

Upskill with StackOps Series

Accelerating Deployment & Discovery with StackOps Observability Accelerator (SOA)

Gary Wong, Lead Product Manager, StackOps
Shan Mahanama, Senior Software Engineer, StackOps

StackOps Observability Accelerator (SOA)



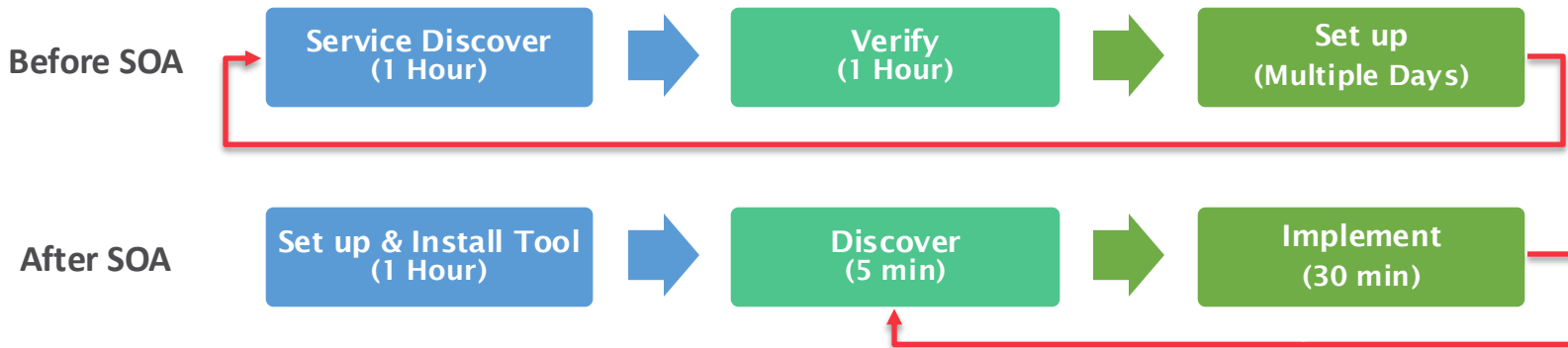
SIMPLIFY
CONFIGURATION
PROCESS



REDUCES SETUP TIME
FROM DAYS TO <1
HOUR



PERIODIC DISCOVERY
OF RESOURCE
CHANGES



SOA Gets Smarter, Secure, & Easier to Use

Feature Highlights

- **Azure Discovery:** Discover Azure resources, check diagnostic settings, and verify whether logs and metrics are being ingested into Elasticsearch. You can also generate a Bill of Materials (BOM) and visualise your account's observability status in Kibana.
- **SOA Synthetic:** Automatically discover AWS resources (e.g., Route53 endpoints, URLs) and create synthetic checks in Kibana Synthetics to detect failures and performance issues early.

