QuickStart Webinar

Getting Started with Sumo Logic

sumologic

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Agenda

- What is Sumo Logic?
- Key Points Regarding Data Collection
- Searching, Parsing and Analyzing Data
- Visualizing and Monitoring - Dashboards
- Introduction to Library and Apps
- Introduction to Performance Tools

What is Sumo Logic?

From Data to Decisions

The Sumo Logic Service

DEVOPS

IT INFRASTRUCTURE AND OPERATIONS

COMPLIANCE AND SECURITY

Collect and Centralize: Effortlessly collect terabytes of data from anywhere

Search and Analyze: Run searches and correlate events in real-time

Detect and Predict: Detect outliers and deviations to uncover the unknowns

Monitor and Visualize: Easily monitor and visualize your data in real-time

Alert and Notify: Proactively notifies you when specific events are identified

Securing your Data

Compliance and Certifications on top of AWS Security

- PCI/DSS 3.0 Service Provider Level 1 Certified
- AES 256-bit encryption at rest
- SSL encryption in transit
- U.S. – E.U. Safe Harbor attestation
- SOC 2, Type II attestation
- HIPAA compliant
- FIPS 140 compliant

Resource: https://www.sumologic.com/resource/white-paper/securing-the-sumo-logic-service/

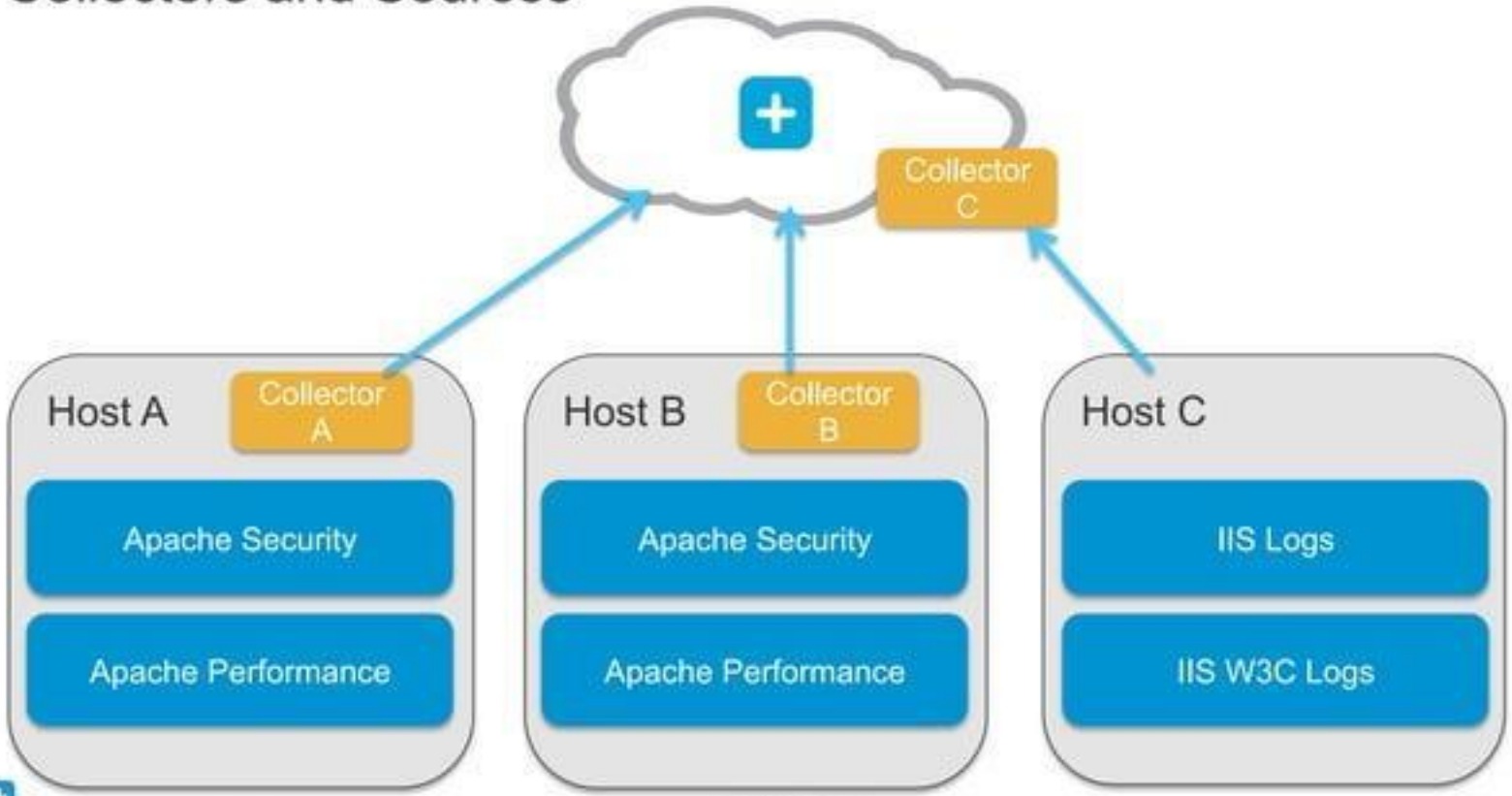
Enterprise Logs are Everywhere

High-Level Data Flow

Sumo Logic Data Flow

Data Collection

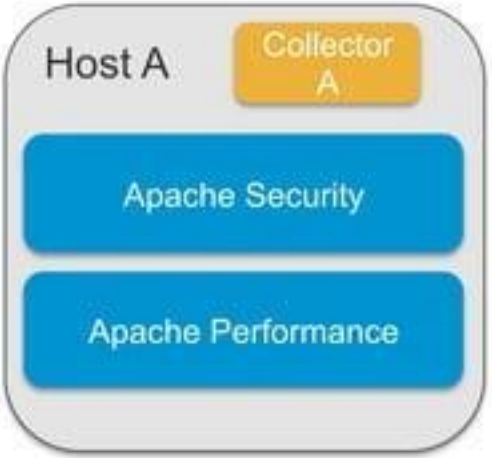
Collectors and Sources



Metadata Fields

Tags added to your messages when data is collected

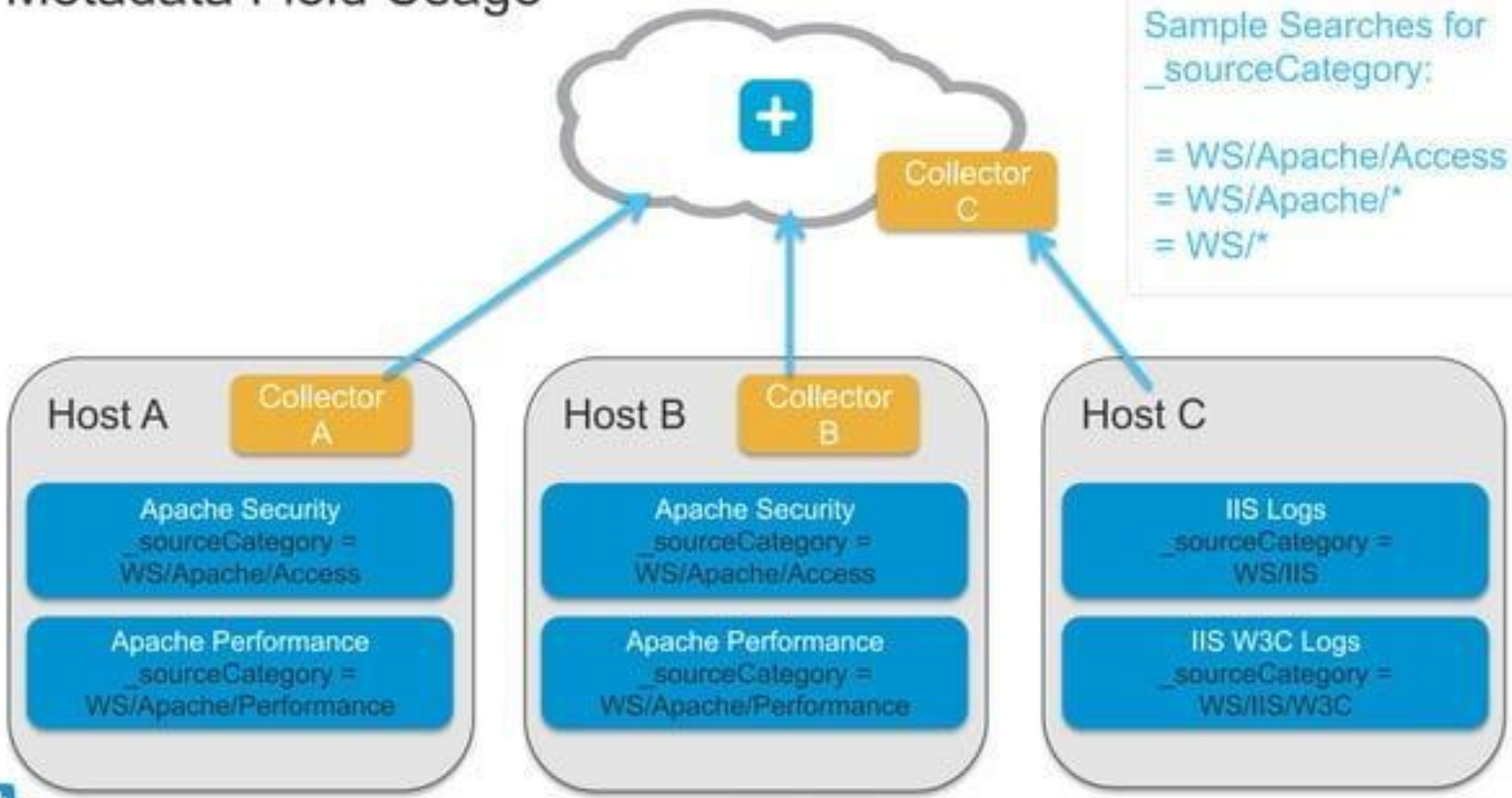
Name	Description
_collector	Name of the collector this data came from
_source	Name of the source this data came through
_sourceHost	Hostname of the server this data came from
_sourceName	Name of the log file (including path)
_sourceCategory	Category designation of source data



#	Time	Message
1	08/06/2013 18:05:55.000	169.107.162.237 - - [Wed Aug 07 01:05:55 UTC 2013] "GET /_css/master.133435683 "SAMSUNG-C5212/C5212XDIK1 NetFront/3.4 Profile/MIDP-2.0 Configuration/CLDC-1.1

Host: apache ▾ Name: /var/sumolabs/log/web51_access.log ▾ Category: Apache/Access ▾

