illuminate

Sumo Logic User Conference 2018

Become a Sumo Security User

Security Certification

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Become a Sumo Security Power User

1. Learn How **Security Analytics** works for you
2. Develop a **Toolset** for Basic and Advanced Analytics
3. **Monitor** Trends & Critical Events
4. Learn about Sumo's **Security and Compliance Apps**
5. **Next steps**: where do you go from here?

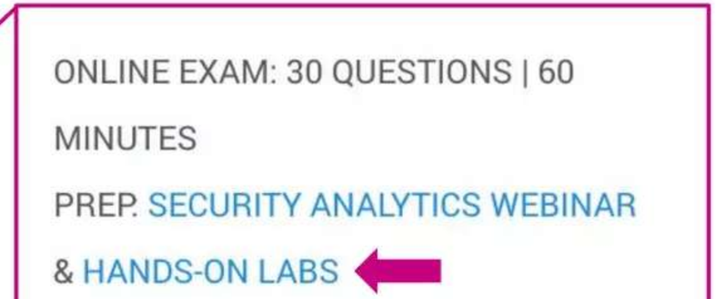
Tutorial: Hands-on Exercises

Training Environment:

1. service.sumologic.com
2. The username and password is on your handout

Security Hands-on Labs:

- sumologic.com/learn/certifications



Sumo Logic Security Analytics

Real-time insights for streamlined **Compliance** and **Security**

- Meet compliance deadlines
- Reduce security risks
- Identify potential security breaches
- Neutralize new threat patterns
- Transform reactive/manual processes into integrated/proactive/automated

Automate **Threat Detection**

- Detect threats across microservices, container services, cloud-based technology, operating systems, applications, storage devices, servers, workstations, and more.

Examples of Security Use Cases

- Monitor “Root” Logins
- Monitor Multiple Failed Logins
- Monitor Web Activity
- Monitor Ingress/Outgress Rules
- Identify publicly exposed Security Group (0.0.0.0/0 with <open port>)
- Identify Services out of Compliance (no patches in “n” days)
- Identify Application Threats (Libraries, Botnets, compromised credentials)
- Monitor Malicious Threats and IOCs

➢ What’s your use case?

Search and Parse

Filter and Provide Structure

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Search and Parse

Search and **Filter** your data

Search and **Filter** your data

- _metadata
- Keywords
- Live Tail

```
_sourceCategory=Labs/AWS/CloudTrail and root
| json "eventType", "sourceIPAddress", "userIdentity" nodrop
| json field=userIdentity "type", "arn" nodrop
```

Parse fields to provide structure to your data

- Query Parsing
- Implement your Field Extraction Rules

Security Certification: Hands-on Labs

Security Analytics

Labs 1-3: Search and Parse

- Search Basics: Metadata and Keywords
- Parsing Operators and Options
- Grouping Results
- Field Extraction Rules

Simple Analytics

Conditional Logic, Filtering, Formatting Results

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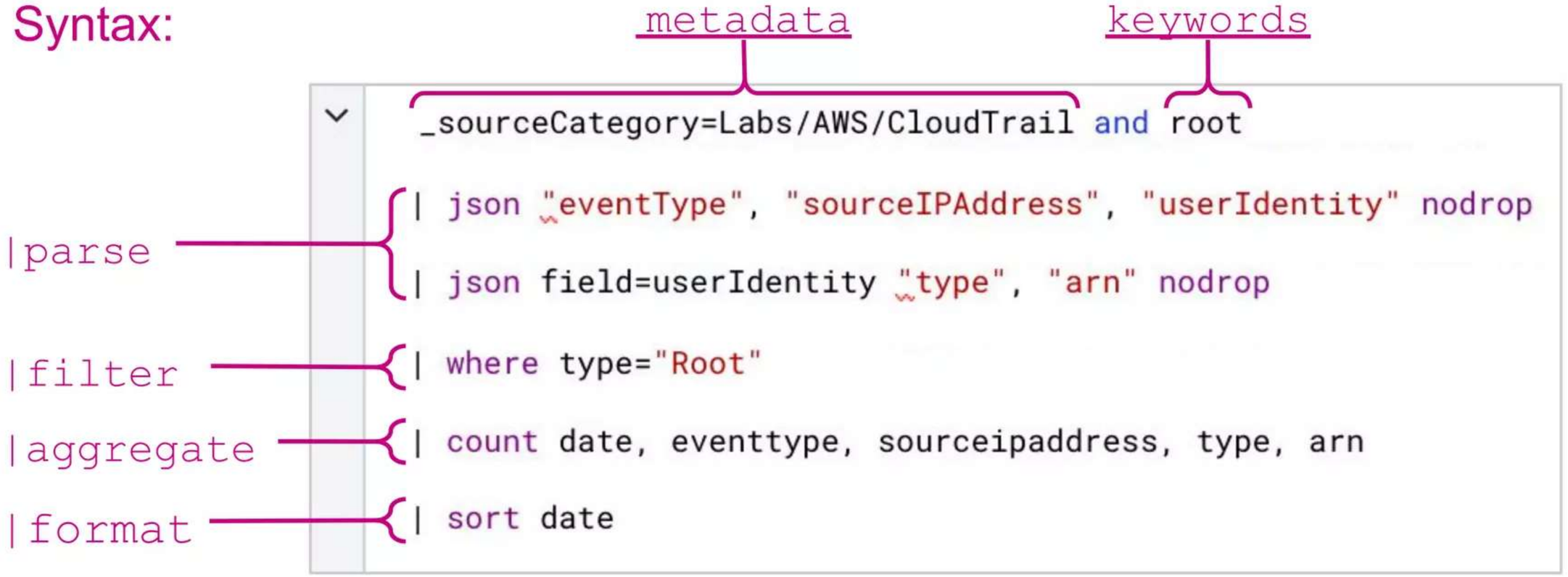
Review ⇨ Query Syntax

Keywords and operators, separated by pipes, that build on top of each other

Syntax:



Simple Analytics

Aggregation

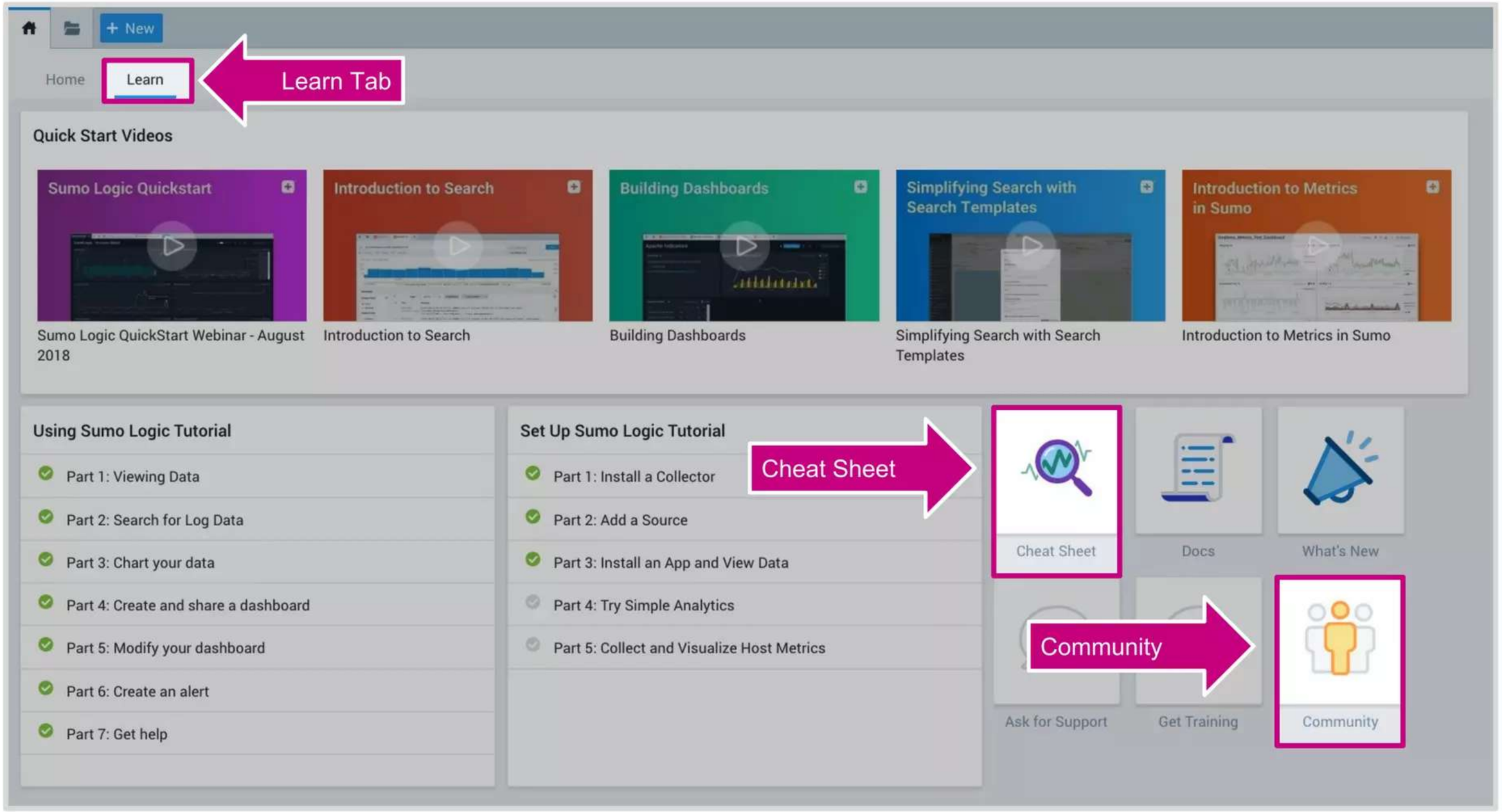
```
| count[]
| sum
| avg
| min()
| max()
```