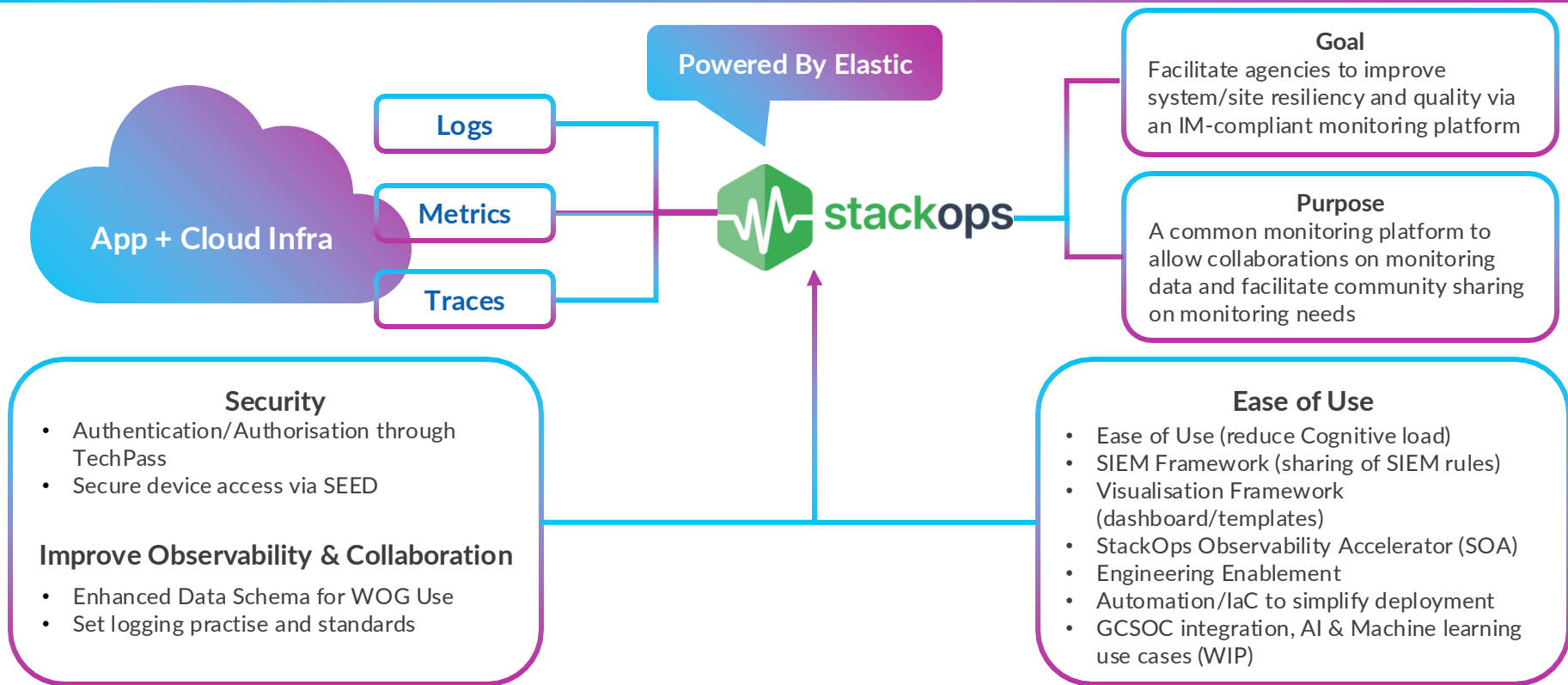
Other Improvements

- Preserve local config changes when generating BOMs with the new `--skip-config-file` flag
- Environment variables now support comma-separated values (e.g., for multiple subnet IDs).

Refreshed Documentation

- The SOA documentation has been updated for a better reading experience and easier navigation.
- [View the updated docs](#)

StackOps – SGTS Observability Solution



Improving Resiliency across Public Sector

Our North Star:

Establish and reduce Mean Time to Resolution (MTTR) across WOG

Goals



Maximise monitoring coverage



Level up monitoring maturity



19

Agencies served



196

Deployments



137

Systems



7.75 PB

Data Ingested



Ministry of Education
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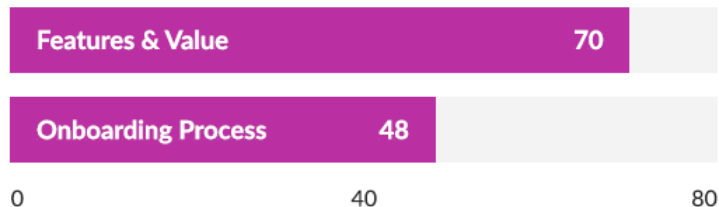


Developer Product Satisfaction 2025 – Report is out!

2025 Results

Overall, StackOps users were most satisfied with the **Features & Value** provided, followed by **Onboarding Process**.

StackOps



 No. of users indicating satisfaction in product area

(163 StackOps users responded to this survey)

Areas for Improvement

The 2 areas that StackOps users were least satisfied with were **User Experience** and **Communications**.

User Experience

Some users found it challenging to configure and manage their Elastic clusters, especially with regards to optimising size and performance.

Communications

Users felt that communications on cost optimisation and sizing could be improved as well.



<https://go.gov.sg/sfts-annual-survey-2025>

StackOps Upskill Series

Webinar (Online)

**Accelerating Deployment
Discovery with SOA**

● Jan 2026

Webinar (Online)

**Log Analysis (ESQL) &
Dashboarding**

● Feb 2026

Webinar (Online)

**Manage Data Lifecycle
using ILM Policy**

● Mar 2026

Webinar (Online)

AI Assistants

● Apr 2026

Webinar (Online)

**Detection & Recovery
through AI/ML**

● May 2026

Workshop (In-person)

**Visualisation &
Observability in StackOps**

Workshop (In-person)

**Overview & Ingestion in
StackOps**

Workshop (In-person)

**Applying Machine
Learning in StackOps**

Workshop (In-person)

**App Monitoring in
StackOps**

Workshop (In-person)

**Visualisation &
Observability in
StackOps**

Upskill Webinars (Online)

This new series will cover short technical sessions focused on specific platform features

Technical Workshops (In-person)

Continuing with our classroom-based sessions with hands-on labs. From foundational ingestion to advanced machine learning, these instructor-led sessions equip you with the skills to transform raw data into actionable insights.