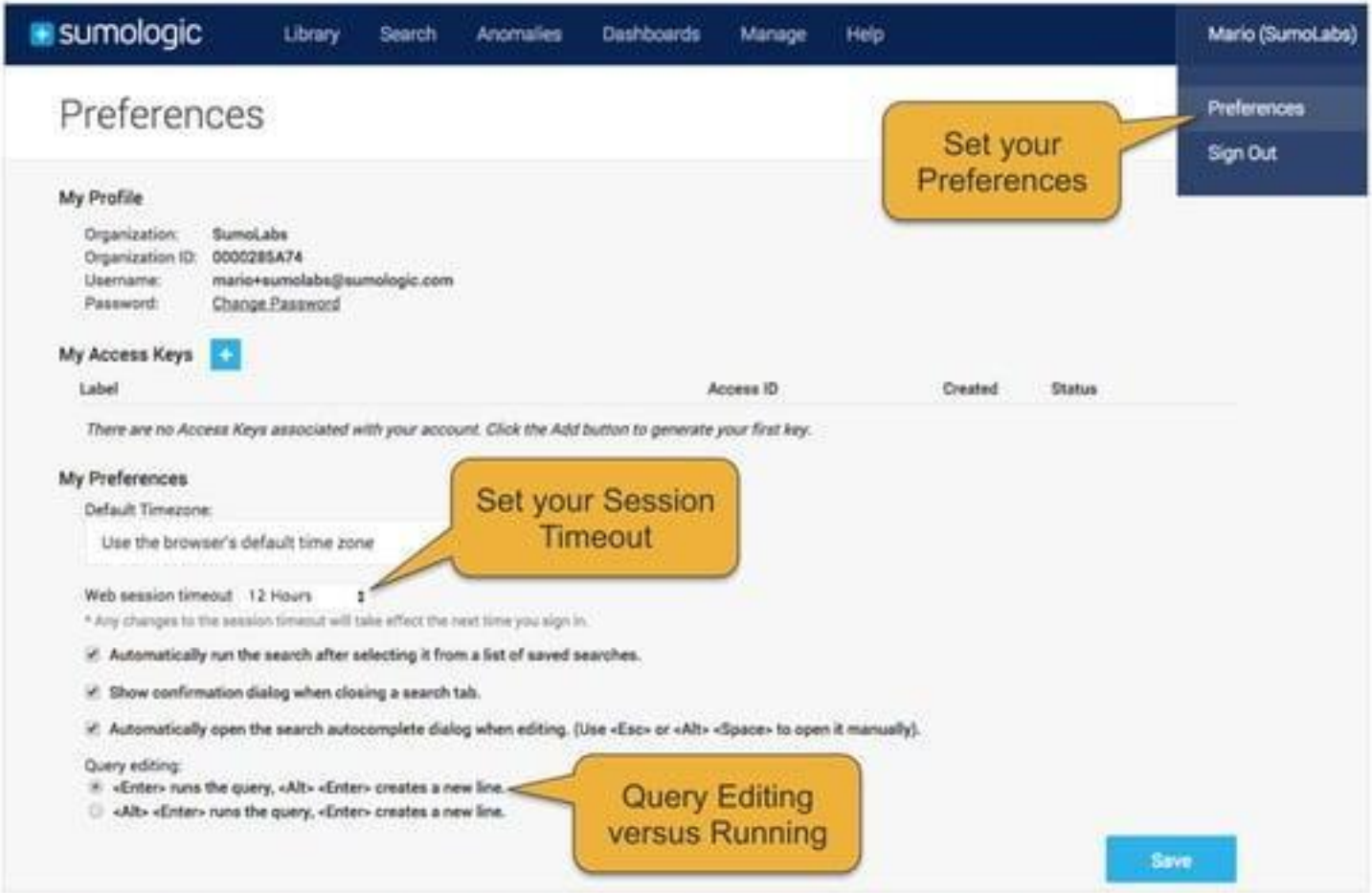
Metadata Field Usage



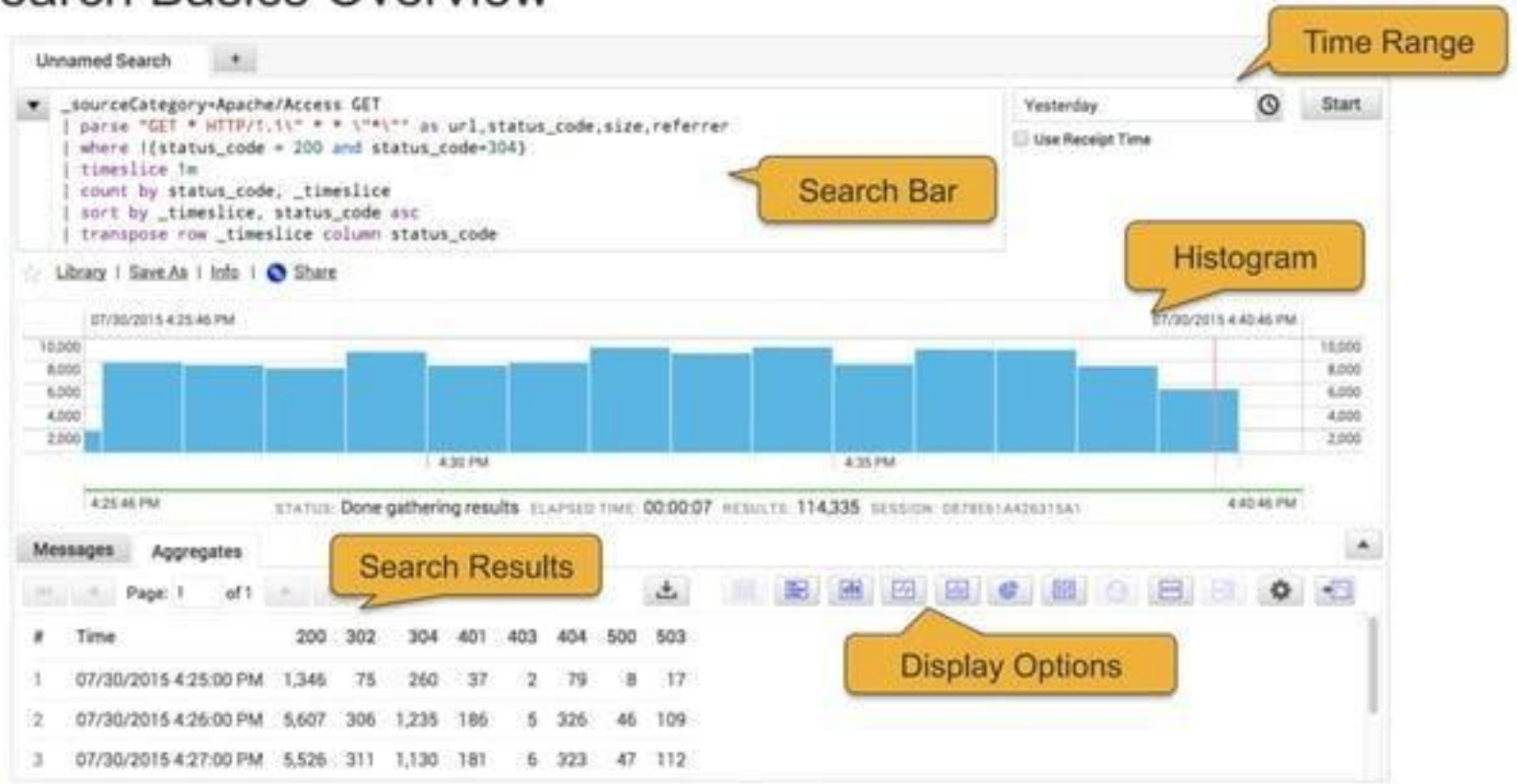
Source Category Naming Convention

- Simplifies Search Syntax and Scope Definitions
- Used for other Sumo Logic features
  - Role-Based Access Control (Data Provisioning)
  - Partitioning (Search Optimization Tool)
- Adopt a Robust Naming Convention Early
  - Ex: Prod/Sumo/Apache/Access → Env/Customer/Device/MessageType
  - Ex: OS/Windows/2012/Messages → Device/Vendor/Version/MessageType
  - Blog Post: Good SourceCategory, Bad SourceCategory

