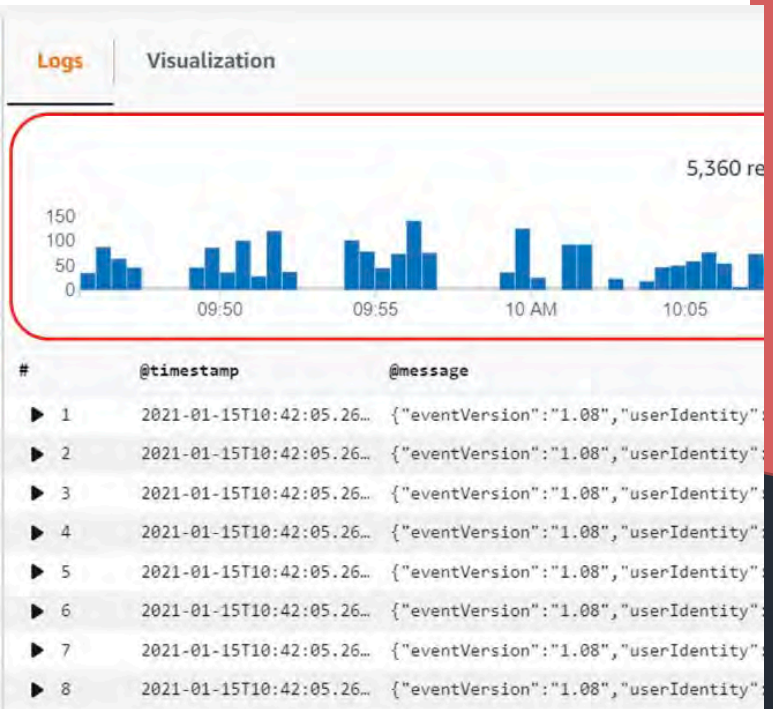
Inputs Outputs

| Name | Description |
| --- | --- |
| CloudTrailArn | ARN of the CloudTra |
| policy_name | IAM Policy to be crea |
| region | AWS Region |
| user_name | IAM user to be creat |
| principalARN | ARN to copy usage f |