Conditional

```
| if()
| []matches[]
| <>in()
| filter
| where
```

Formatting

```
| transpose
| fields
| limit
| sort by
| top
```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Quick Start Videos
Sumo Logic Quickstart
Introduction to Search
Building Dashboards
Simplifying Search with Search Templates
Introduction to Metrics in Sumo
Sumo Logic QuickStart Webinar - August 2018
Introduction to Search
Building Dashboards
Simplifying Search with Search Templates
Introduction to Metrics in Sumo
Using Sumo Logic Tutorial
Part 1: Viewing Data
Part 2: Search for Log Data
Part 3: Chart your data
Part 4: Create and share a dashboard
Part 5: Modify your dashboard
Part 6: Create an alert
Part 7: Get help
Set Up Sumo Logic Tutorial
Part 1: Install a Collector
Part 2: Add a Source
Part 3: Install an App and View Data
Part 4: Try Simple Analytics
Part 5: Collect and Visualize Host Metrics
Cheat Sheet
Cheat Sheet
Docs
What's New
Community
Ask for Support
Get Training
Community

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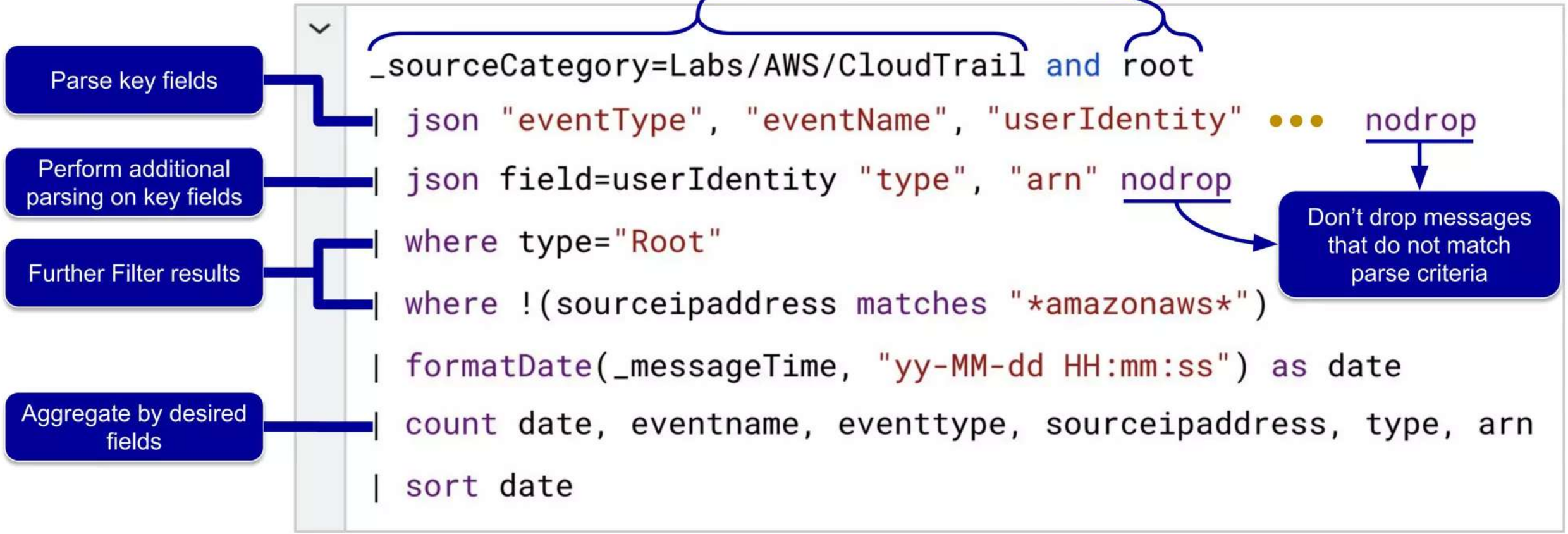
Security Analytics

Lab 4A: Monitor AWS Root Account Usage

Community > Query Library > Security-related Queries for AWS

```
_sourceCategory=Labs/AWS/CloudTrail and root
| json "eventType", "eventName", "eventSource", "sourceIPAddress", "userIdentity", "responseElements" nodrop
| json field=userIdentity "type", "arn" nodrop
| where type="Root"
| where !(sourceipaddress matches "*amazonaws*")
| formatDate(_messageTime, "yy-MM-dd HH:mm:ss") as date
| count date, eventname, eventtype, sourceipaddress, type, arn
| sort date
```

Filter using **metadata** and **keywords**



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Security Analytics

Lab 4B: Monitor Security Groups Created

Community > Query Library > Security-related Queries for AWS

```
_sourceCategory=Labs/AWS/CloudTrail and authorizesecuritygroupingress
| json "requestParameters", "userIdentity"
| json "errorCode" nodrop
| json field=useridentity "type" nodrop
| json field=useridentity "arn" nodrop
| json field=requestParameters "ipPermissions"
| json field=requestParameters "groupId"
| json field=ipPermissions "items[*].ipRanges.items[*].cidrIp" as cidrIp nodrop
| json field=ipPermissions "items[*].ipv6Ranges.items[*].cidrIpv6" as cidrIpv6 nodrop
| json field=ipPermissions "items[*].fromPort" as fromPort nodrop
| json field=ipPermissions "items[*].toPort" as toPort nodrop
| json field=ipPermissions "items[*].ipProtocol" as ipProtocol nodrop
// Uncomment the next line to identify "Permit Any" Ingress Security Groups
//| where (ipProtocol matches "*-1*" or (fromPort="[0]" and toPort="[65535]")) or cidrip matches
"0.0.0.0*" or cidripv6 matches "*::*"
```

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Security Analytics

Lab 4C: Monitor “Impossible Travel” scenario

Community > Query Library > Security-related Queries for AWS

```
_sourceCategory=Labs/AWS/CloudTrail and consolelogin
| json "eventType", "eventName", "eventSource", "sourceIPAddress", "userIdentity", "responseElements",
"additionalEventData"
| json field=userIdentity "type", "arn"
| json field=responseElements "ConsoleLogin"
| json field=additionalEventData "MFAUsed", "SamlProviderArn" nodrop
| where consolelogin="Success"
| count arn, sourceipaddress
| sort by arn
| 1 as rownum
| total rownum by arn
| where _total > 1
| fields -_count, rownum
| formatDate(_messageTime, "yy-MM-dd HH:mm:ss") as date
| count date, cidrip, fromport, toport, groupid, ipprotocol, arn, type, errorcode
```

Advanced Analytics

Outliers, Trends,
Needle in the Haystack

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Advanced Analytics

LogReduce ➜ New security attacks/breaches.

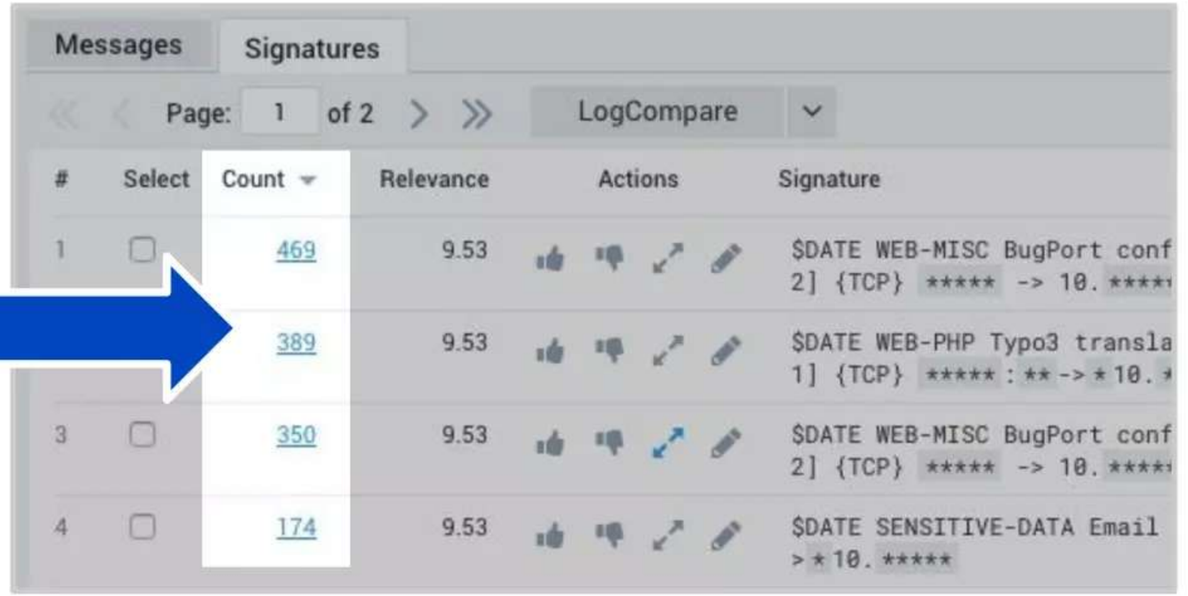
Find the ”needle in the haystack” by identifying patterns.

