DEVSECOPS BOOTCAMP

BUILDING RUGGED SOFTWARE

YEAR ONE / WEEK FOUR/ LESSON ONE

Agenda

- Splunk Basics
  - Why Splunk?
  - What is an index
  - Data classification
- Splunk commands

Splunk Basics

- Why Splunk?
  - De facto log aggregation and analysis tools
  - Enables us to
    - monitor for security threats across disparate environment
    - analyze and identify anomalous behavior
    - automate initiation of incident response procedures
    - build metrics to visualize our resource
    - Correlate data streams to discover meaningful security events

Splunk Basics

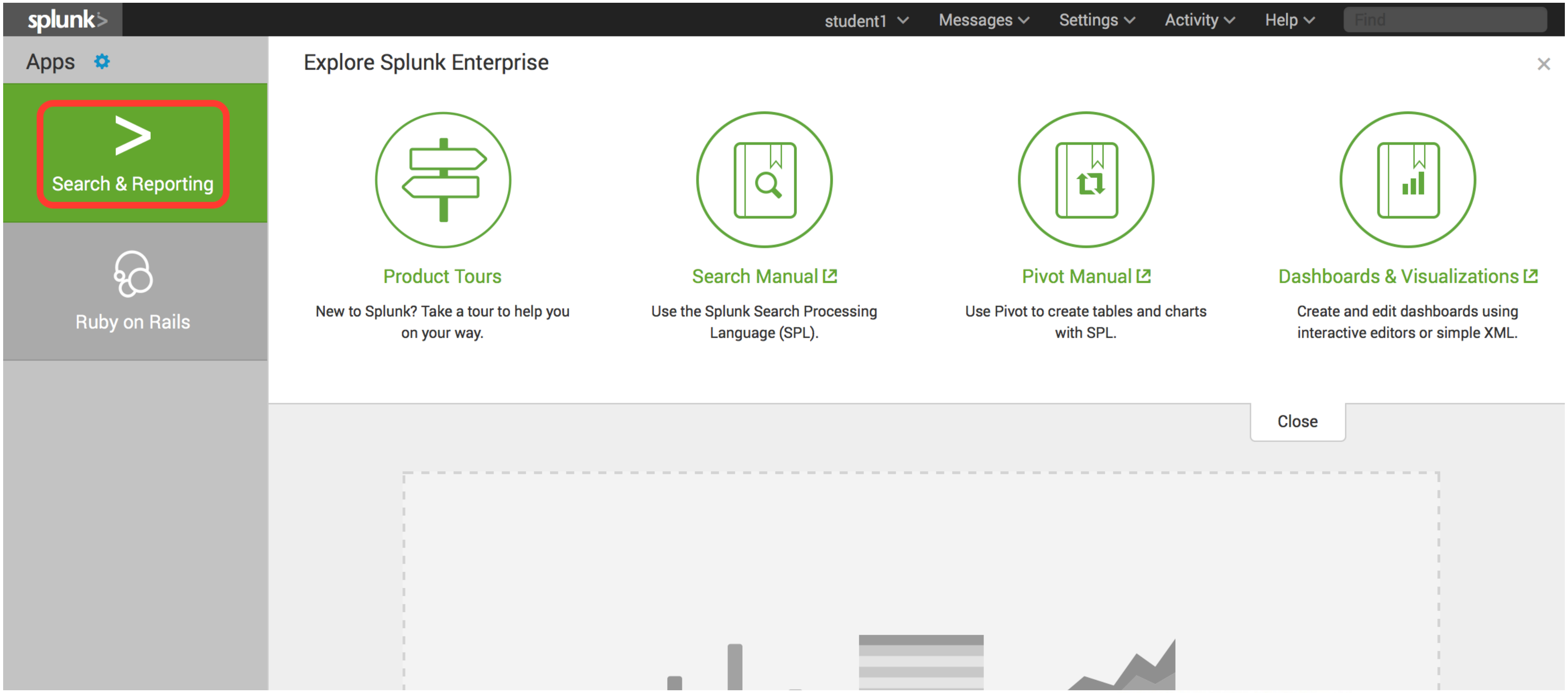
- What is an Index?
    - A bucket of data, commonly logs
    - Default index is main, e.g., `index=main`

- What can you do with an index?
    - Separate and query data type or classification
    - Access controls to data
    - Retention policy, by time or size
    - Performance tuning, sharding

Splunk Basics

- Data classification
  - Index – data bucket
  - Source – where the data came from, e.g., `/var/log/messages`
  - Sourcetype – the data type, often auto detected by Splunk
    - Splunk will attempt to automatically detect the source type based on predefined patterns