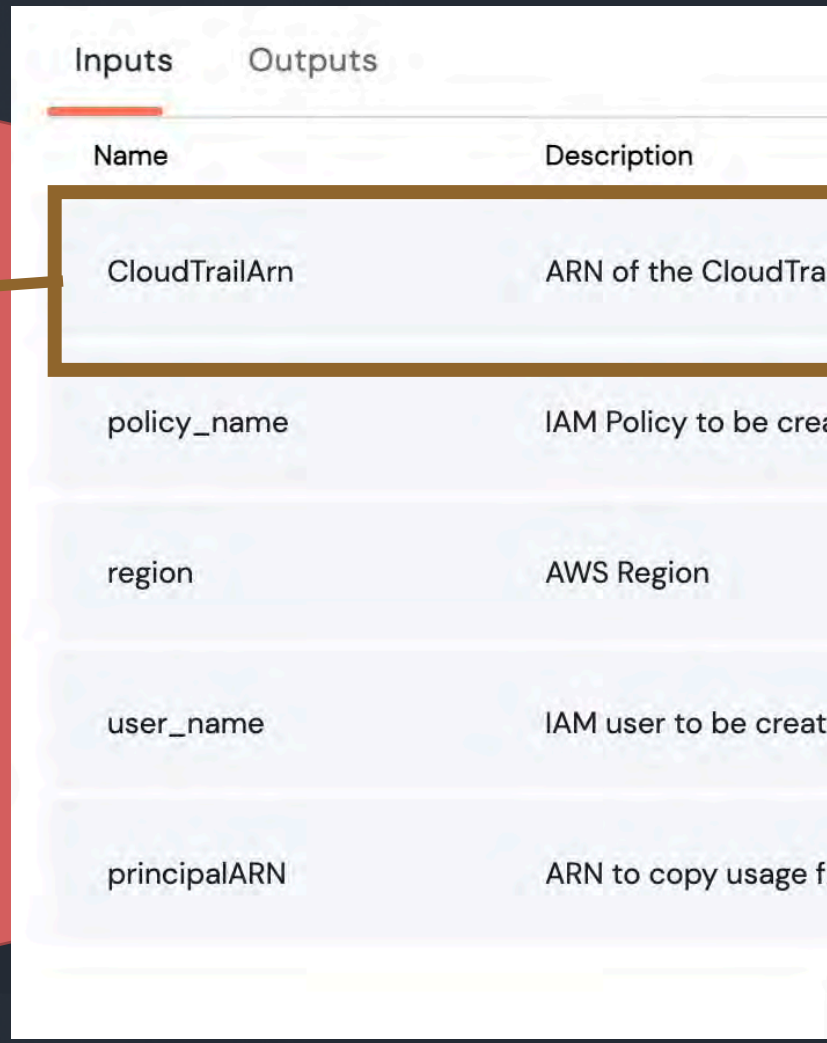
http://runbooks.sh

# AWS Permissions

Amazon
**CloudTrail**




My App

