# splunk>

# Intro to Splunk

This eLearning course teaches students how to use Splunk to create reports and dashboards and explore events using Splunk's Search Processing Language. Students will learn the basics of Splunk's architecture, user roles, and how to navigate the Splunk Web interface to create robust searches, reports, visualizations, and dashboards..

# **Course Topics**

- Introduction to Splunk's interface
- Basic searching
- Using fields in searches
- Search fundamentals
- Transforming commands
- · Creating visualizations
- Creating reports and dashboards
- Identifying types of knowledge objects

# Prerequisite Knowledge

None

#### Course Format

eLearning

# **Course Objectives**

#### Topic 1 - Intro to Splunk

- Splunk components
- Basic Splunk functions

#### Topic 2 - Using Splunk

- Define Splunk apps
- Understand Splunk user roles
- Search & Reporting app
- Splunk Web interface

## Topic 3 - Using Search

- Run basic searches
- Set the time range of a search
- Save search results
- Identify the contents of search results
- Work with events
- · Share search jobs
- Export search results
- · Select search modes
- Control a search job

### **Topic 4 - Exploring Events**

- Refine searches
- Understand timestamps
- Use the events tab to add and remove terms from a search

#### Topic 5 – Search Processing Language

- Use wildcards to search for multiple terms
- Understand case sensitivity in searches
- Use booleans to include and exclude search criteria
- Use special characters with search terms

#### Topic 6 - What are Commands?

- Understand the anatomy of Splunk's search language:
  - o Search terms
  - o Commands
  - o Functions
  - o Arguments
  - o Clauses
- Understand best practices for writing searches

## Topic 7 - What are Knowledge Objects?

- Identify the five categories of knowledge objects:
  - o Data interpretation
  - o Data classification
  - o Data Enrichment
  - o Data Normalization
  - o Data Models
- Understand types of knowledge objects

#### Topic 8 - Creating Reports and Dashboards

- Save a search as a report
- Edit reports
- Use transforming commands to create visualizations
- Create a dashboard
- Add a report to a dashboard
- Edit a dashboard

# **About Splunk Education**

Splunk classes are designed for specific roles such as Splunk Administrator, Developer, User, Knowledge Manager, or Architect.

#### Certification Tracks

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# **Using Fields**

This three-hour course is for power users who want to learn about fields and how to use fields in searches. Topics will focus on explaining the role of fields in searches, field discovery, using fields in searches, and the difference between persistent and temporary fields. The last topic will introduce how fields from other data sources can be used to enrich search results.

## **Course Topics**

- What are Fields?
- What is Field Discovery?
- Use Fields in Searches
- · Compare Temporary versus Persistent Fields
- Enrich Data

## Prerequisite Knowledge

To be successful, students should have completed the following courses:

- Search Under the Hood
- Multivalue Fields
- Creating Knowledge Objects

## **Course Format**

Instructor-led or eLearning

# Course Objectives

## Topic 1 – What are Fields?

- · Define fields and field auto-extraction
- Explore the Fields sidebar
- Add fields to the Selected Fields list
- Explore and generate reports from the Fields window

## Topic 2 – What is Field Discovery?

- Understand Field Discovery
- Explore search modes and their effect on search results

#### Topic 3 - Use Fields in Searches

- Use fields correctly in basic searches
- Use fields with operators
- Use the rename command
- Use the fields command to improve search performance

#### Topic 4 - Compare Temporary versus Persistent Fields

- Differentiate between temporary and persistent fields
- Create temporary fields with the eval command
- Extract temporary fields with the erex and rex commands

#### Topic 5 - Enrich Data

 Understand how fields from lookups, calculated fields, field aliases, and field extractions enrich data

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# **Scheduling Reports & Alerts**

This eLearning course teaches students how to use scheduled reports and alerts to automate processes in their organization. Students will create, manage, and schedule reports and alerts, and use alert actions to further respond to incidents as they occur.

# **Course Topics**

- Creating and managing Scheduled Reports
- · Creating and managing Alerts
- Using Alert Actions

# Prerequisite Knowledge

Recommended:

Intro to Splunk eLearning course
Intro to Knowledge Objects eLearning course

Required:

none

## **Course Format**

eLearning

# **Course Objectives**

### Topic 1 - Creating a Scheduled Report

- Create a report
- Schedule a report
- Define a report's time range
- Define schedule priority
- Define schedule window
- Add a trigger condition

### Topic 2 - Managing Reports

- View report settings
- Edit report permissions
- Enable report embedding

## **Topic 3 – Creating Alerts**

- Save a search as an alert
- Define alert permissions
- Understand scheduled and real-time alert types
- Define alert trigger conditions

### Topic 4 - Using Alert Actions

- Define actions that respond to trigger conditions
- Write results to a log event
- Output results to a lookup
- Output results to a telemetry endpoint
- Send an email containing search results
- Set up a webhook alert action

### Topic 5 - Managing Alerts

- View alert settings
- Edit alert permissions

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# Visualizations

This eLearning course teaches students how to create visualizations in Splunk, using Splunk's Search Processing Language as well as the Splunk Web interface. Students will learn commands that allow data to be displayed on charts and graphs, transform geographic data into maps, create single value visualizations, and use Splunk's visual formatting options to change the look of statistical tables.