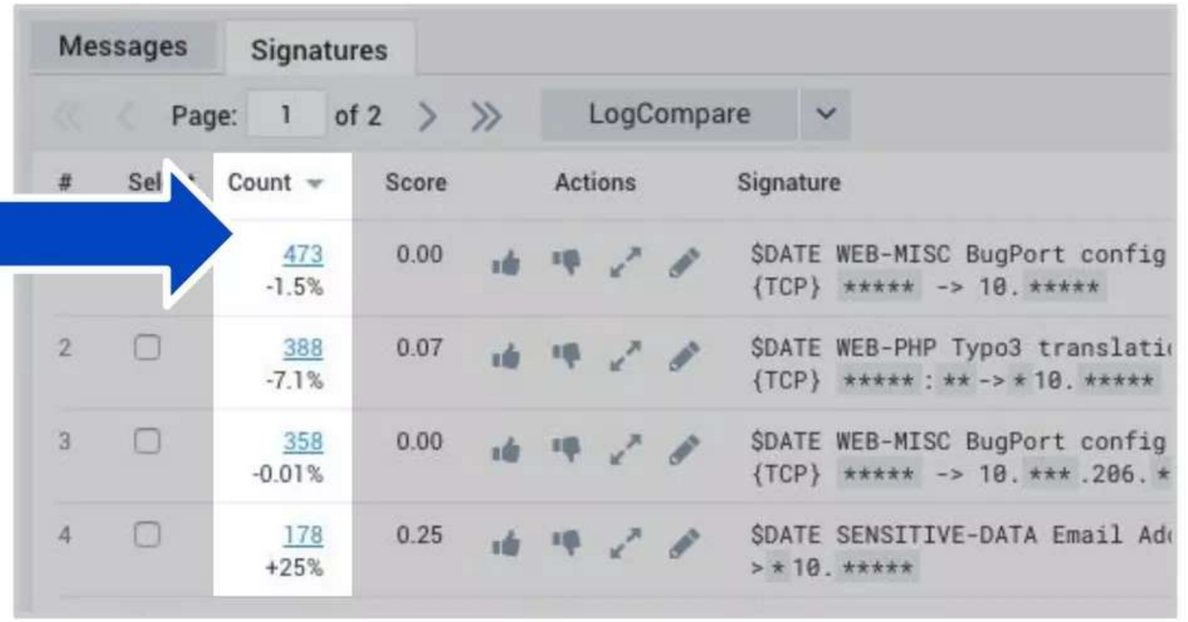
```
_sourceCategory=Labs/security/snort
| logreduce
```

LogCompare ➜ Compare attacks/breaches to other time periods.

Compare today’s patterns with patterns in the past.

```
_sourceCategory=Labs/security/snort
| logcompare -24h
```





Advanced Analytics

Outlier ➜ Anomalies in number of Failed Logins

```
_sourceCategory=Labs/AWS/CloudTrail
| parse "\"eventName\":\"*\"" as eventName nodrop
| parse "\"responseElements\":{\"ConsoleLogin\":\"*\"}" as loginResult nodrop
| where eventName="ConsoleLogin" and loginresult="Failure"
| timeslice 30m
| count(eventName) as failed_login_attempts by _timeslice
| outlier failed_login_attempts
```

Predict ➜ Traffic from a Rogue Country/State

```
_sourceCategory=Labs/security/Proofpoint and Mexico
| timeslice 5m
| count as rogue_traffic by _timeslice
| predict rogue_traffic by 5m forecast=12
```

Advanced Analytics

Time Compare ➜ Identify a 5-fold increase in Denied Traffic

```
_sourceCategory=Labs/PaloAltoNetworks and ",TRAFFIC,"
| where action="deny"
| count action
| compare with timeshift 15m 4 avg
| if(isNull(_count), 0, _count) as _count
| if(isNull(_count_60m_avg), 0, _count_60m_avg) as _count_60m_avg
| where _count>(5 * _count_60m_avg)
```

Geo Lookup ➜ Traffic Destinations outside the US

```
_sourceCategory=Labs/PaloAltoNetworks and ",TRAFFIC,"
| lookup latitude, longitude, country_code, country_name, city from geo://location on ip=dest_ip
| where country_code<>"US"
| count by latitude, longitude, country_code, country_name, city
```

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Security Analytics

Lab 5-8: Advanced Analytics

- Finding the needle in the haystack
- Comparing time periods
- Identifying Outliers

Advanced Analytics

Transactionize ➜ Follow a Transaction

```
((_sourceCategory=Labs/PaloAltoNetworks ",THREAT,") or (_sourceCategory=Labs/PaloAltoNetworks ",TRAFFIC,"
action=allow))
| concat(dest_ip,":", dest_port) as destination
| transactionize src_ip (merge type, destination, src_ip takeFirst)
| where type matches "*TRAFFIC*" and type matches "*THREAT*"
| count src_ip, type, destination
| fields - _count
```

Transaction ➜ Correlate Traffic Data

```
((_sourceCategory=Labs/security/snort "[Classification: Web Application Attack]") or
_sourceCategory=Labs/Apache/Access)
| parse "{TCP} *:* -> *:*" as src_ip, src_port, dest_ip, dest_port nodrop
| parse regex "(?<src_ip>\d{1,3}\.\d{1,3}\.\d{1,3}\.\d{1,3})"
| transaction on src_ip
  with states %"Labs/security/snort", %"Labs/Apache/Access" in _sourceCategory
| where %"Labs/security/snort">0 and %"Labs/Apache/Access">0
```

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Security Analytics

Labs 9-14: Lookups and Data Correlation

- Using Threat Intel Lookup
- Creating Query Templates
- Creating Custom Lookups
- Correlating Data
  - Transaction
  - Transactionize
  - Subqueries

Monitoring your Data

Dashboards and Alerts

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Monitoring Your Data

Visualize your data through Dashboards

- Chart your Data
- Create Panels
- Share your Content!

Receive notification of your Critical Events

- Schedule Your Searches
- Use Webhook Connections to reach your audience
- Create Meaningful Alerts

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Security Analytics

Labs 15-18: Visualizing and Monitoring

- Create a Dashboard
- Add Panels to an Existing Dashboard
- Create Meaningful Alerts

Security and Compliance Apps

Out-of-the-Box Content

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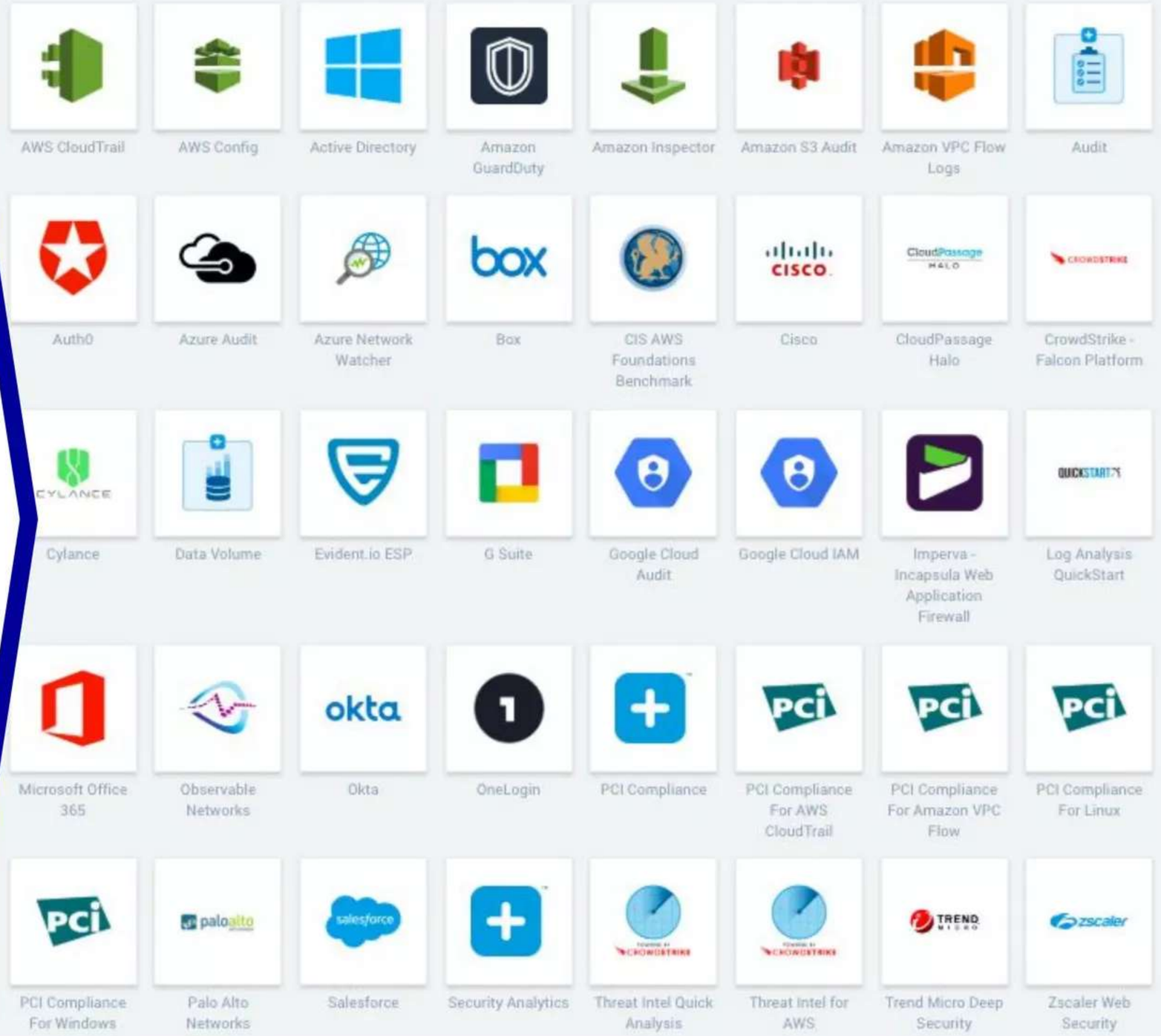
Security and Compliance Apps