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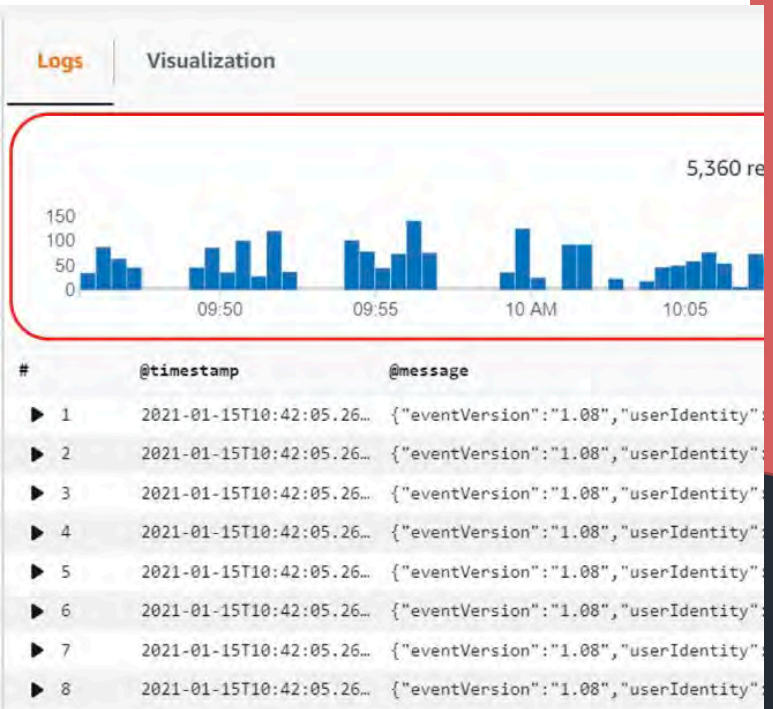
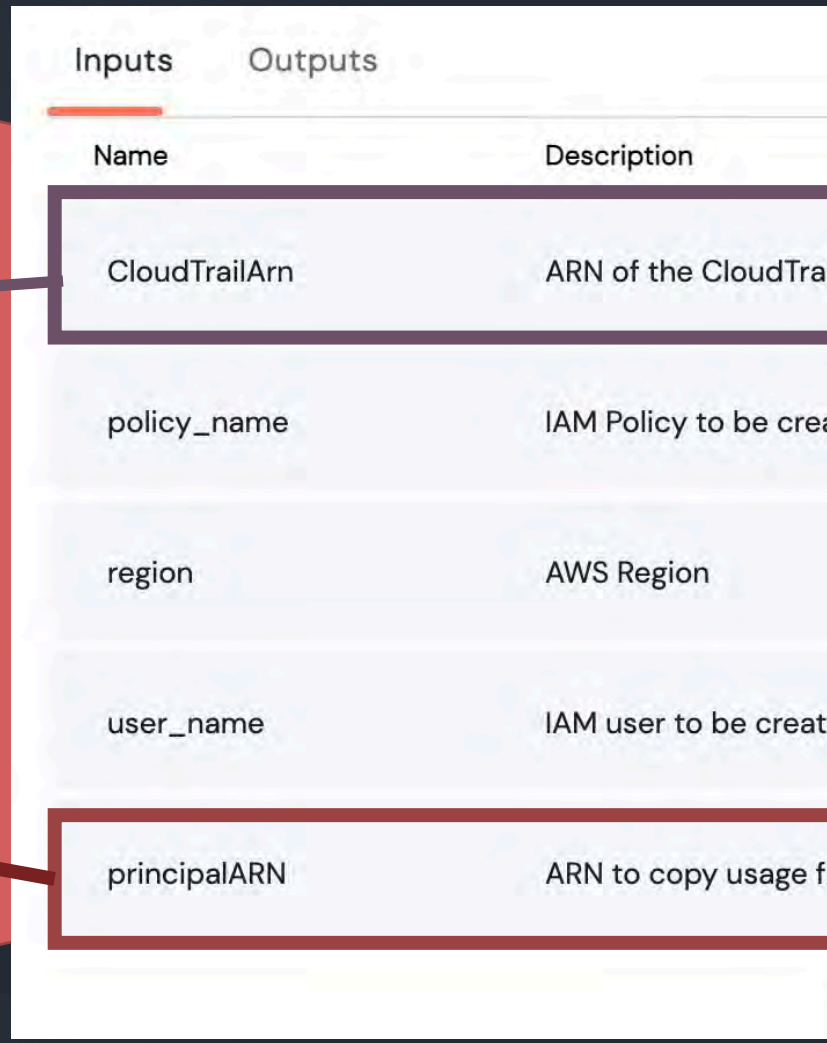