# Course Topics

- Formatting data using transforming commands
- · Preparing data for use in visualizations
- Generating maps using geographic data
- Creating and customizing single value visualizations
- Visually formatting statistical tables

# Prerequisite Knowledge

Recommended:

Intro to Splunk eLearning course

Required:

none

## **Course Format**

eLearning

# Course Objectives

## Topic 1 - Formatting Commands

- · The fields command
- The table command
- The dedup command
- · The addtotals command
- The fieldformat command

## Topic 2 – Visualizing Data

- Explore visualization types
- Use transforming commands to order results into a data table:
  - o top
  - o rare
  - o stats
  - o chart
  - o timechart
  - o trendline
- Understand when to use different transforming commands

#### Topic 3 - Generating Maps

- Explore geographic visualization types
- Use commands specific to geographic data
  - o iplocation
  - o geostats
  - o geom
- Prepare data for use in a choropleth map

### Topic 4 - Single Value Visualizations

- Use visual formatting options for single value visualizations
- Add a sparkline to a single value visualization
- Use the Trellis layout to split visualizations
- Use the gauge command
- Use the radial, filler, and marker gauge visualization types

#### Topic 5 - Visual Formatting

- Explore formatting options for statistical tables
- Create a chart overlay
- Explore formatting options for different types of visualizations

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# Working with Time

This three-hour course is for power users who want to become experts at using time in searches. Topics will focus on searching and formatting time in addition to using time commands and working with time zones.

## **Course Topics**

- Searching with Time
- Formatting Time
- Comparing Index Time versus Search Time
- Using Time Commands
- Working with Time Zones

# Prerequisite Knowledge

To be successful, students should have a solid understanding of the following:

- How Splunk works
- Creating search queries
- The eval command

## **Course Format**

Instructor-led or eLearning

## **Course Objectives**

## Topic 1 - Searching with Time

- Understand the \_time field and timestamps
- · View and interact with the Event Timeline
- Use the earliest and latest time modifiers
- · Use the bin command with the \_time field

## Topic 2 - Formatting Time

Use various date and time eval functions to format time

#### Topic 3 - Using Time Commands

- Use the timechart command
- Use the timewrap command

#### Topic 4 - Working with Time Zones

- Understand how time and timezones are represented in your data
- · Determine the time zone of your server
- Use strftime to correct timezones in results

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# **Statistical Processing**

This four-hour course is for power users who want to identify and use transforming commands and eval functions to calculate statistics on their data. Topics will cover data series types, primary transforming commands, mathematical and statistical eval functions, using eval as a function, and the rename and sort commands.

## **Course Topics**

- What is a Data Series
- Transforming Data
- Statistical Aggregation with the stats Command
- Manipulating Data with eval
- Formatting Data

# Required (Prerequisite) Knowledge

To be successful, students should have a working understanding of these courses:

- · What is Splunk?
- Intro to Splunk
- Using Fields

## Recommended Knowledge

To be successful, students are recommended (but not required) to have a working understanding of these courses:

- Visualizations
- Result Modification

## **Course Format**

Instructor-led or eLearning

## Course Objectives

## Topic 1 - What is a Data Series

- Introduce data series
- Explore the difference between single-series, multi-series, and time series data series

#### Topic 2 - Transforming Data

 Use the chart, timechart, top, and rare commands to transform events into data tables

#### Topic 3 – Statistical Aggregation with the stats Command

- Define aggregation
- Explore the stats command and eight of its functions

### Topic 3 – Manipulating Data with eval Command

- Explore the eval command
- Explore and perform calculations using mathematical and statistical eval functions
- · Perform calculations and concatenations on field values
- Use the eval command as a function with the stats command

### **Topic 4 - Formatting Data**

- Use the rename command
- · Use the sort command

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# Leveraging Lookups and

This three-hour course is designed for power users who want to learn how to use lookups and subsearches to enrich their results. Topics will focus on lookup commands and explore how to use subsearches to correlate and filter data from multiple sources.