Learning Events Page

Refer to StackOps Learning Events page for latest updates on upcoming and past events:

<https://go.gov.sg/stackops-learning-events>



Ready to try StackOps?

New users without an existing StackOps subscription can get a 14-day free trial of StackOps.

Prerequisites

- You have never had a StackOps trial subscription before.
- You do not have an existing StackOps subscription.
- You have a subscription account in Console.

→ Sign up for trial here: <https://go.gov.sg/stackops-trial>



<https://go.gov.sg/stackops-trial>

StackOps Documentation Revamp

Make documentation easier to find, clearer to read, and more helpful for self-service

January Release Highlights:

Easier Navigation

A revamped sidebar and a new homepage to help you find information faster.

Guided Setup

Improved "Getting Started" flows for what users should do, why, and who should do it.

Consolidated Billing & Costs

Pricing, Subscription, and Cost Optimization docs are now in one streamlined location.

Enhanced Architecture

Updated diagrams and technical explanations for both cloud and on-premise environments.
Regular releases to update the documentation in stages

Developer Product Satisfaction - Pulse Survey 2026

To stay aligned with your needs throughout the year:

- Introducing this shorter 2 question "Pulse" survey
- Complements our standard Annual Product Satisfaction Survey (which will return in Oct/Nov).

Product Satisfaction Ratings

Please indicate your satisfaction ratings based on your usage of the following products over the past year.

19. StackOps



4 selected

20. Please share with us which specific aspect(s) of StackOps has been most helpful to you. (optional)

Any feedback and suggestions are much appreciated!

Launching
2nd Feb 2026

Share your
feedback!

Q & A

Please add your questions for the Q &A session at the end!



<https://pigeonhole.at/STACKOPS>

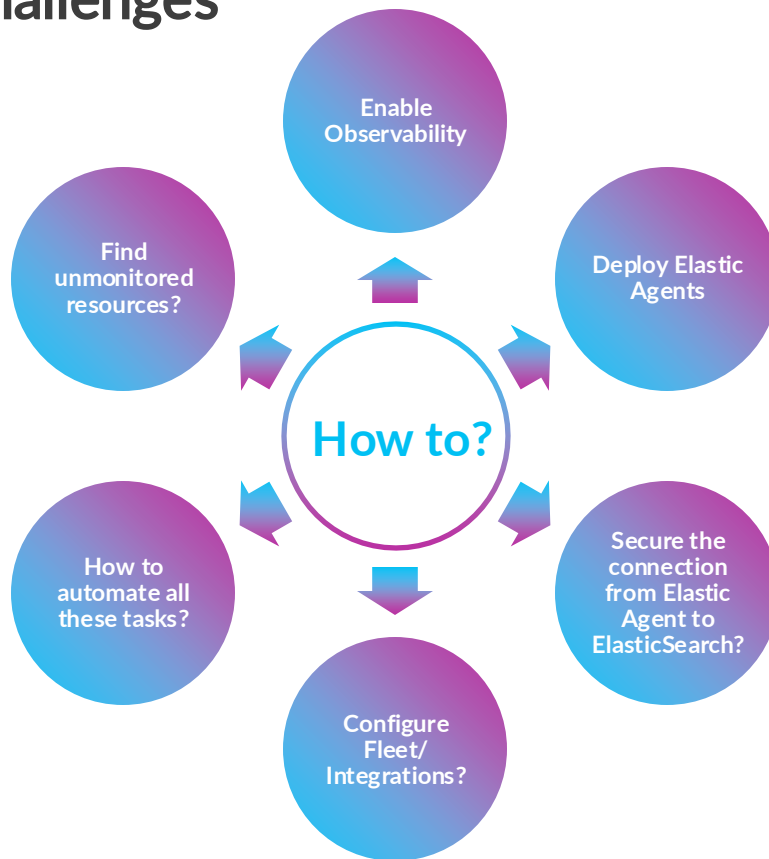
Upskill with StackOps Series

Accelerating Deployment & Discovery with StackOps Observability Accelerator (SOA)

Shan Mahanama, Senior Software Engineer, StackOps



Common User Challenges



Solution: SOA – StackOps Observability Accelerator

➤ SOA is a command line tool which helps with these issues.