My App

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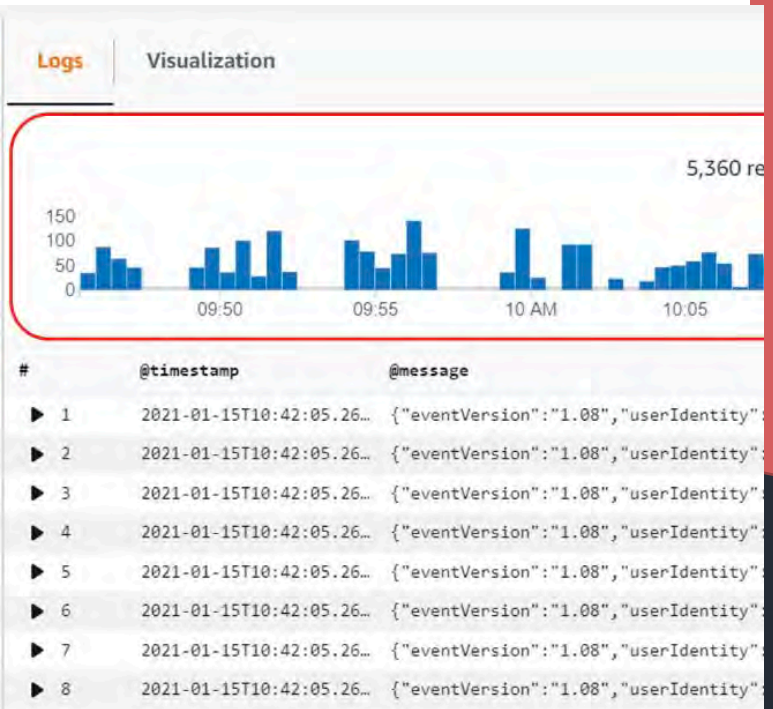