Search and Analyze


sumologic
Library
Search
Anomalies
Dashboards
Manage
Help
Mario (SumoLabs)
Preferences
Sign Out
Preferences
Set your Preferences
My Profile
Organization: SumoLabs
Organization ID: 0000285A74
Username: mario+sumolabs@sumologic.com
Password: Change Password
My Access Keys
Label
Access ID
Created
Status
There are no Access Keys associated with your account. Click the Add button to generate your first key.
My Preferences
Default Timezone:
Use the browser's default time zone
Set your Session Timeout
Web session timeout 12 Hours
* Any changes to the session timeout will take effect the next time you sign in.
Automatically run the search after selecting it from a list of saved searches.
Show confirmation dialog when closing a search tab.
Automatically open the search autocomplete dialog when editing. (Use <Esc> or <Alt> <Space> to open it manually).
Query editing:
<Enter> runs the query, <Alt> <Enter> creates a new line.
<Alt> <Enter> runs the query, <Enter> creates a new line.
Query Editing versus Running
Save

Search Basics Overview



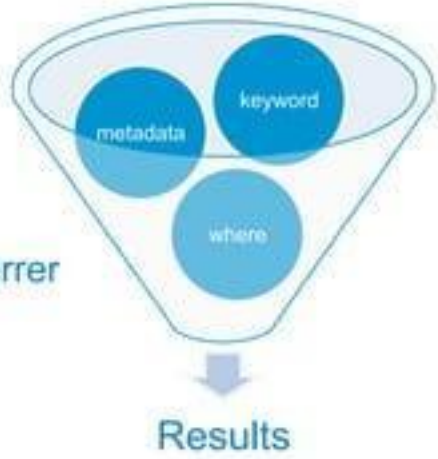
Search Syntax Flow

Enter keywords and operators (separated by |) that build on top of each other

Syntax:
keyword | parse | where | group by | sort | limit

Example:

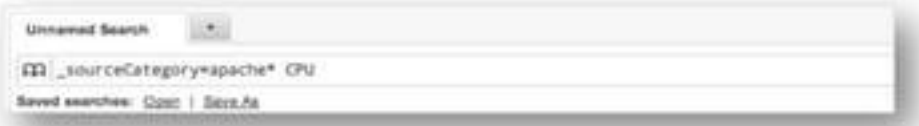
```
_sourceCategory=Apache/Access and GET
| parse "GET * HTTP/1.1\" * * \"*\"" as url, status_code, size, referrer
| where !(status_code = 200 and status_code=304)
| count by status_code
| sort by status_code asc
```

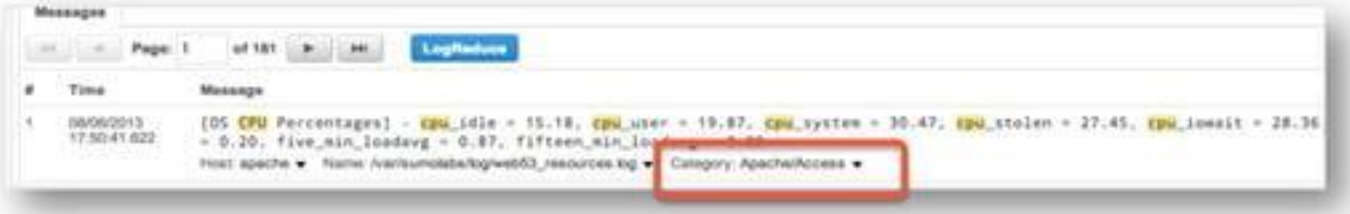


Keyword Expression

Full-text search expressions enable you to search for multiple terms and logical expressions

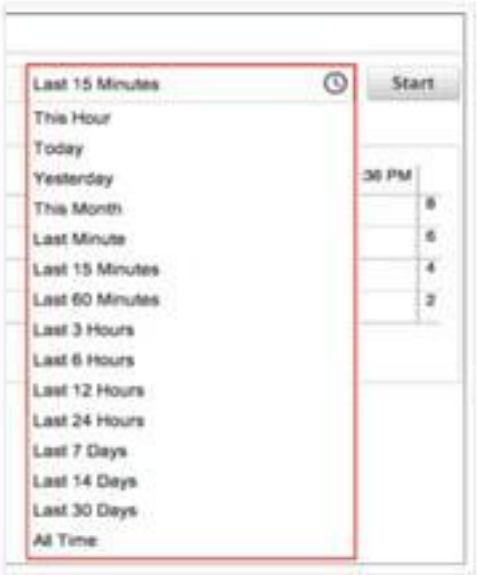
- Case insensitive
- Wildcard support
- Metadata field
- Boolean logic
  - Complete (AND/OR)
  - Implicit AND





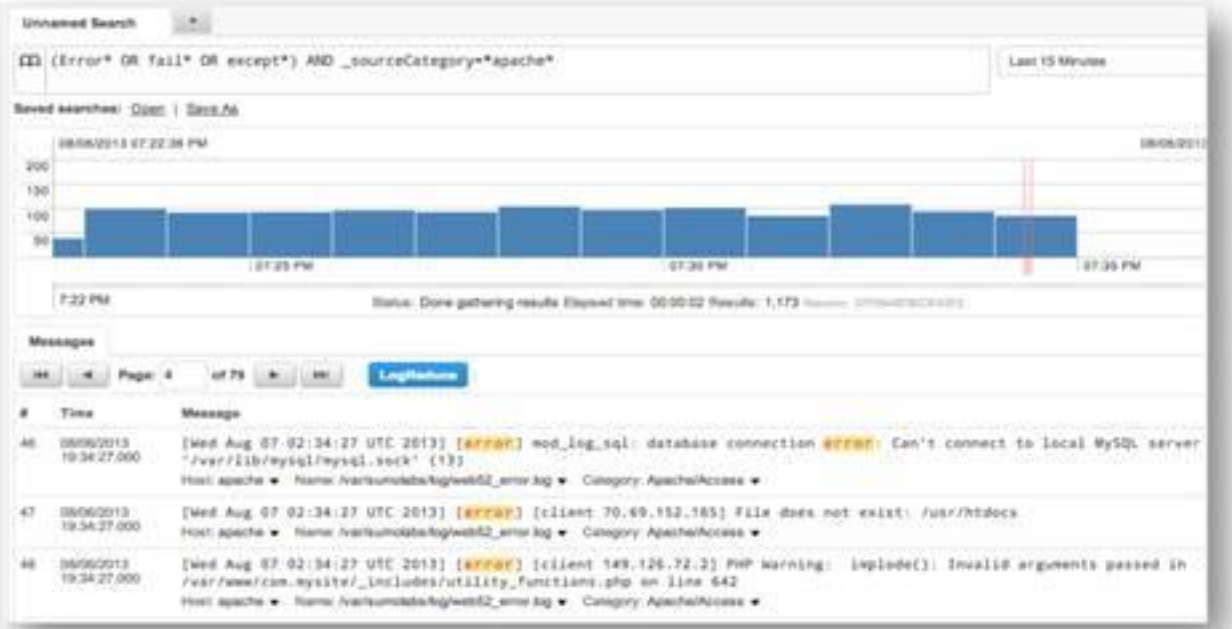
Time Range

- The data available to your search request is determined by the selected time range.
  - Pre-populated
    - Last 15 min, Last 3 Hrs, Today
  - Absolute
    - 12:25 12:30
    - 8/11 12:00 8/11 13:00
  - Relative
    - -5m
    - -2h
    - -2h -1h