1 SOA can be used in CICD pipelines

- Recommended for production environments.
- [Docs in innersource repo](#)

2 SOA can be used in local environment

- Recommended or testing SOA tool capabilities.
- [Docs in innersource repo](#)

3 SOA Repo (Inner-source)

[Innersource repo](#)

4 SOA Documentation

[SOA Docs in innersource repo](#)

Solution: SOA – StackOps Observability Accelerator

SOA command line structure.

```
soa <action> <provider>-<target> [subcommand] [options]
```

Example commands

```
soa discover aws-native  
soa discover aws-elastic  
soa discover aws-elastic synthetic
```

```
soa discover azure-native  
soa discover azure-elastic
```

Example commands

```
soa implement aws-elastic agent  
soa implement aws-elastic vpc-endpoint  
soa implement aws-elastic synthetic
```

```
soa implement aws-native baseline
```

```
soa implement azure-elastic agent  
soa implement azure-elastic private-endpoint
```

Documentation: <https://innersource.sgts.gitlab-dedicated.site/sgts/stackops/automations/stackops-observability-accelerator/3-cli-reference/>

SOA – StackOps Observability Accelerator

> Recent Changes

1) Change ``create`` commands to ``implement``

```
soa create aws-elastic agent -----> soa implement aws-elastic agent  
soa create azure-elastic agent -----> soa implement azure-elastic agent
```

2) Rename ``aws-native discover`` command to ``aws-native baseline``

```
soa implement aws-native discover -----> soa implement aws-native baseline
```

3) Change ``aws-native vpc-endpoint`` command to ``aws-elastic vpc-endpoint``

```
soa implement aws-native vpc-endpoint -----> soa implement aws-elastic vpc-endpoint
```

4) Change ``azure-native private-endpoint`` command to ``azure-elastic private-endpoint``

```
soa implement azure-native private-endpoint--> soa implement azure-elastic private-endpoint
```

Notes:

- These changes do not affect CICD environments.
- These changes have been already updated in the CICD template to ensure changes are transparent to users.

The deprecated
commands will be
removed from
27 March 2026

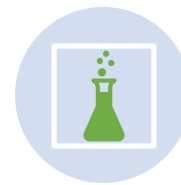
StackOps Observability Accelerator (SOA)