- Simplify Compliance Management
- Set up Real-time monitoring and Alerts
- Security Analytics with Threat Intelligence



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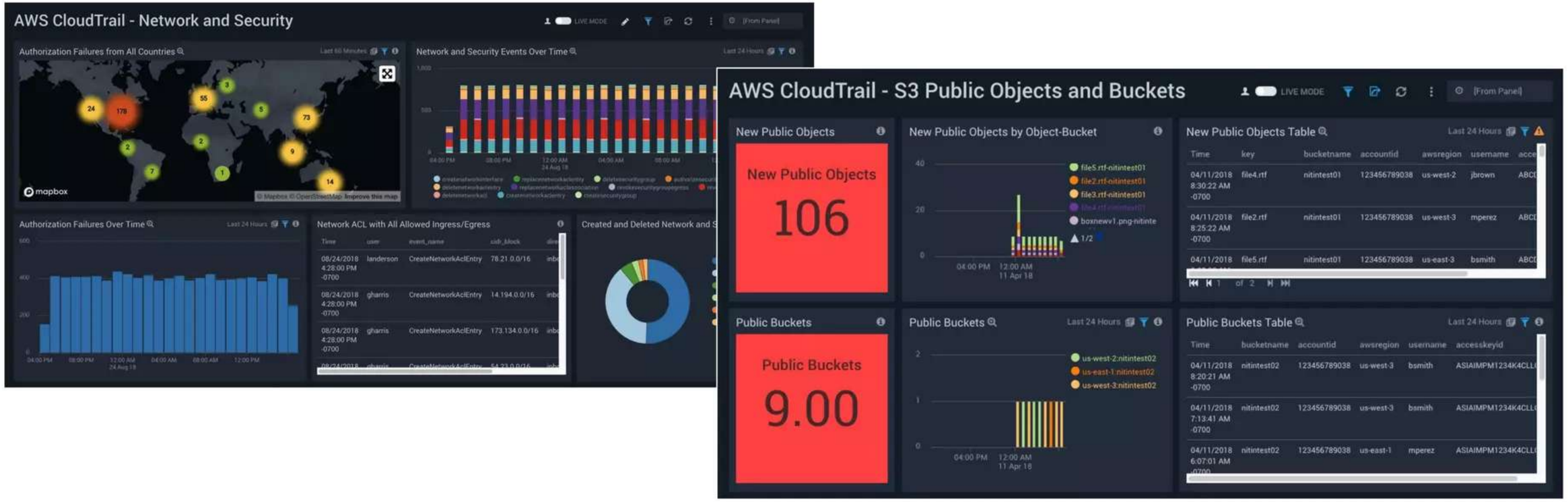
Apps: Palo Alto Networks

Discover threats, consumption, traffic patterns, and other security-driven issues, providing additional insight for investigations.

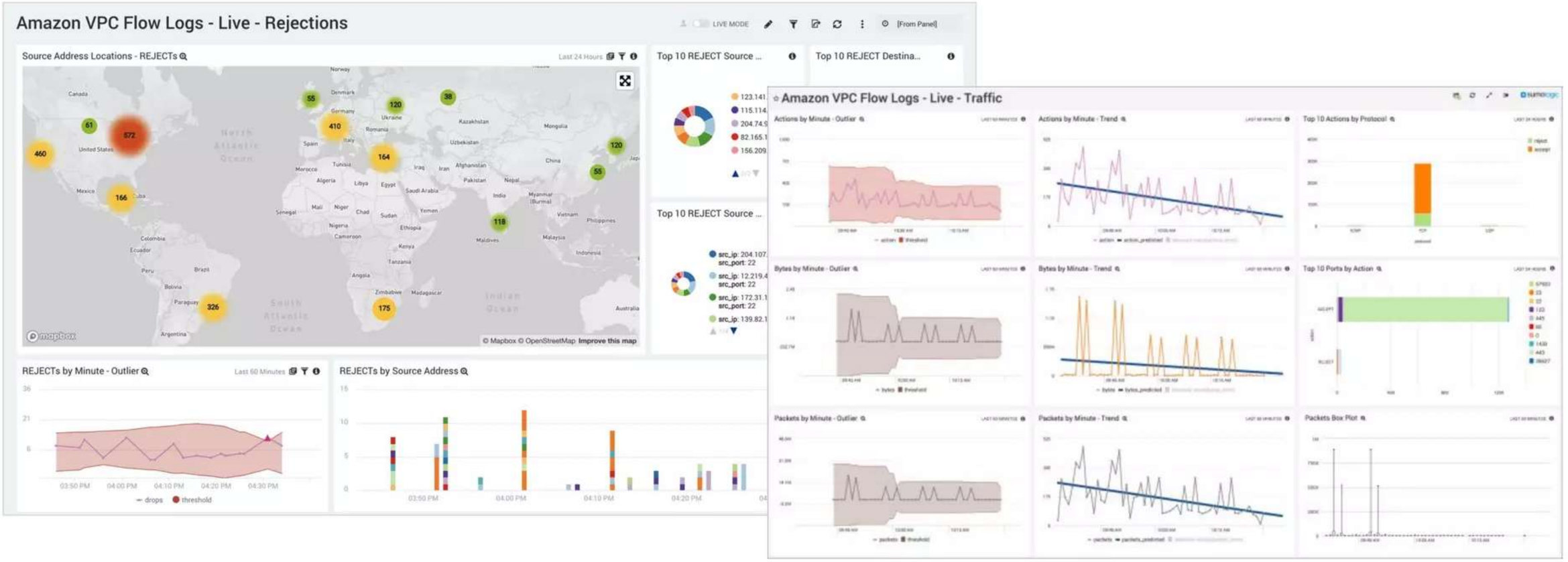
Apps: AWS CloudTrail

Track user behavior patterns, administrator activity, or correlate with other data sets to get a broader understanding of events from operating systems, intrusion detection systems or application logs.



Apps: AWS VPC Flow Logs

Track your IP network traffic and troubleshoot security issues with real-time visibility and analysis of your environment.

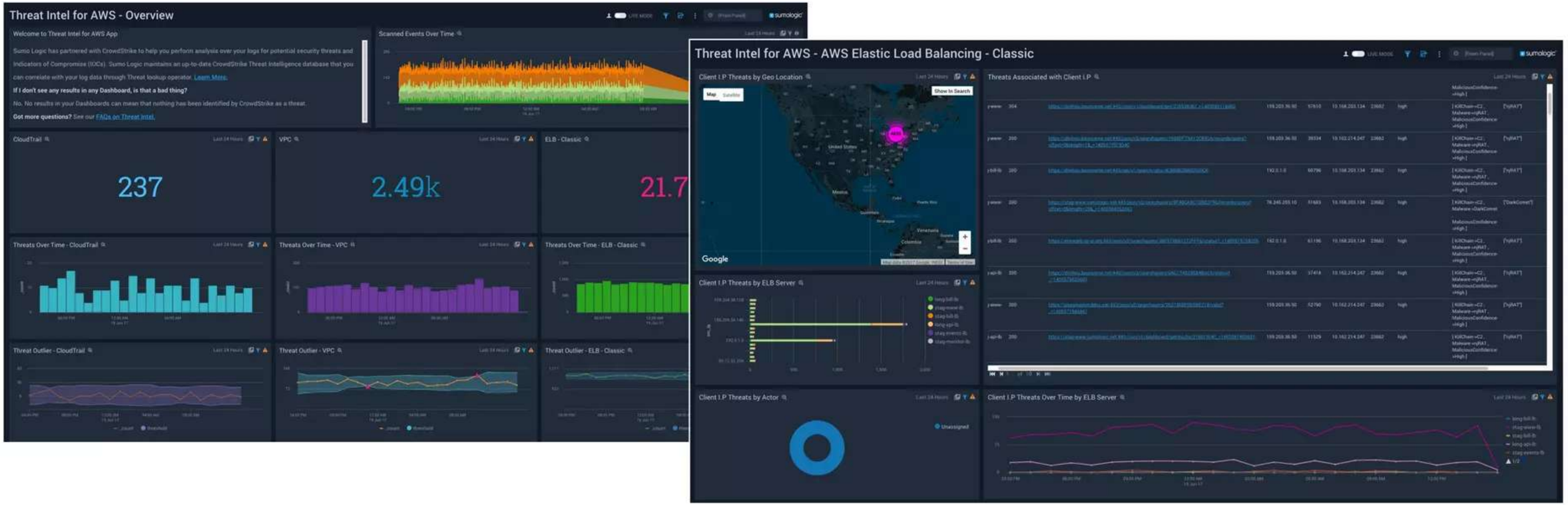


Apps: AWS GuardDuty

Detect unexpected and potentially malicious activities in your AWS account. Analyze threats by severity, VPC, IP, account ID, region, and resource type. GuardDuty analyzes and processes VPC Flow Logs and AWS CloudTrail event logs.