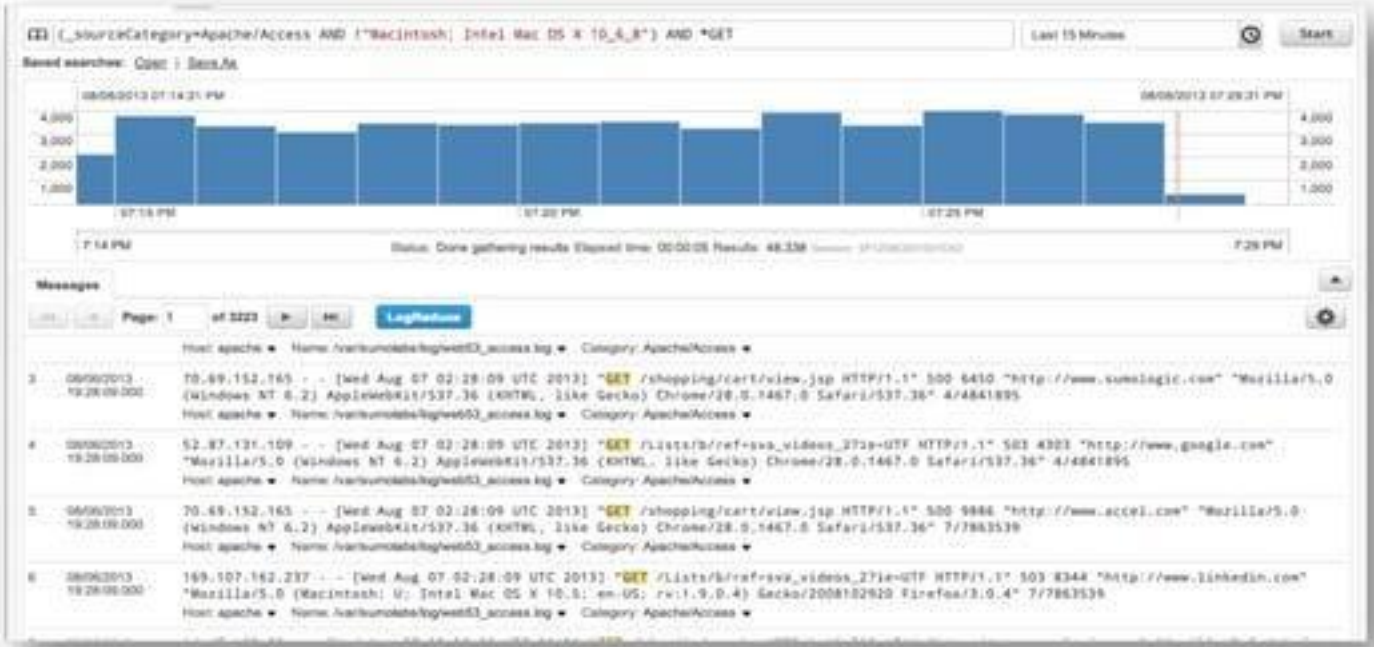
Syntax Example 1: Boolean logic, wildcards and metadata