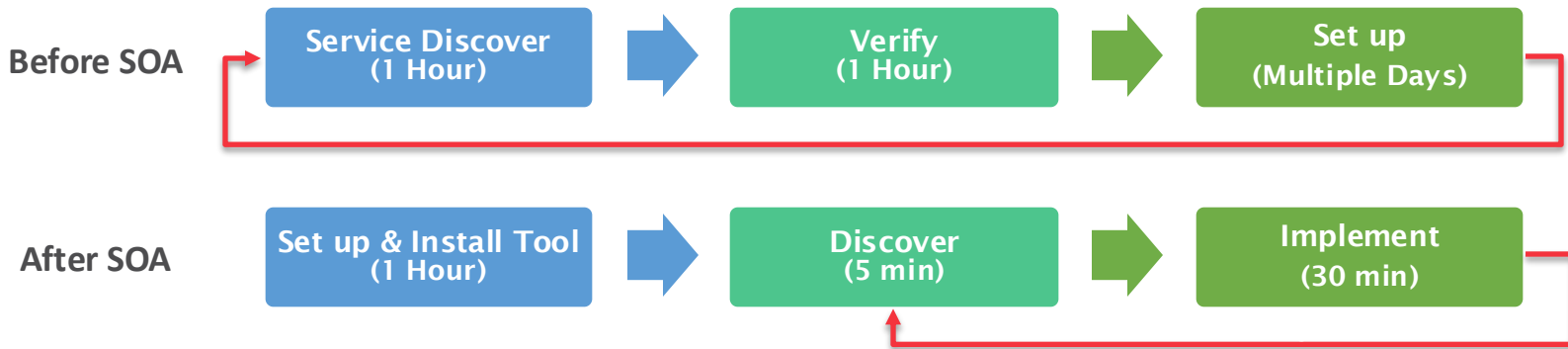
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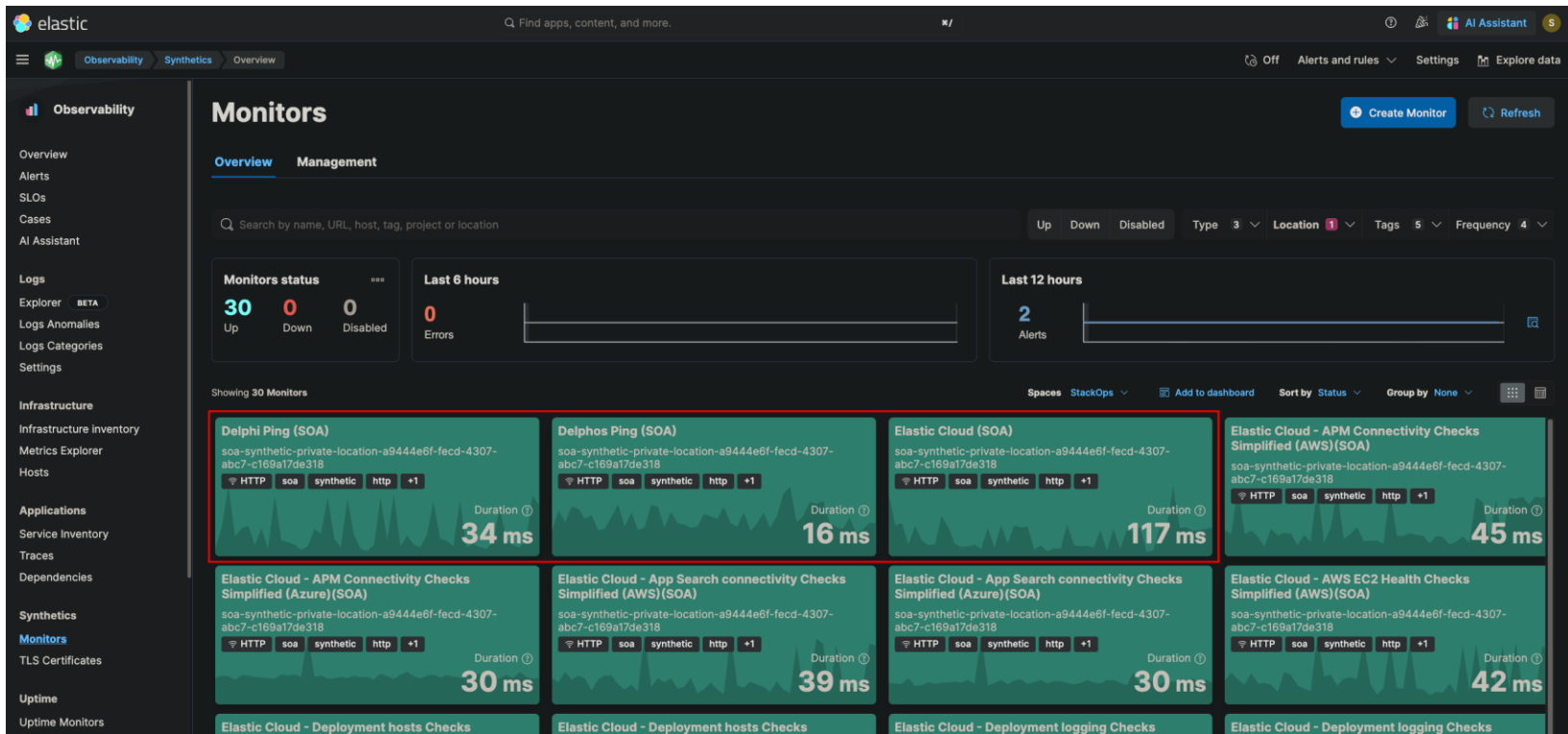
AWS Synthetics

AWS Synthetics

- Monitors Route 53 entries by deploying synthetic checks
- Ensures availability and performance of critical endpoints