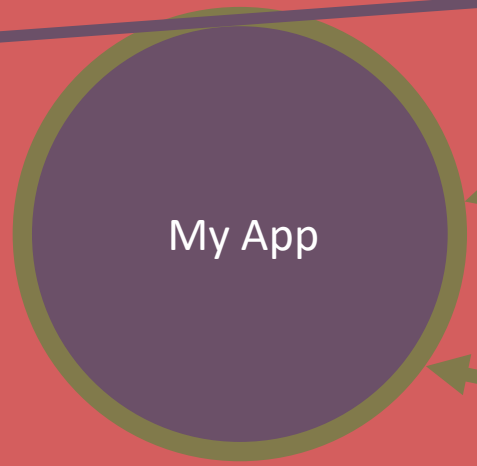


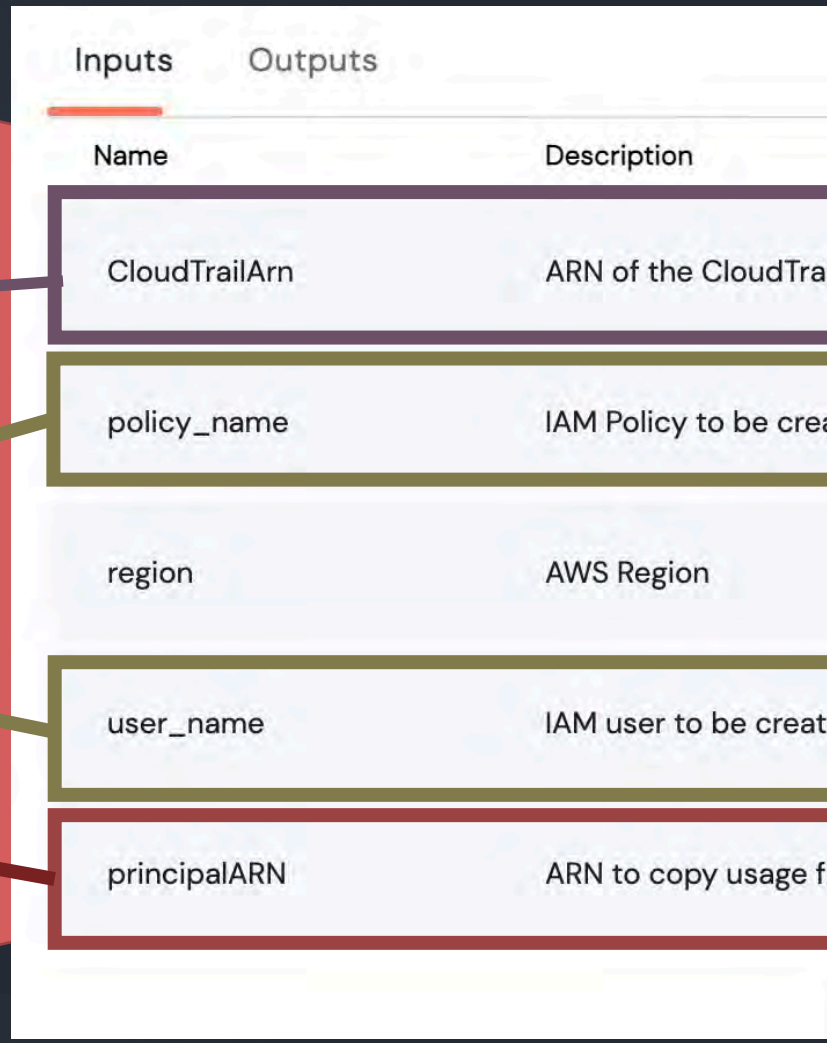


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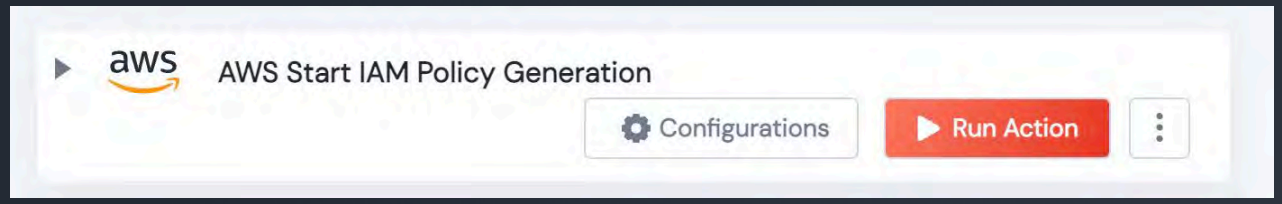


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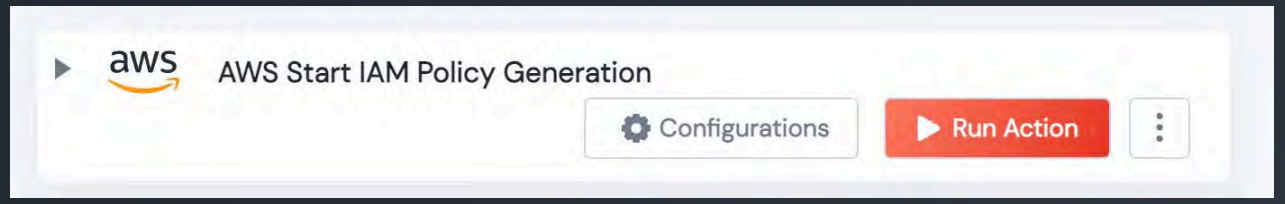