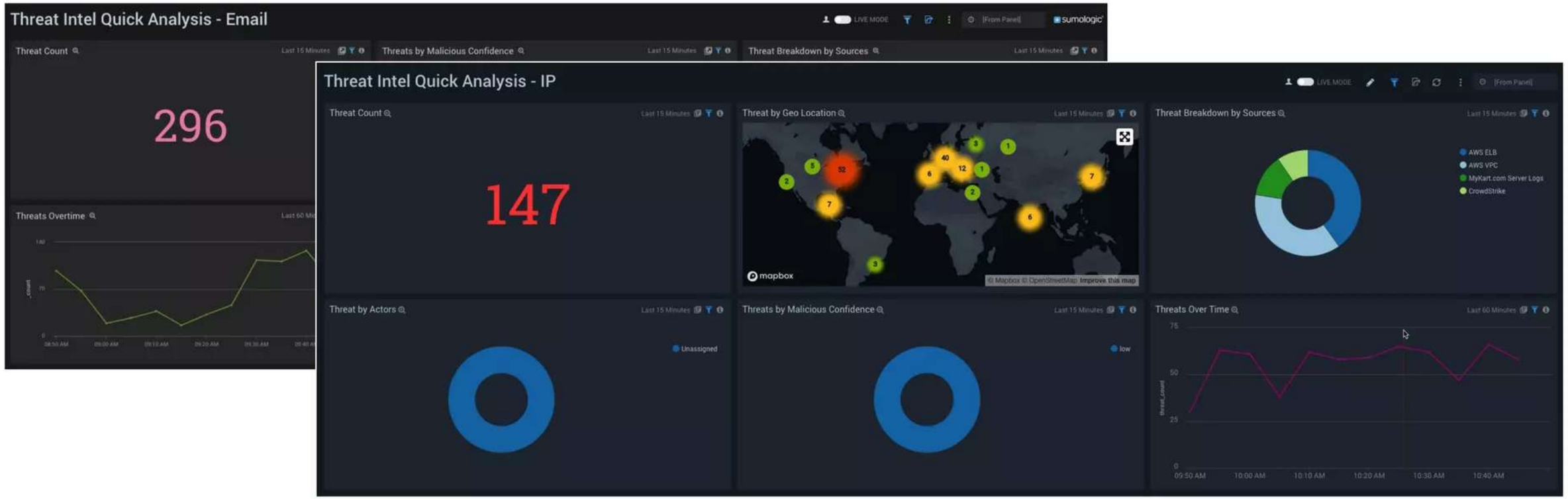
Apps: Threat Intelligence for AWS

Correlate CrowdStrike threat intelligence data with your AWS log data, for real-time security analytics to detect threats and protect against cyber-attacks. The Threat Intel for AWS App scans AWS CloudTrail, AWS ELB and AWS VPC Flow logs for threats based on IP address.



Apps: Threat Intelligence Quick Analysis

Correlate CrowdStrike threat intelligence data with your own log data, for real-time security analytics to detect threats and protect against cyber-attacks. This app scans your selected logs for threats based on IP, filename, URL, domain, Hash 256, and email.



Apps: CrowdStrike

Analyze CrowdStrike security events by type, status and detection method. The CrowdStrike Falcon platform provides Endpoint Detection and Response, Antivirus and Threat Intelligence services via the cloud.

Apps: O365

Monitor and analyze your complete Office 365 system for administrator and user activity. This app monitors Audit logs for Azure Active Directory, Exchange and SharePoint.

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Using Sumo Logic

Labs 19-20: Sumo Logic Apps

- Installing AWS CloudTrail App
- Installing the Threat Intel App for OSSEC data

Use Cases

”How To” templates to implement in your Environment

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General Use Cases

How to Create and Alert on Ratios or Percentages

- Outlier

How to Compare and Alert on Historical Data

- Compare and Outlier

Detect Patterns and Changes Across Environments and Time

- LogCompare

Visualize Trends in Your Signatures

- LogReduce and Timeslice

Security Use Cases

- Security Queries for PAN (Firewalls)
- Security Queries for AWS
- Security Queries for Linux
- Security Queries for Windows

Where do I go from here?

Training, Docs, Community, Support

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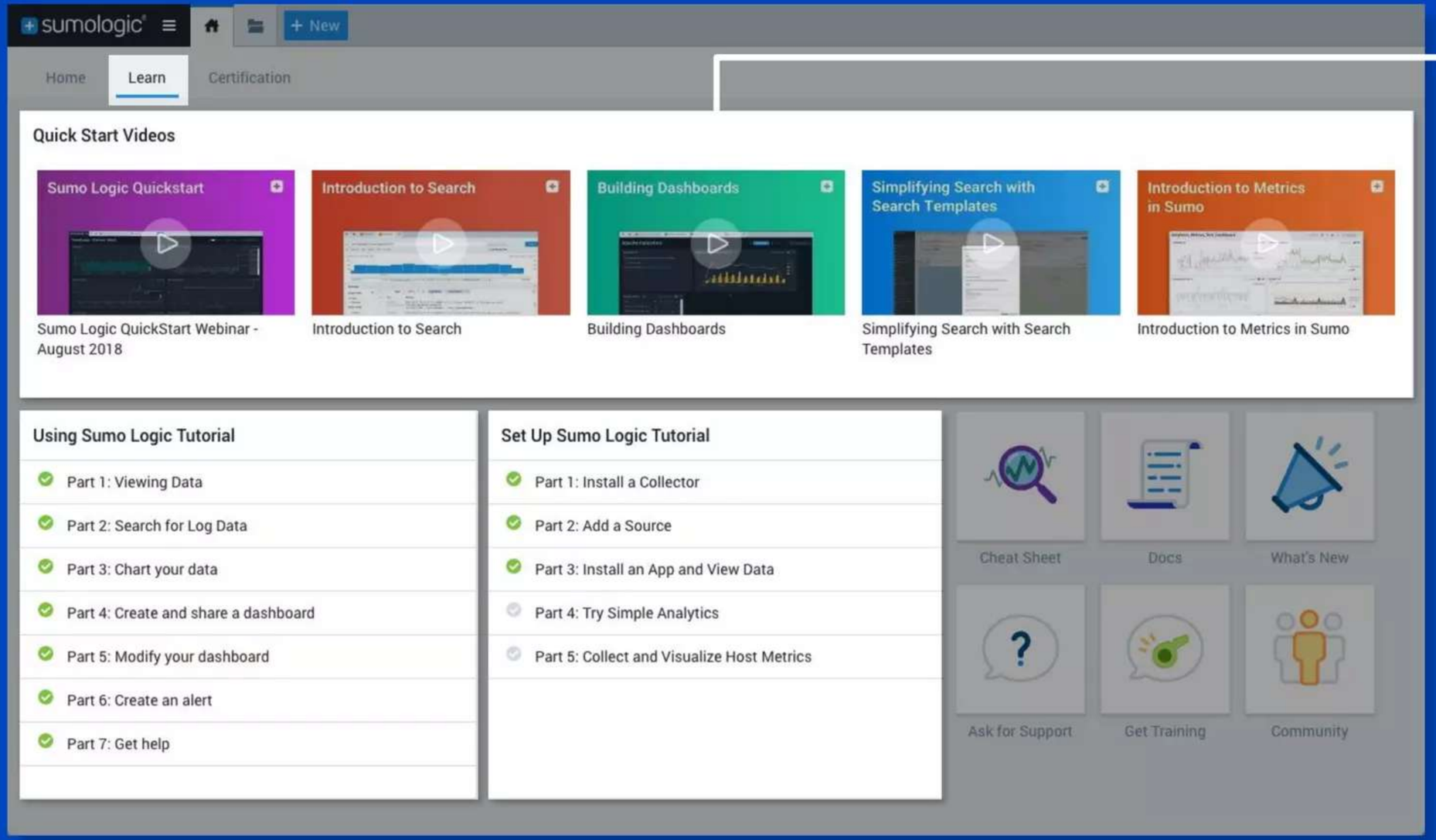
Need knowledge? ⇨ try the **Learn** tab