Hosted Zone ID	Type	VPC ID	Record	Value	Status
Z103442010K[REDACTED]	Public	–	CNAME	[REDACTED].dev.ops.stack.gov.sg.	Configured
Z05720012GV[REDACTED]	Public	–	CNAME	[REDACTED]m5pxaowmd5pgzxzzh3nn7e2l._domainkey.elastic-aws-ses.com.	Not Configured
Z05720012GV[REDACTED]	Public	–	CNAME	[REDACTED]xtgdxl6bo2ao3depuxcmlu72j._domainkey.elastic-aws-ses.com.	Not Configured
Z05720012GVE[REDACTED]	Public	–	CNAME	[REDACTED]djzfxhl75zmeyrhzhvg2qewc._domainkey.elastic-aws-ses.com.	Not Configured
Z094360927K[REDACTED]	Private	vpc-02643bab8t[REDACTED]	CNAME	https://[REDACTED].es.vpce.ap-southeast-1.aws.elastic-cloud.com	Configured

AWS Synthetics – Kibana Dashboard



[Demo – AWS Synthetics]

```
# View command help
soa discover aws-elastic synthetic -h

# Run discover command
soa discover aws-elastic synthetic

# Run discover command
soa implement aws-elastic synthetic \
    --config-file synthetic-configs.json
```

SOA AWS Native

AWS Native

- Works directly with your AWS account
- Checks baseline configurations (e.g., S3 access logs)
- Provides actionable recommendations for observability

- Baseline configs co-developed with GTO and GDT
- Config Reference: [GitLab Repo](#)
- Config Documentation: [GitLab Pages](#)

AWS Native – Example Baseline Config

```
1 {
2   "apigateway:restapis": {
3     "logs": {
4       "recommended": {
5         "cloudwatch_mode": ["error", "info"]
6       },
7       "optional": {
8         "xray_tracing": [true, false],
9         "custom_access": [true, false],
10        "data_trace": [true, false]
11      },
12      "not_available": {}
13    },
14    "metrics": {
15      "recommended": {
16        "metrics": [true]
17      },
18      "optional": {
19        "detailed_metrics": [true, false]
20      },
21      "not_available": {}
22    }
23  }
24 }
```

AWS Native – Example Output

Resource Type	Resource ID	Logging Types	Log Location	Metrics
apigateway:apis	/apis/9d1e6588o1	stage_name: production custom_access: false cloudwatch_mode: off data_trace: false	access_log_group: N/A, cloudwatch_log_group: N/A	stage_name: production metrics: true
	/apis/b483hbq72b	stage_name: \$default custom_access: false	access_log_group: N/A	stage_name: \$default metrics: true
		stage_name: stage2 custom_access: true	access_log_group: aws-cloud trail-logs-kirk-test	stage_name: stage2 metrics: true
apigateway:restapis	/restapis/1bu9jb77pb	stage_name: v1 xray_tracing: false custom_access: false method_settings: { resource_path: /*/ cloudwatch_mode: off data_trace: false }	access_log_group: N/A, cloudwatch_log_group: N/A	stage_name: v1 metrics: true method_settings: { resource_path: /*/ detailed_metrics: false }
	/restapis/3zpdquitu7	stage_name: IDRDemo-Stage-Prod xray_tracing: false custom_access: true method_settings: { resource_path: /*/ cloudwatch_mode: off data_trace: false }	access_log_group: 3zpdquitu7-apigw-access-logs, cloudwatch_log_group: N/A	stage_name: IDRDemo-Stage-Prod metrics: true method_settings: { resource_path: /*/ detailed_metrics: false }

Legend:

Green – Recommended, enabled
Red – Recommended, disabled
Yellow – Optional, disabled