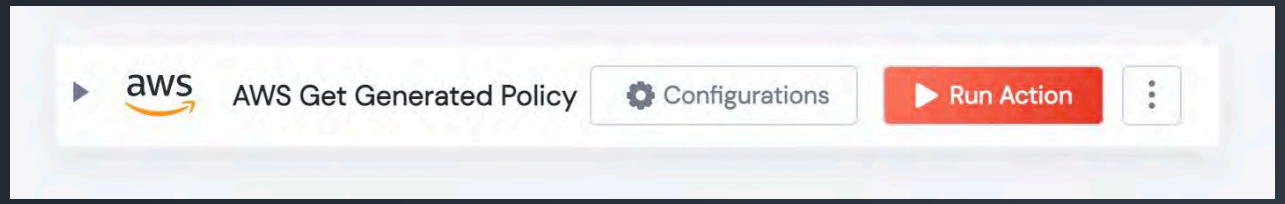


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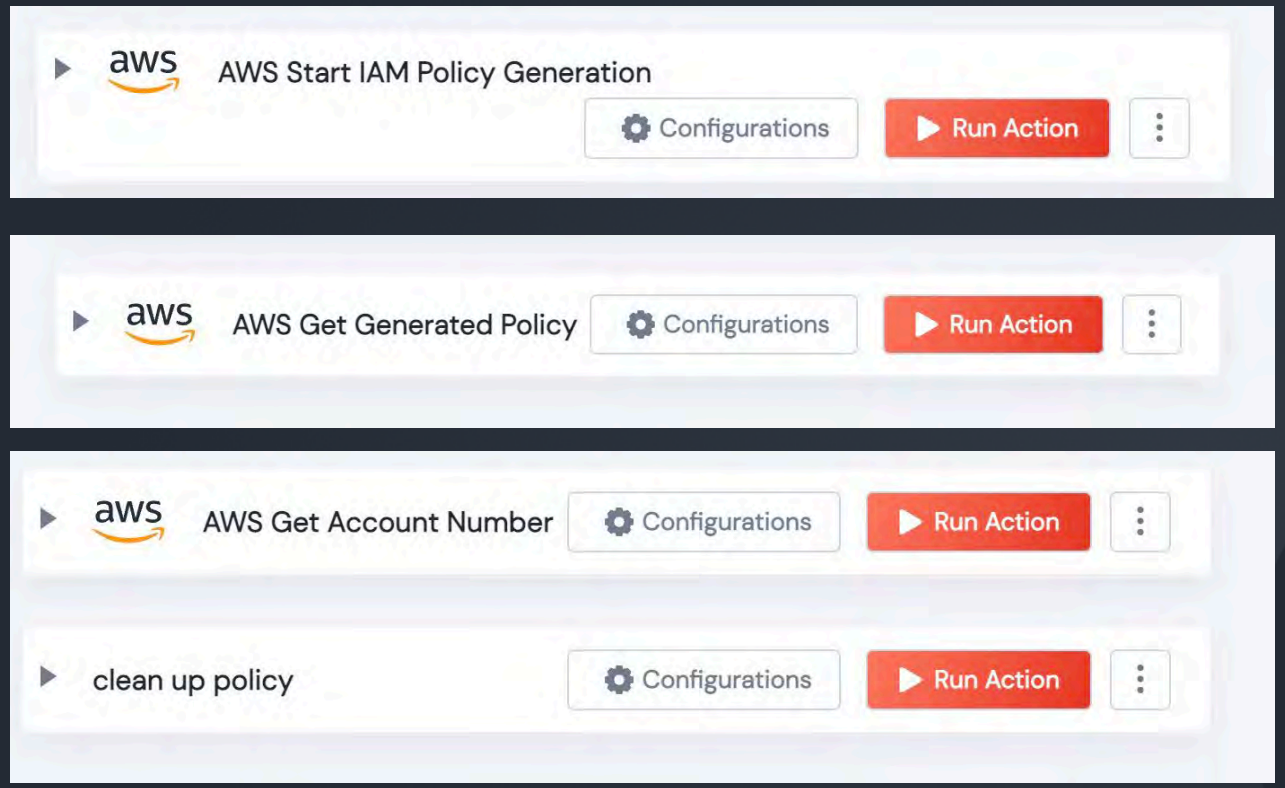