(Error* OR fail* OR except*) AND _sourceCategory=*apache*

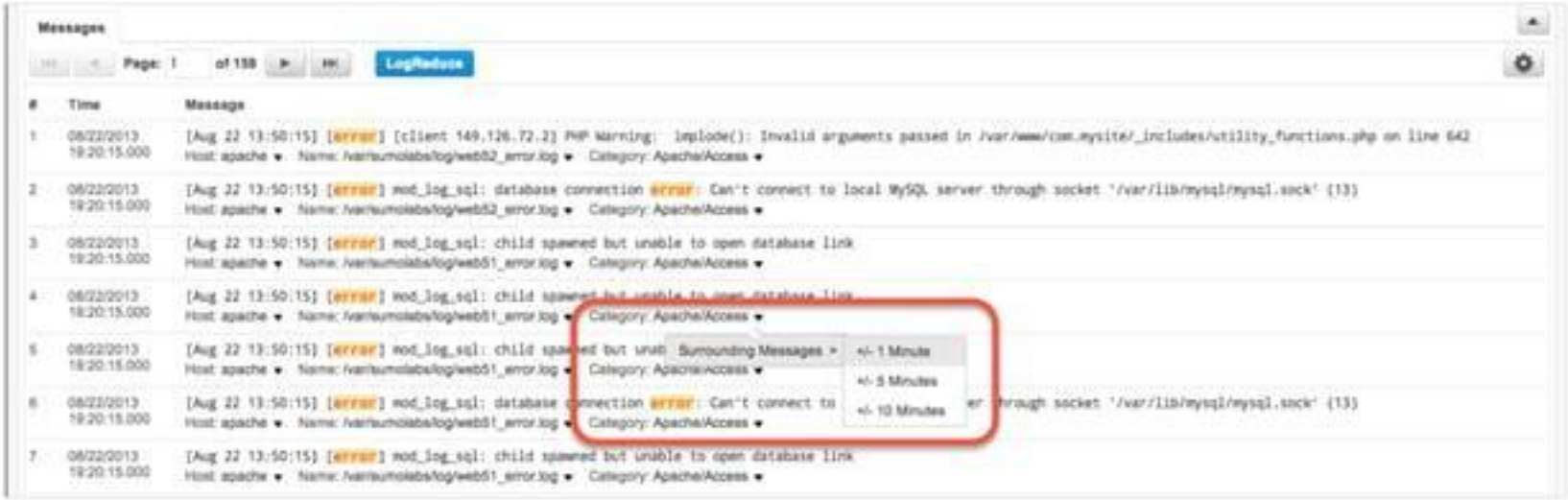


Syntax Example 2: Exact String Matching

(_sourceCategory=Apache/Access AND !"Macintosh; Intel Mac OS X 10_6_8") AND *GET



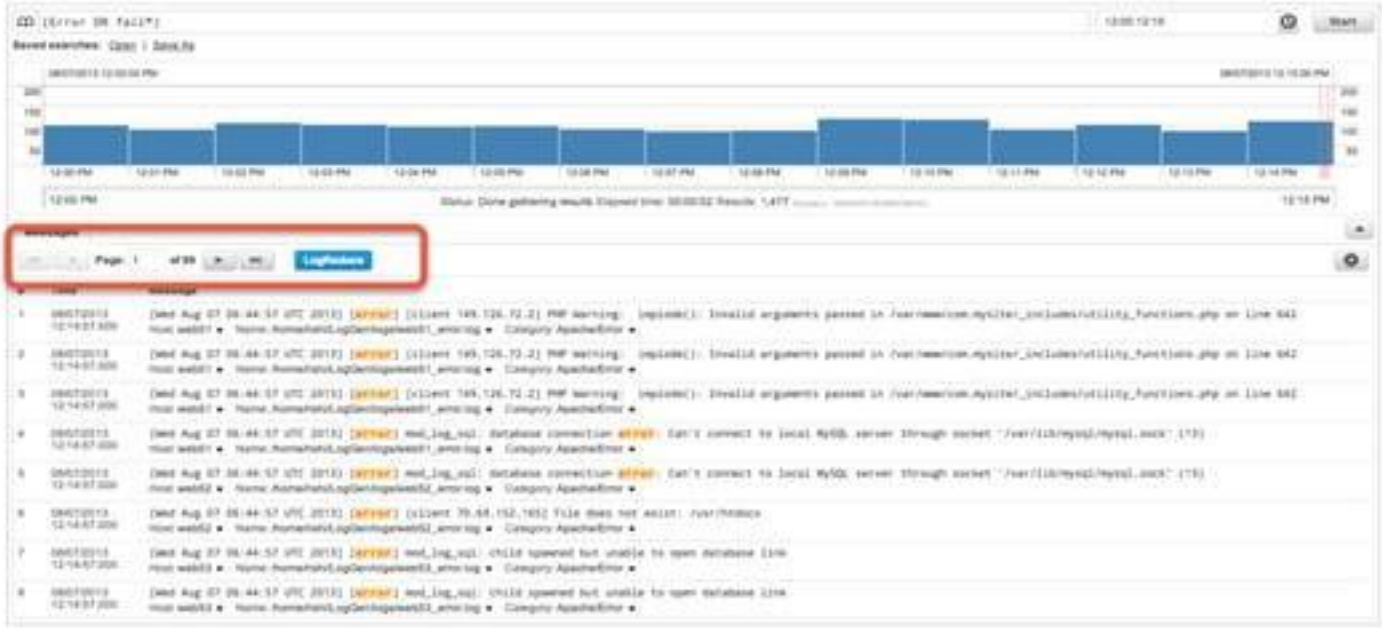
Refining Results by Surrounding Messages



Looking for the Unknown

- LogReduce uses fuzzy logic and soft matching to cluster messages providing quick investigation view into your environment.

  (Error OR fail*) | summarize



Looking for the Unknown

- LogReduce uses fuzzy logic and soft matching to cluster messages providing quick investigation view into your environment.

  (Error OR fail*) | summarize

- Influencing the outcome

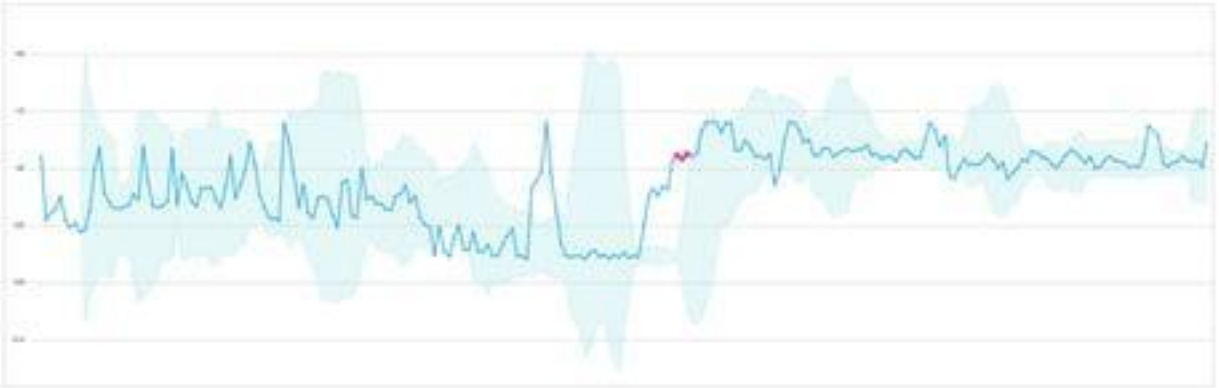
Icon	Action
	Promote a signature to the top position of the **Summarize** tab.
	Demote a signature to move it to the bottom of the last page of the **Summarize** tab.
	Split a signature into multiple signature.
	Edit a signature.
	Undo the last action or step back through the history of changes.
	Redo the last action. Repeat to redo the history of undos.

Sumo Logic Confidential

Finding Outliers

- Identify unexpectedly high or low values …

```
|timeslice 1m
|count by _timeslice
|outlier _count
```



Finding Outliers (continued)

- Timeslices are required
- Adjustable variables allow you to get the right sensitivity
  - Threshold
    - Number of rolling stddev above/below the moving average
    - Default: 3
  - Consecutive
    - Number of consecutive points above/below the threshold to trigger
    - Default: 1
  - Direction
    - Detect high values, low values or both
    - Default: Both
  - Window
    - Number of trailing timeslices used to calculate
    - Default: 10

Extracting Additional Labels/Fields

- Parsing enables a user to extract parts of a message and classify them as fields.
  - A specific key/value you want to extract
  - Enables you to perform additional operations
    - Logical/conditional – based on values
    - Mathematical – operations on value sets

- Ways of defining fields
  - Parse anchor: leverages start and stop anchors
  - Parse regex: extracts nested information via regexField extraction