Splunk Basics



Explore Splunk Enterprise

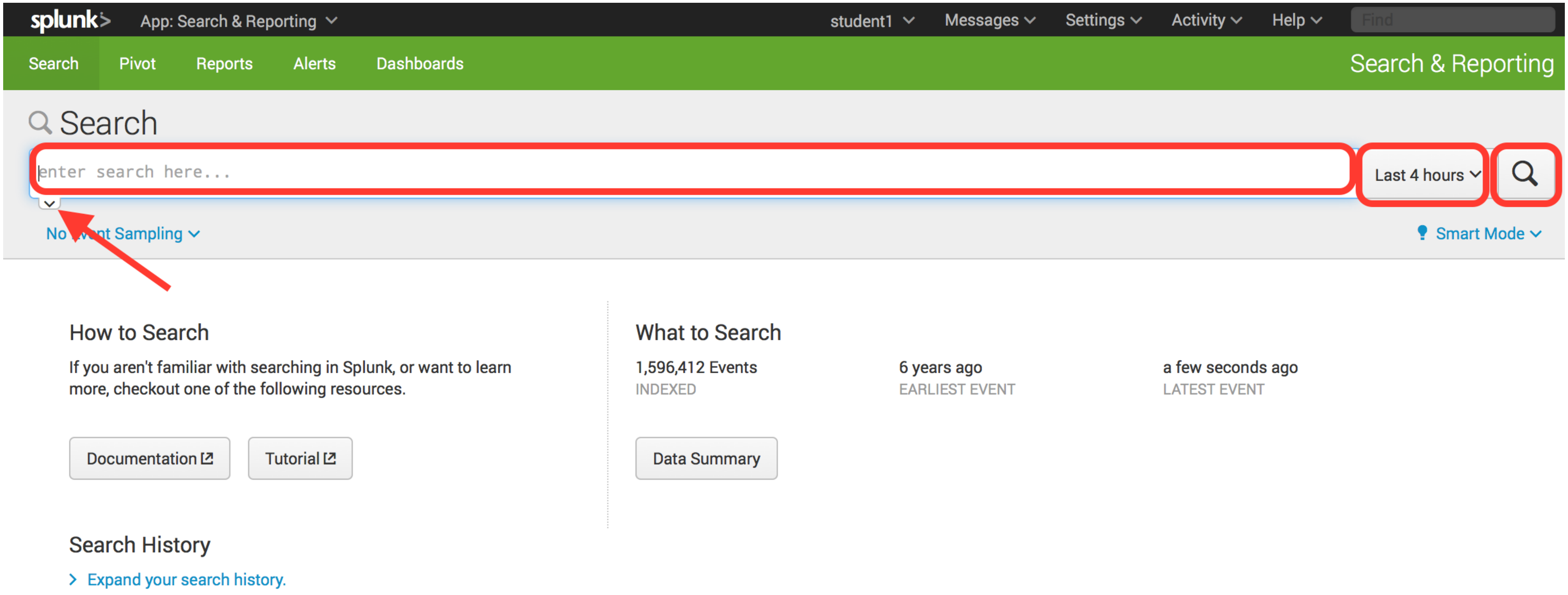
Product Tours
New to Splunk? Take a tour to help you on your way.

Search Manual
Use the Splunk Search Processing Language (SPL).

Pivot Manual
Use Pivot to create tables and charts with SPL.

Dashboards & Visualizations
Create and edit dashboards using interactive editors or simple XML.

Splunk Basics



How to Search

If you aren't familiar with searching in Splunk, or want to learn more, checkout one of the following resources.