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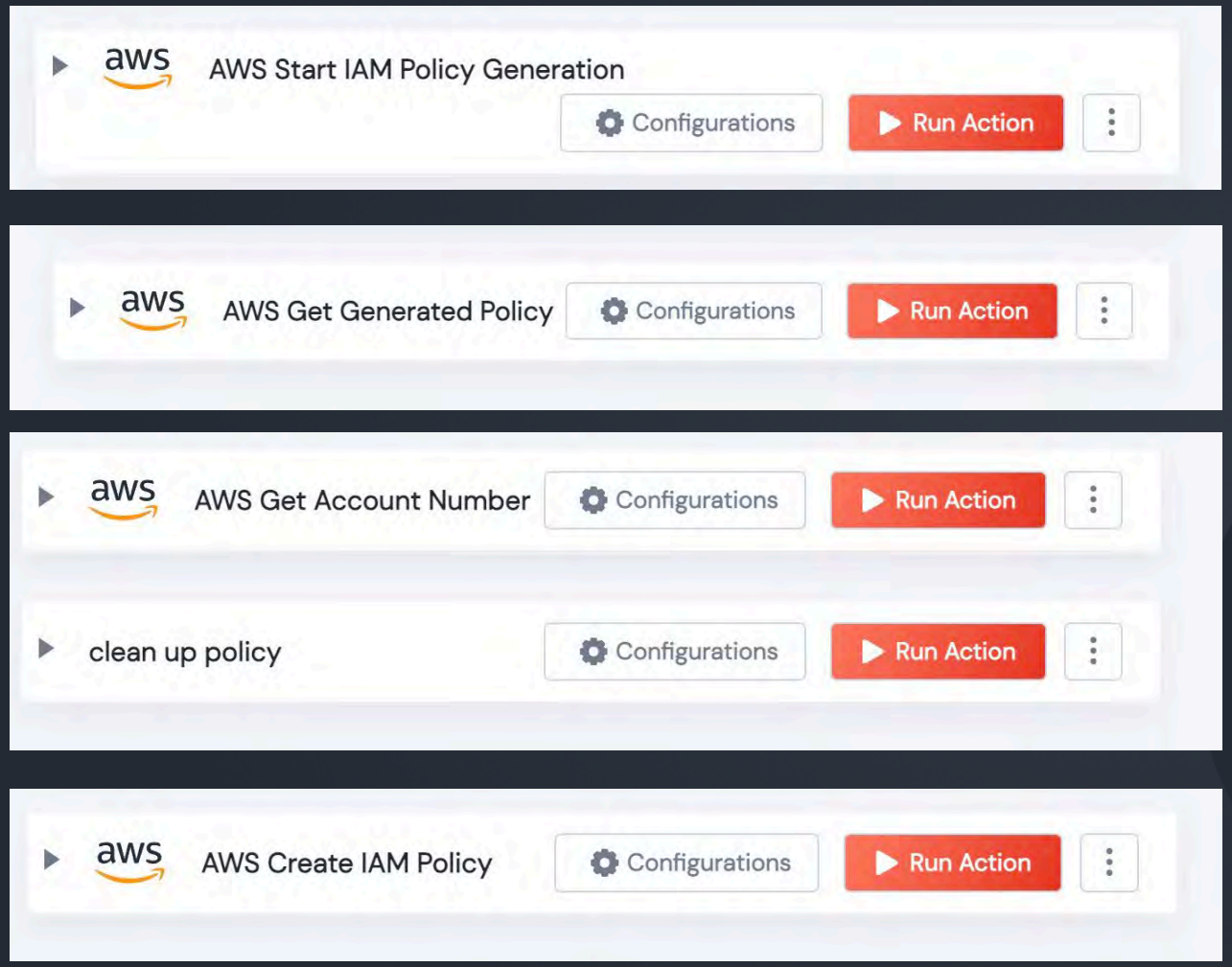