## **Course Topics**

- Using Lookup Commands
- · Adding a Subsearch
- · Using the return Command

# Required (Prerequisite) Knowledge

To be successful, students should have a working understanding of these courses:

- What is Splunk?
- Intro to Splunk
- Intro to Knowledge Objects
- Using Fields

# Recommended Knowledge

To be successful, students are recommended (but not required) to have a working understanding of these courses:

Creating Knowledge Objects

## **Course Format**

Instructor-led or eLearning

## **Course Objectives**

## Topic 1 - Using Lookup Commands

- Understand lookups
- Use the inputlookup command to search lookup files
- Use the lookup command to invoke field value lookups
- Use the outputlookup command to create lookups
- Invoke geospatial lookups in search

## Topic 2 - Adding a Subsearch

- Define subsearch
- Use subsearch to filter results
- · Identify when to use subsearch
- · Understand subsearch limitations and alternatives

### Topic 3 - Using the return Command

- Use the return command to pass values from a subsearch
- Compare the return and fields commands

# **Subsearches**

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# Intro to Knowledge Objects

This eLearning course teaches students about how different types of knowledge objects to extract additional insights from your data. Students will learn the basics of how to create knowledge objects, define their settings, edit, and manage existing knowledge objects.

# **Course Topics**

- Using knowledge objects to discover and analyze data
- Developing naming conventions for knowledge objects
- Defining permissions for knowledge objects
- Managing knowledge objects

# Prerequisite Knowledge

Recommended:

Intro to Splunk eLearning course

Required:

none

## **Course Format**

eLearning

## **Course Objectives**

#### Topic 1 - What are Knowledge Objects?

- Understand the different types of knowledge objects:
  - o Fields
  - o Field extractions
  - o Field aliases
  - o Calculated fields
  - o Lookups
  - o Event types
  - o Tags
  - o Workflow actions
  - o Reports
  - o Alerts
  - o Macros
  - o Data models

## Topic 2 - Knowledge Object Settings

- Define naming conventions
- Define role-based permissions for knowledge objects

#### Topic 3 - Managing Knowledge Objects

- Edit knowledge objects
- Reassign knowledge objects

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# Search Optimization

This three-hour course is for power users who want to improve search performance. Topics will cover how search modes affect performance, how to create an efficient basic search, how to accelerate reports and data models, and how to use the tstats command to quickly query data.

## **Course Topics**

- Optimize Search
- Report Acceleration
- Data Model Acceleration
- Using the tstats Command

# Prerequisite Knowledge

To be successful, students should have completed the following prerequisite courses:

- Search Under the Hood
- Multivalue Fields
- Scheduling Reports & Alerts
- Data Models

## **Course Format**

Instructor-led or eLearning

# **Course Objectives**

## Topic 1 - Optimize Search

- Understand how search modes affect performance
- Examine the role of the Splunk Search Scheduler
- Review general search practices

#### Topic 2 - Report Acceleration

- Define acceleration and acceleration types
- Understand report acceleration and create an accelerated report
- Reveal when and how report acceleration summaries are created
- Search against acceleration summaries

#### Topic 3 - Data Model Acceleration

- Understand data model acceleration
- Accelerate a data model
- Use the datamodel command to search data models

### Topic 4 - Using the tstats Command

- Explore the tstats command
- Search acceleration summaries with tstats
- Search data models with tstats
- Compare tstats and stats

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# **Building Splunk Classic Apps**

This 9-hour course focuses on Splunk app and add-on development. It's designed for application developers who want to create new apps for Splunk Enterprise and Splunk Cloud. Major topics include planning apps, building a data generator, creating custom search commands and REST endpoints, app packaging and deployment, and more.

# **Course Objectives**

- Plan, build, and manage Splunk apps
- Create a data generator
- Develop a custom search command
- Extend the Splunk REST API
- Construct a workflow action
- Validate an app with Applnspect
- Package and deploy an app

## Prerequisite Knowledge

To be successful, students should have a solid understanding of the following:

- · Splunk system administration
- Splunk data administration
- · Python or a similar scripting language

## Course Format

Instructor-led lecture with lab exercises. Delivered via virtual classroom or at your site.

# **Course Topics**

## Topic 1 - Planning Apps

- Describe apps and add-ons
- Set up a development environment
- Improve app performance
- Use security best practices

#### Topic 2 - Adding Data

- · List types of data inputs
- Explain modular vs scripted inputs
- Review types of knowledge objects
- Create a data generator

## Topic 3 - Creating Apps

- Create a basic app
- Configure app properties
- Identify app components
- Manage apps and add-ons

#### Topic 4 - Custom Search Commands

- Identify search command types
- Create a search command
- Examine Splunk metadata
- Configure access control

## Topic 5 - Custom REST Endpoints

- Identify REST handler types
- Create a REST endpoint
- Examine Splunk metadata
- Configure access control

#### Topic 6 - Custom Workflow Actions

- Identify workflow action types
- Create a workflow action
- Examine workflow action parameters
- Configure access control

## Topic 7 - Packaging Apps

- Create an app setup page
- Explain config file precedence
- Use AppInspect to validate an app
- Produce a deployable app

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