Parse Anchor Using the UI

- Single field example

The count operator

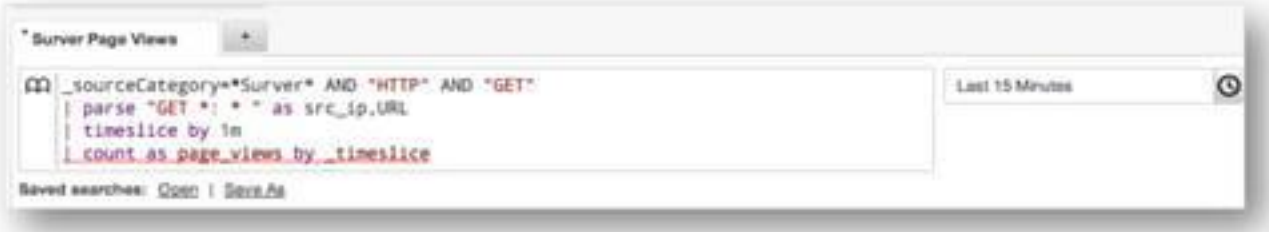
- The count Operator enables you to group messages that match a classification
  - No Group: provides a total message count
    - Ex: * | count
    - Ex: : * | count as mycount

Leveraging Metadata for grouping

- Dissecting your result sets using metadata fields
  - Ability to aggregate results sets and grouping them by metadata fields
    - EX: _collector=*apache* | count by _sourceCategory
  - Get a count of grouped result sets
    - Ex: (Error OR fail*)| count by _sourcecategory , _sourcehost
  - Organize Results by Count
    - Ex: _collector=*apache*| count by _sourceCategory | sort by _count

Time-based Grouping

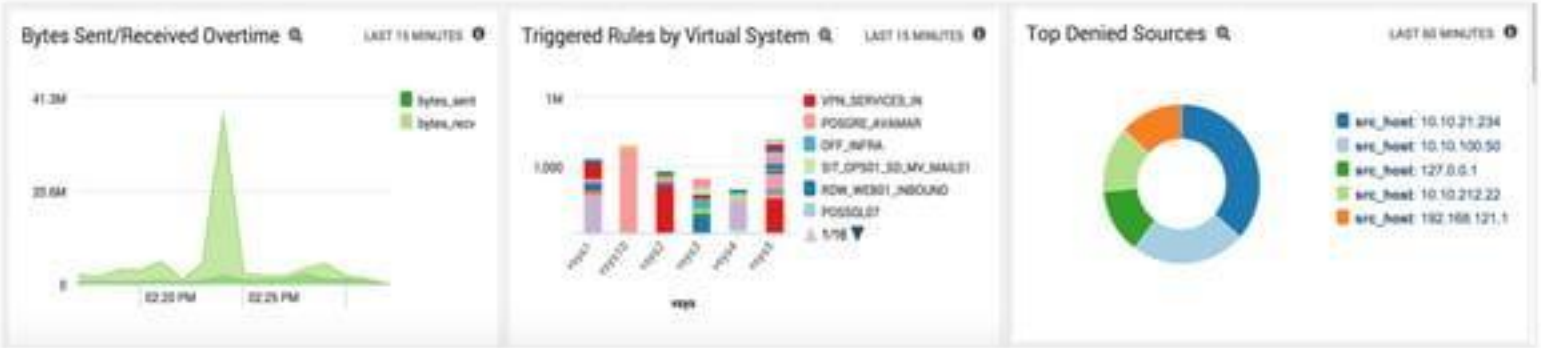
- Timeslice operator enables you to segment your results by time buckets
  - Minute (timeslice by 5m)
  - Hour (timeslice by 1h)
  - Day (timeslice by 1d)



Visualize and Monitor

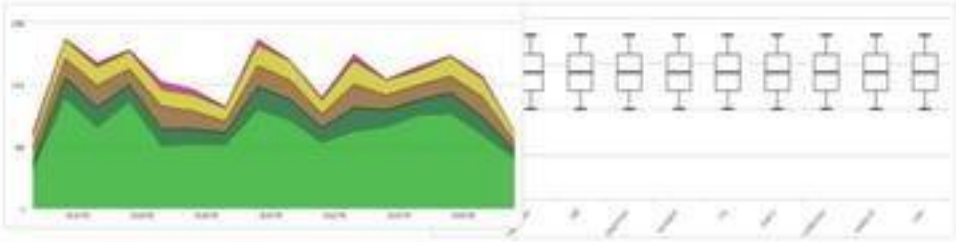
Introduction to Dashboards

- Collection of Monitors that provide graphical representation of data
  - Each Monitor processes results of a search for display
  - Drilldown for additional analysis
    - Drill to another dashboard
    - Drill into the query behind the dashboard

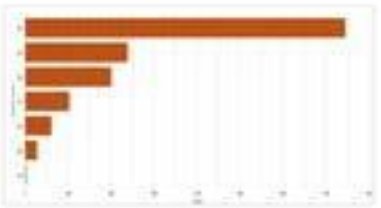


Providing Context through Visualization

- Chart Types
  - Table
  - Bar
  - Column
  - Line
  - Area
  - Pie
  - Box Plot
  - Google Maps
  - Single Value



#	type	_count
1	mobile	12,941
2	PC	21,387
3	Mac	21,354
4	unknown	10,418



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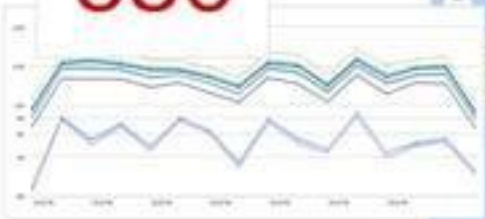
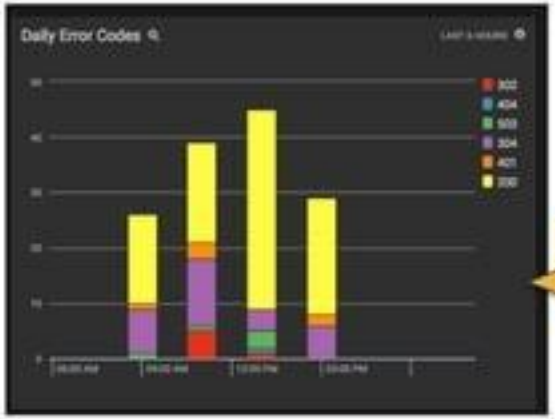


Dashboard Types

- Live Dashboards
  - Provides a live stream of data
  - No back filling of data



No Interaction

- Interactive Dashboards
  - Search based (On-Demand)
  - Backfilling of data
  - Support Filtering