AWS Native – Baseline to Output Comparison

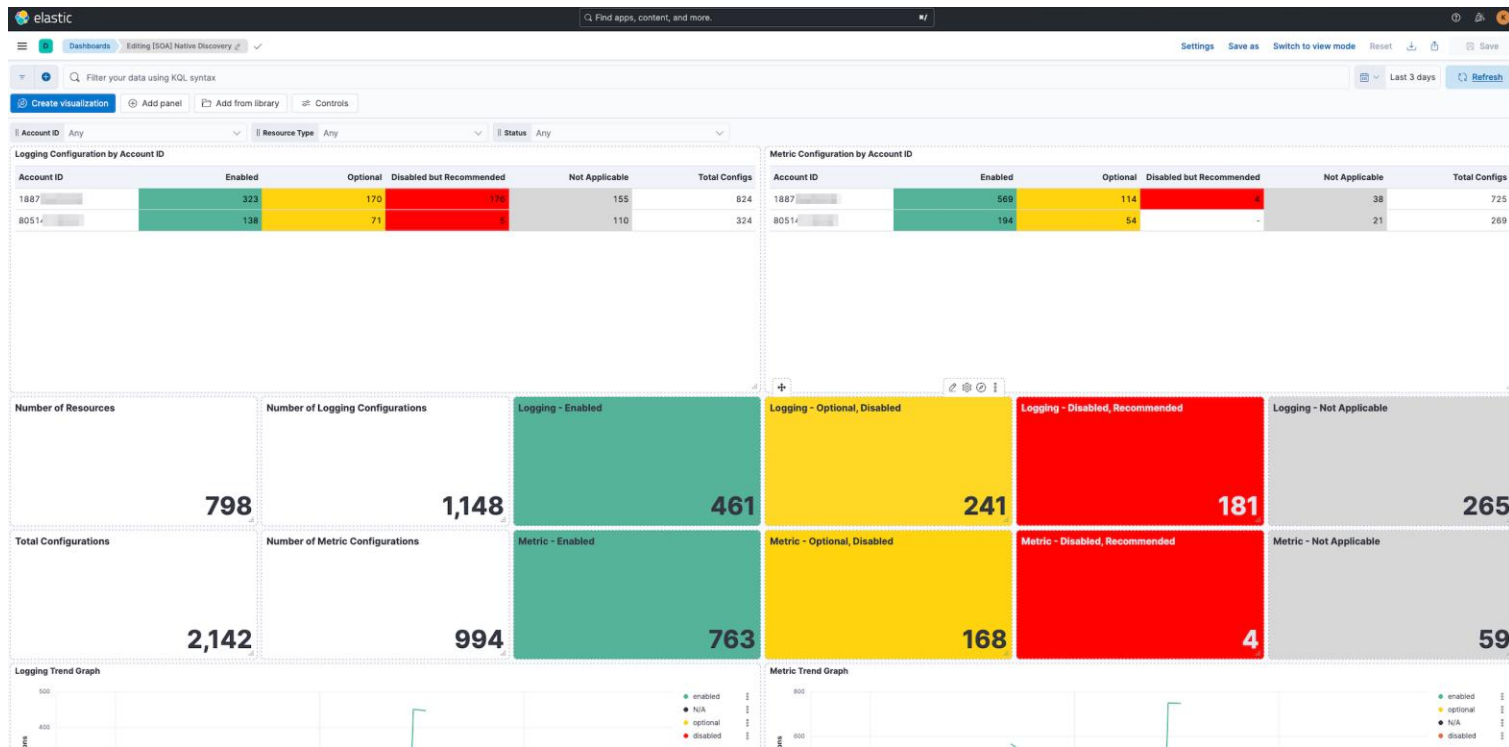
```

1 {
2   "apigateway:restapis": {
3     "logs": {
4       "recommended": {
5         "cloudwatch_mode": ["error", "info"]
6       },
7       "optional": {
8         "xray_tracing": [true, false],
9         "custom_access": [true, false],
10        "data_trace": [true, false]
11      },
12      "not_available": {}
13    },
14    "metrics": {
15      "recommended": {
16        "metrics": [true]
17      },
18      "optional": {
19        "detailed_metrics": [true, false]
20      },
21      "not_available": {}
22    }
23  }
24 }

```

Resource Type	Resource ID	Logging Types
apigateway:apis	/apis/9dle6588o1	stage_name: production custom_access: false cloudwatch_mode: off data_trace: false
	/apis/b483hbq72b	stage_name: \$default custom_access: false
		stage_name: stage2 custom_access: true
	apigateway:restapis /restapis/1bu9jb77pb	stage_name: v1 xray_tracing: false custom_access: false method_settings: { resource_path: /* cloudwatch_mode: off data_trace: false }
	/restapis/3zpdquitu7	stage_name: IDRDemo-Stage-Prod xray_tracing: false custom_access: true method_settings: { resource_path: /* cloudwatch_mode: off data_trace: false }

AWS Native – Dashboard



[Demo – AWS Native]