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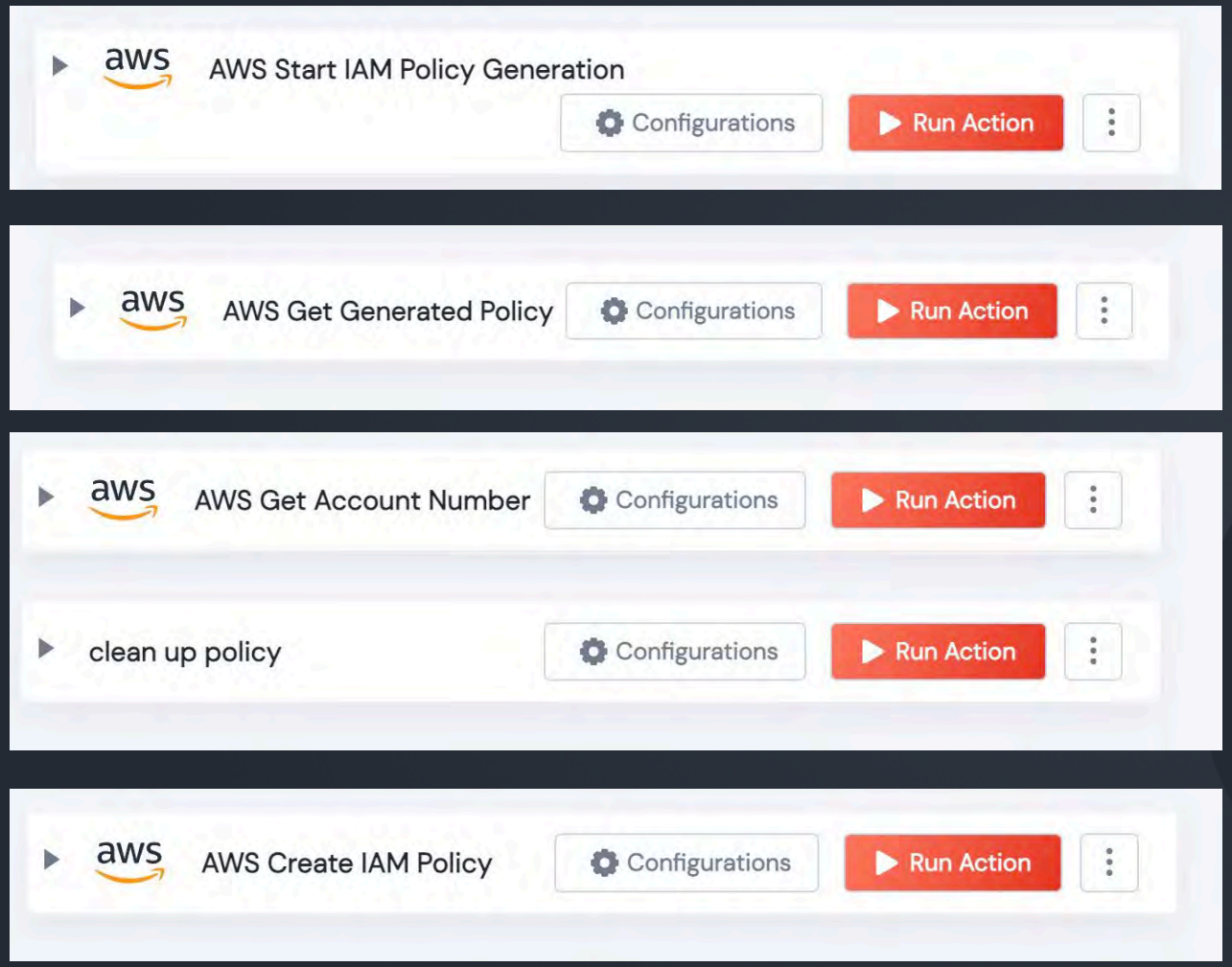


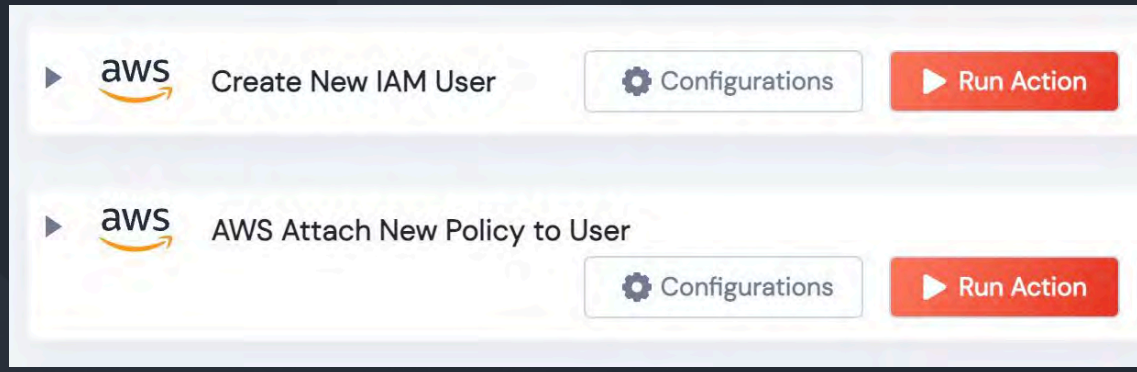


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# AWS Permissions


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# Summary

- DevSecOps:
  - Manual processes
  - Big Implications
- Automation
  - Reduces Manual DevSecOps ‘toil’
  - Accuracy and precise
- Extendible beyond DevSecOps
  - FinOps
  - DevOps
  - SRE

# Resources

- **unSkript**
  - http://runbooks.sh
  - https://unskript.com


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unSkript

# Learn more at: unSkript.com