What to Search

1,596,412 Events INDEXED

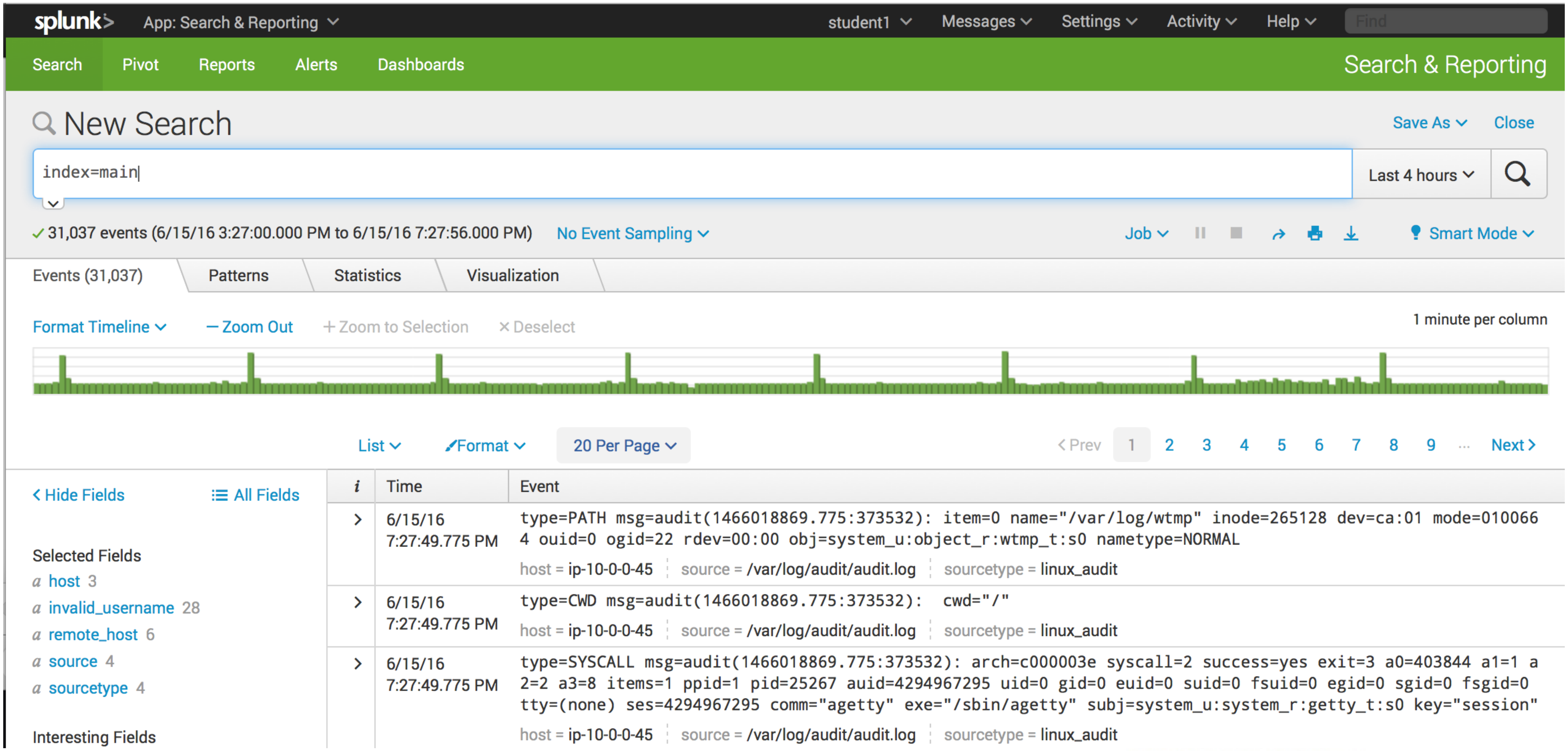
6 years ago EARLIEST EVENT

a few seconds ago LATEST EVENT

Search History

Expand your search history.

Splunk Basics



New Search

```
index=main
```

✓ 31,037 events (6/15/16 3:27:00.000 PM to 6/15/16 7:27:56.000 PM)

Selected Fields

- a host 3
- a invalid_username 28
- a remote_host 6
- a source 4
- a sourcetype 4

Interesting Fields

Time	Event

6/15/16 7:27:49.775 PM	`type=PATH msg=audit(1466018869.775:373532): item=0 name="/var/log/wtmp" inode=265128 dev=ca:01 mode=0100664 ouid=0 ogid=22 rdev=00:00 obj=system_u:object_r:wtmp_t:s0 nametype=NORMAL`
	host = ip-10-0-0-45 source = /var/log/audit/audit.log sourcetype = linux_audit

6/15/16 7:27:49.775 PM	`type=CWD msg=audit(1466018869.775:373532):  cwd="/"`
	host = ip-10-0-0-45 source = /var/log/audit/audit.log sourcetype = linux_audit

6/15/16 7:27:49.775 PM	`type=SYSCALL msg=audit(1466018869.775:373532): arch=c000003e syscall=2 success=yes exit=3 a0=403844 a1=1 a2=2 a3=8 items=1 ppid=1 pid=25267 auid=4294967295 uid=0 gid=0 euid=0 suid=0 fsuid=0 egid=0 sgid=0 fsgid=0 tty=(none) ses=4294967295 comm="agetty" exe="/sbin/agetty" subj=system_u:system_r:getty_t:s0 key="session"`
	host = ip-10-0-0-45 source = /var/log/audit/audit.log sourcetype = linux_audit

Splunk Commands

- Splunk Search
  - Retrieves events from indexes
  - Filters results of a previous search
  - Uses Search Processing Language
  - Implicit command when a search is performed or can be used further filter search results, e.g., `index=main sourcetype=linux_secure| search field=value`

Splunk Commands

- Field Extraction
  - Key value pairs extracted by Splunk or by custom field extraction
  - Used by splunk to
  - Commands used to perform field extraction: rex, rename, stats, etc.

Questions?

Lab 1

- If you weren’t here last week team up with someone who was or quickly do week 3 lab 2 (get AWS credentials from Instructor)

- If you were here last week:
  - Login into AWS, start your instance and note your public IP address (it may have changed)
  - SSH into your instance cd into railsgoat directory and run
    - export RAILS_ENV=mysql
    - bundle exec rake db:setup