View command help

```
soa discover aws-native -h
```

Run discover command

```
soa discover aws-native
```

Run implement command

```
soa implement aws-native baseline
```

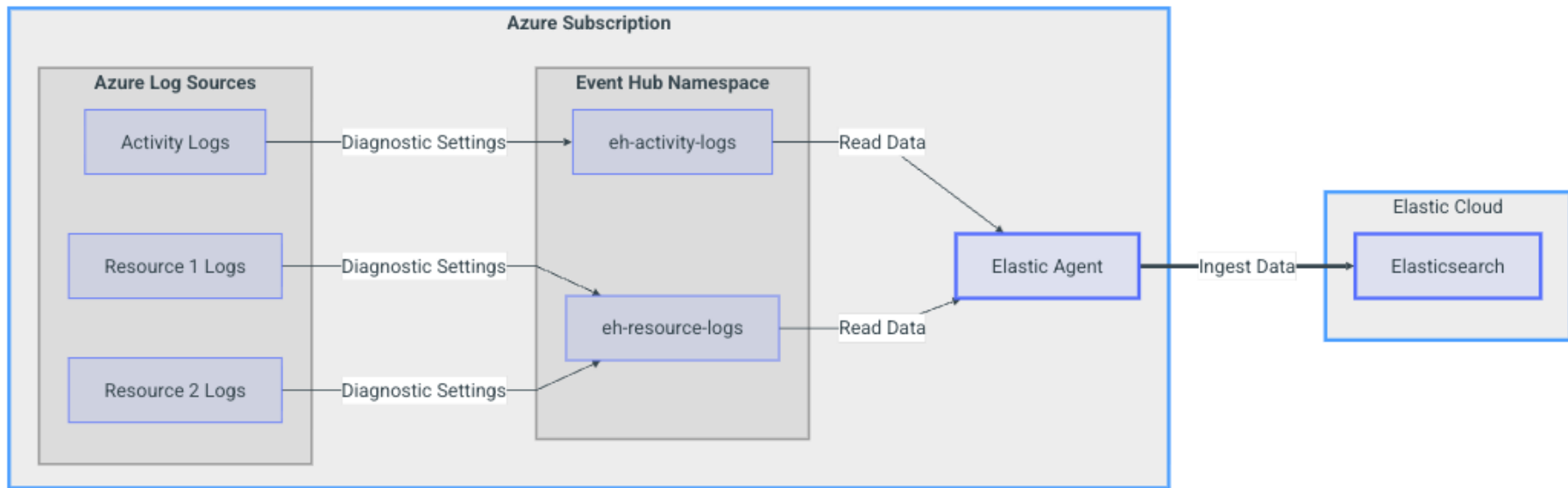
SOA Azure Discover

Azure Discover

- Discover unmonitored resources in Azure Subscription
- Generate required configuration to deploy Elastic Agent and other resources.

NOTE: While Azure Discover feature is new, AWS Discover feature has been around since 2024.

Azure Discover - Architecture



Azure Discover - Output

Resource Type	Resource ID	Resource Group	Sub Resource Type	Is Diagnostic Enabled	Diagnostic Setting Name	Diagnostic Destination Type	Diagnostic Destination Name	Log Status	Metrics Status
microsoft.keyvault/vaults	4. test-soa-kv	test-soa-tf	-	Yes	soa0113	Event Hub	eh-logs-soa/eh-resource-logs	audit: Enabled allLogs: Enabled AllMetrics: Enabled	N/A
microsoft.storage/storageaccounts	5. stackopselasticagent0111	test-soa-tf	-	Yes	soa0113	Event Hub	eh-logs-soa/eh-resource-logs	Transaction: Enabled Capacity: Disabled	Detected
			blobServices	Yes	soa0113	Event Hub	eh-logs-soa/eh-resource-logs	audit: Enabled allLogs: Enabled Transaction: Enabled Capacity: Disabled	Detected
			queueServices	No	-	-	-	Not Detected	Detected
			tableServices	No	-	-	-	Not Detected	Detected
			fileServices	No	-	-	-	Not Detected	Detected

[Demo – Azure Discover]

```
# View discover command help  
soa discover azure-elastic -h
```

```
# Run discover command  
soa discover azure-elastic
```

```
# Run implement command  
soa implement azure-elastic agent
```

FAQs

- Do I need to create a Private Endpoint to Elastic Cloud in Azure? Yes
- Do I need to add a Traffic Filter? Yes
- Do I need to create a VPCE to run 'aws-native' command? No
- Do I need to run 'aws-elastic discover' as set up for 'aws-native discover'? No

Let's hear from you!

Q & A

Please add your questions for the Q&A session at the end!



<https://pigeonhole.at/STACKOPS>

Share your feedback on the session

Please share your feedback on the session to help us improve in future!

<https://go.gov.sg/stackops-webinar-feedback>



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Thank you.