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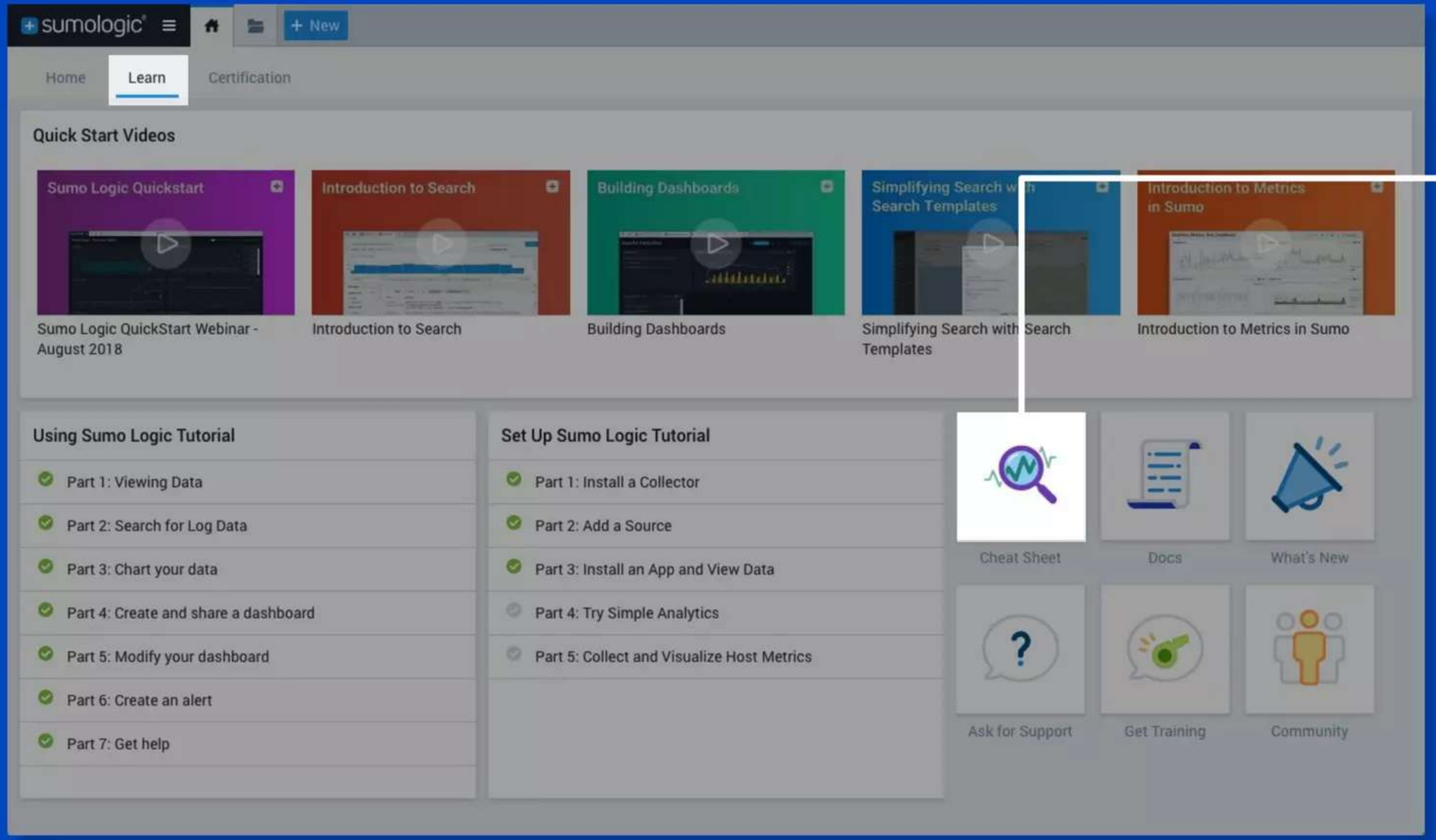

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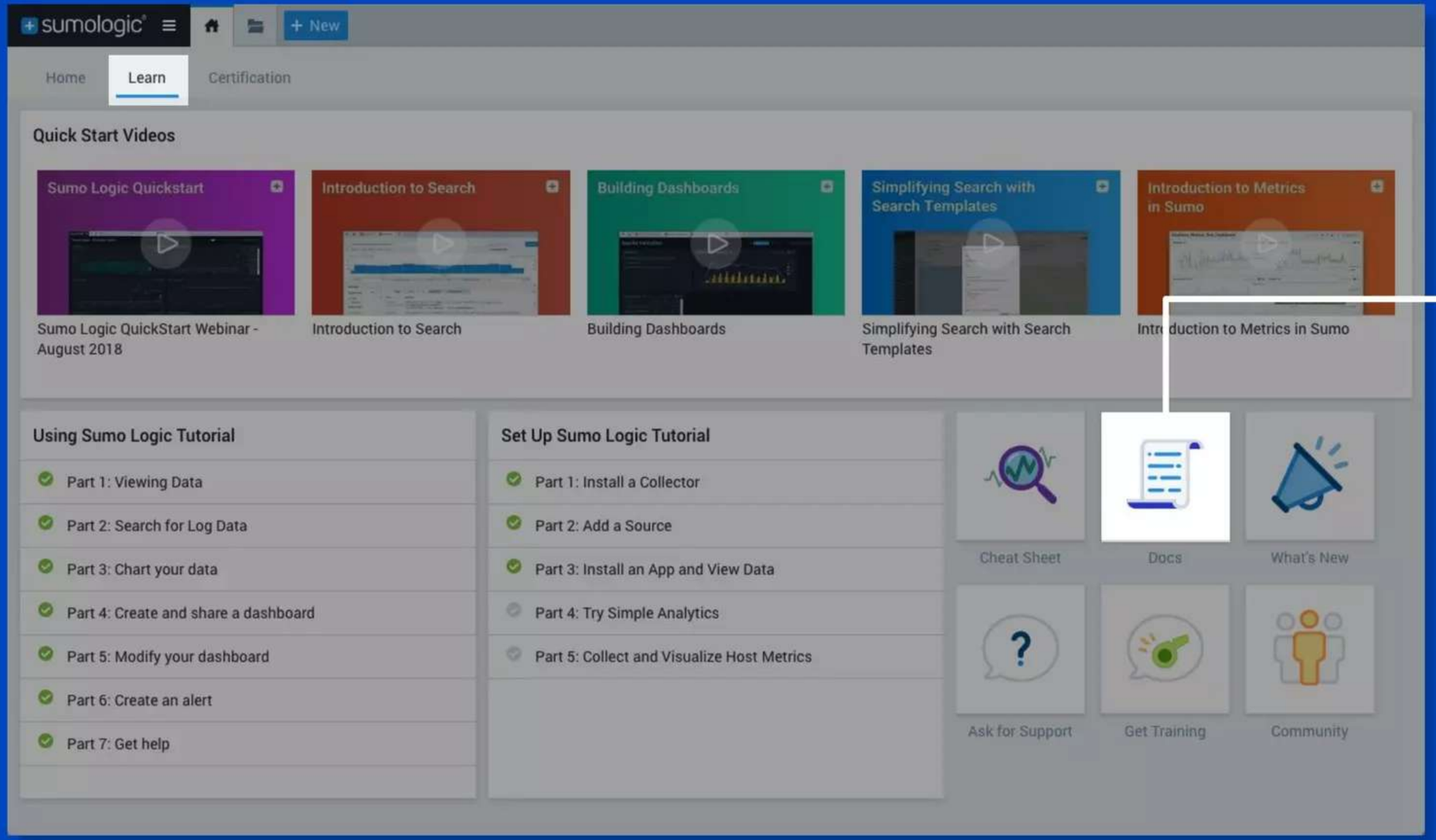