Ability to use Pre-defined filters

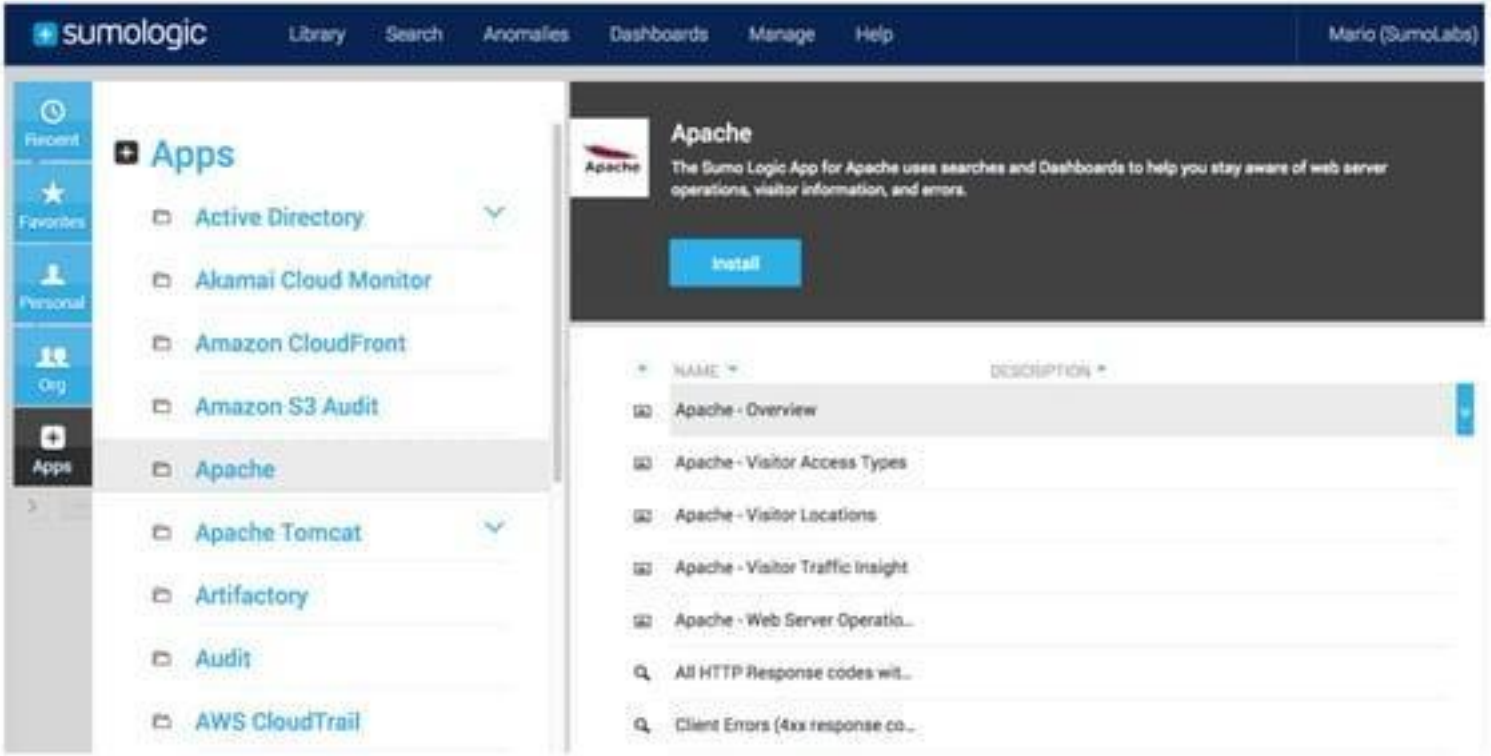
Live Dashboards versus Interactive Dashboards

Use Case	Examples	Dashboard Type
Large Screen Displays with Streaming Updates	• Shared Screens for NOC, Operations, Developers, etc.	**Live Dashboards** (Streaming/CQ)
Template for **Exploring Data**	• Sumo Logic Sales Dashboards • Operational Investigations	**Interactive Dashboards**
Historical Reporting and Investigation	• Search Usage • Customer Usage • Audits	**Interactive Dashboards**

Dashboards - Adding a Panel

Jumpstart with Apps

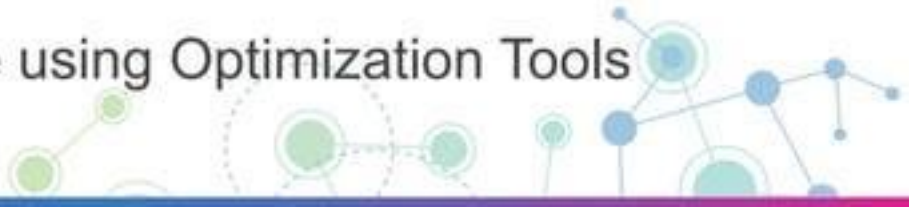
Installing Applications



Managing Performance

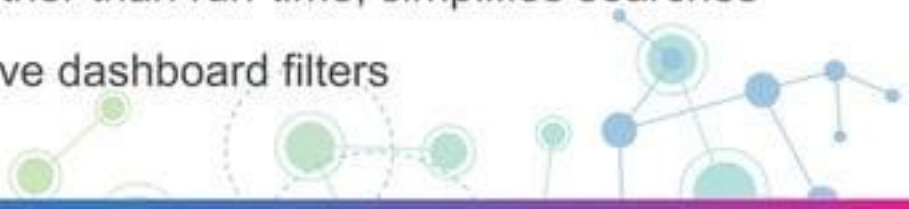
Factors in Search Performance

- Query Structure
  - Time range
  - Data Selectivity (keywords, metadata, where statements)
  - Heavy Operations (join, transaction, summarize)
- Overall Data Volume
- System load
- Improve search experience using Optimization Tools



Search Optimization Tools

- Partitions
  - Separate index for searching over a smaller data set
- Scheduled Views
  - Pre-aggregating data for fast counts/sums over longer time ranges
- Field Extraction Rules
  - Parse the data on ingest rather than run-time; simplifies searches
  - Take advantage of interactive dashboard filters



Questions?

Additional Resources

- Search Online Documentation
- Search/Post to Community Forums
  - Search, post, respond
  - Submit/vote for feature requests
  - Submit Tips & Tricks
- Open a Support Case
- Sumo Logic Services
  - Customer Success, Professional Services, Training

Helpful Links

Support Portal, Documentation, Community Forums, Feature Requests

https://support.sumologic.com/home (Help -> Support from SL Service)

Resources (Whitepapers, videos, screencasts)

https://www.sumologic.com/resource/

Blog Posts

https://www.sumologic.com/blog/

Services

customer-success@sumologic.com

Feature Spotlight Series:
How TuneIn uses Outlier Detection and Predictive Analytics

Sep 22, 2015, 10am Pacific

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“How To” Webinars:
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Thank you!