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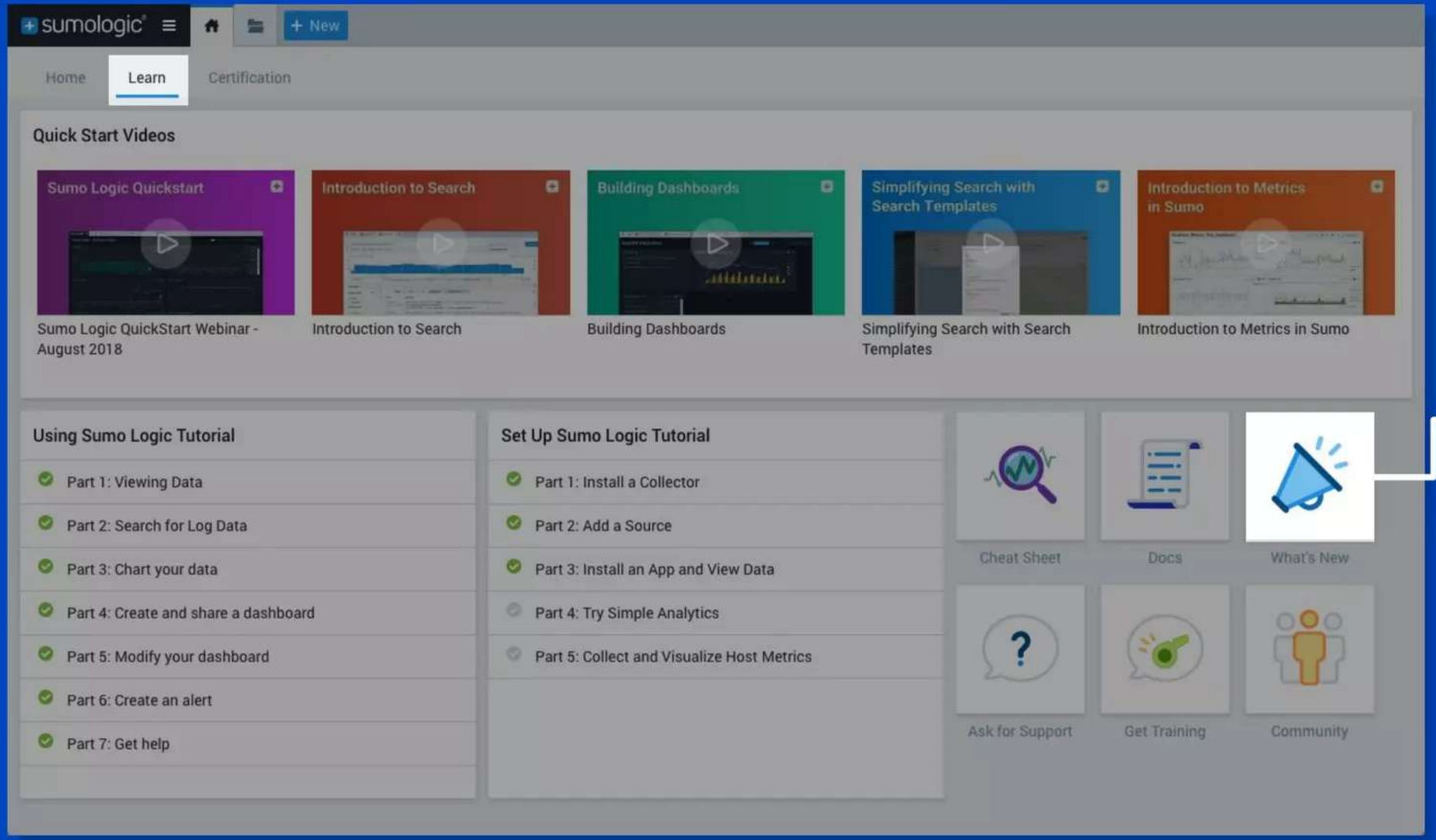

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Find out What's New

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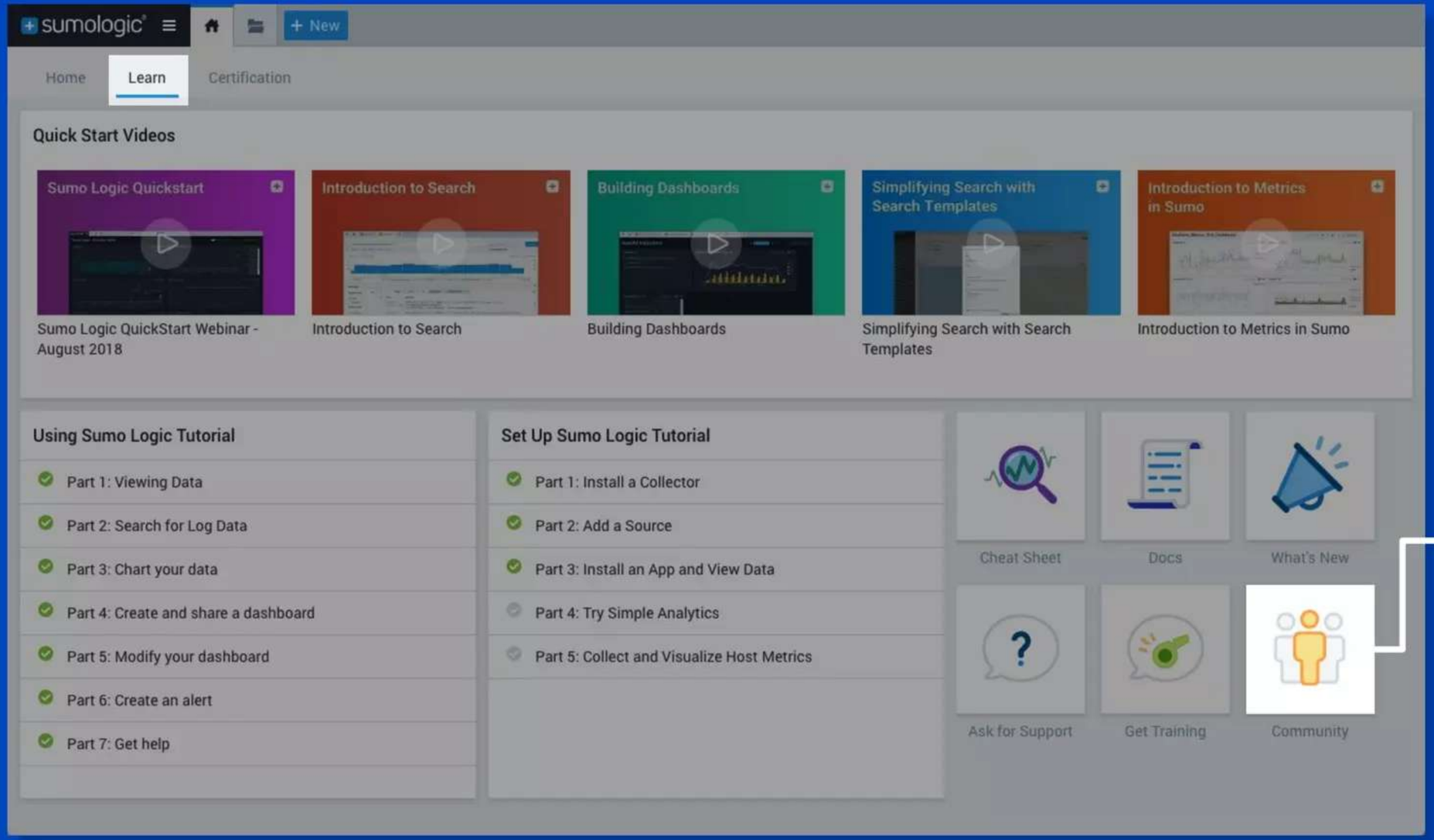

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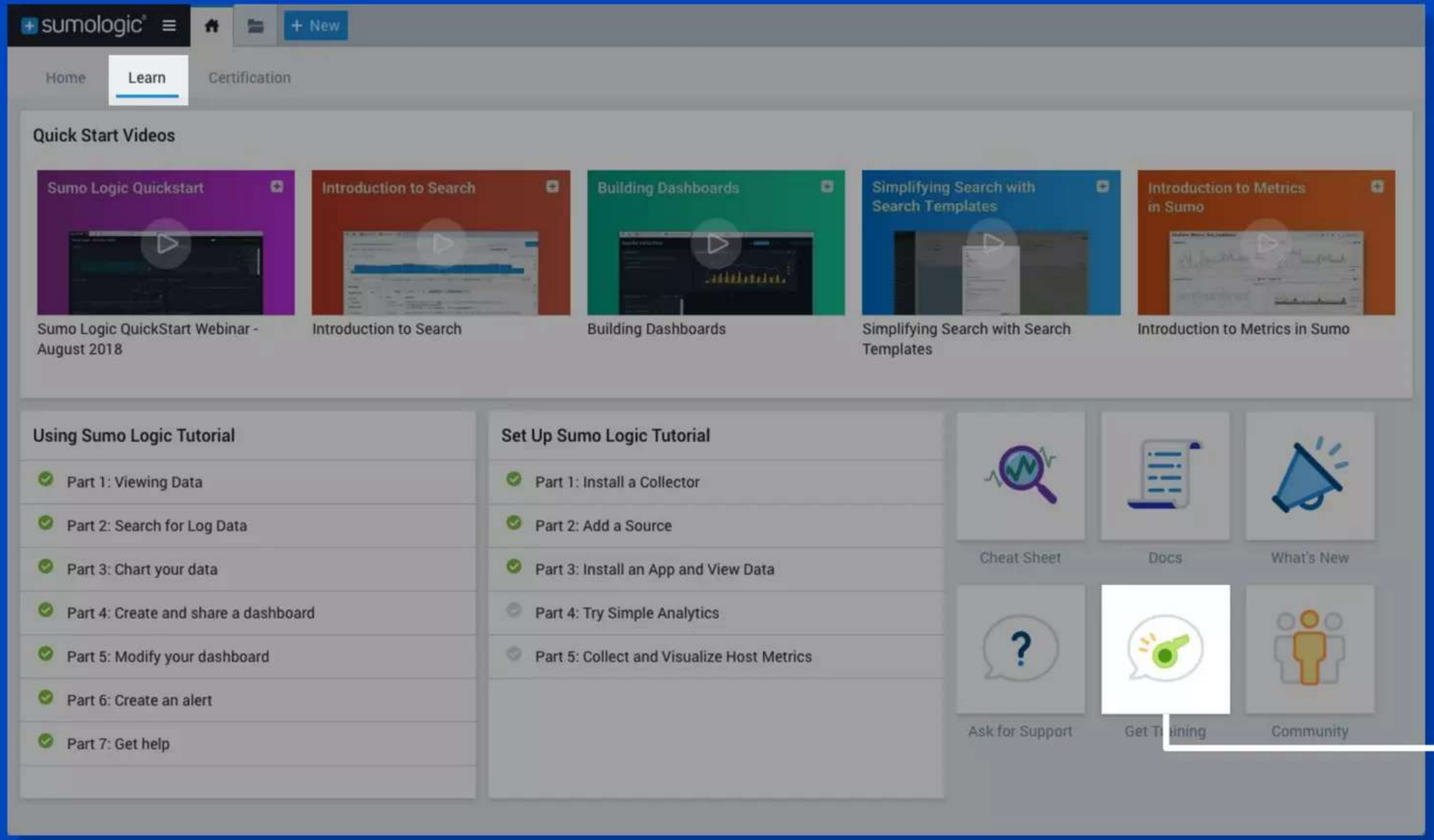

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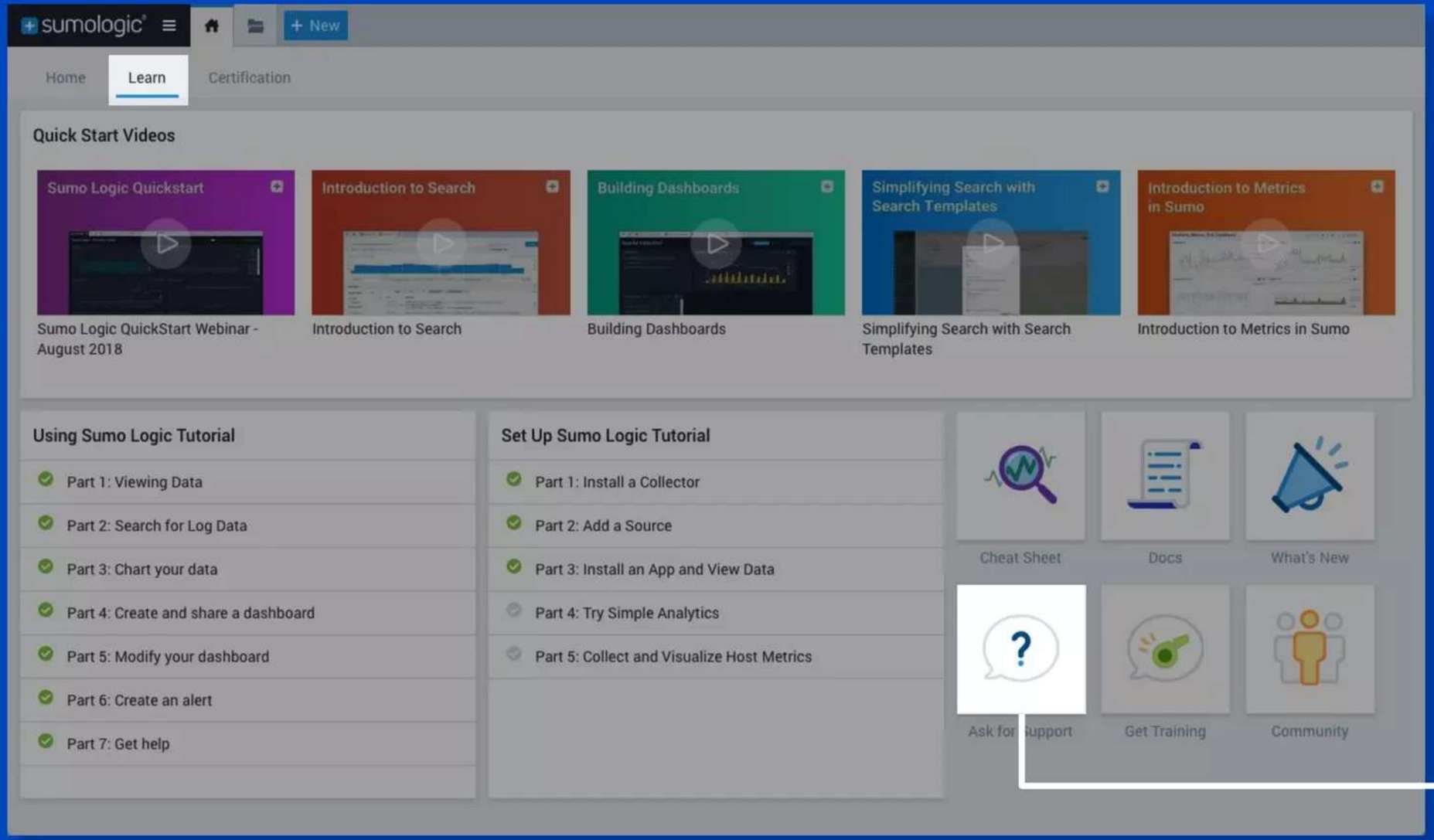

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Open a Support case

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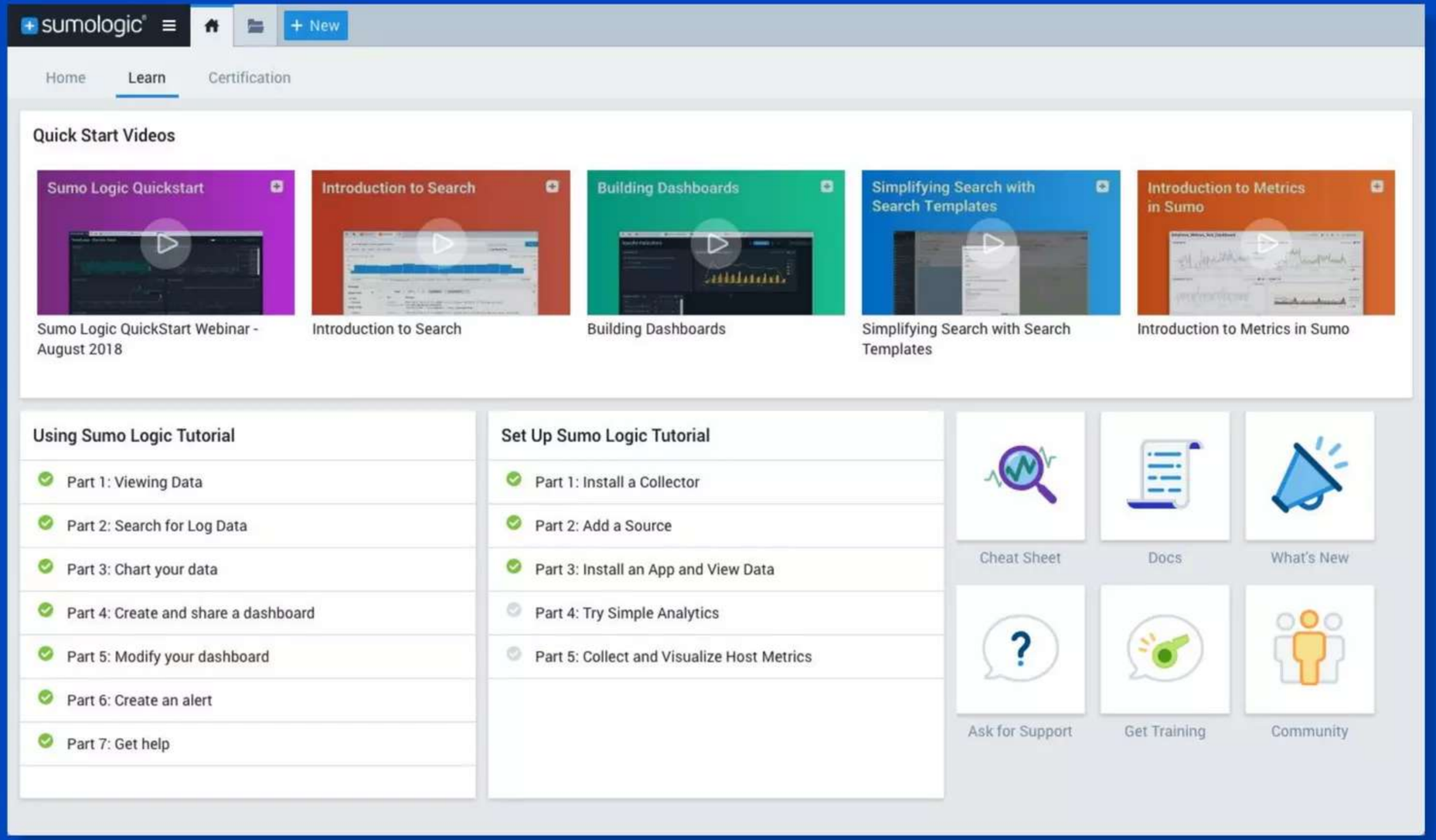

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Questions?

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https://bit.ly/2MyZ7vi

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In YOUR OWN INSTANCE, go to Certification Tab.

- Online Exam
- 30 Multiple choice questions
- 60-minute time limit
- 3 attempts

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