



# SPLUNK

## ADMINISTRATION ADVANCED CLUSTERING DEVELOPMENT



*Ambadasu kiran*



# *Course Curriculum*

- 1 INTRODUCTION TO SPLUNK**
- 2 INTRODUCTION TO SPLUNK COMPONENTS**
- 3 SEARCH MODES IN SPLUNK**
- 4 SPLUNK ENVIRONMENT SETUP**
- 5 IN-DEPTH OF SPL CONCEPTS**
- 6 FIELD EXTRACTIONS**
- 7 KNOWLEDGE OBJECTS**
- 8 SPLUNK ADMIN - REAL-TIME SCENARIOS  
AND DEPLOYMENTS**

# MODULE'S

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## 01

### INTRODUCTION TO SPLUNK

- Overview of Log Management Tools in the Market
- Splunk vs. ELK: Comparative Analysis
- Splunk vs. Other Tools
- Key Features & Strengths of Splunk
- Splunk Architecture and Ecosystem Overview
- Types of Data Ingested by Splunk
- Understanding the Splunk File System
- Introduction to Splunkbase and Enhanced Solutions

## 02

### INTRODUCTION TO SPLUNK COMPONENTS

- Search Head
- Indexer
- Universal Forwarder
- Heavy Weight Forwarder
- Heavy Weight Forwarder
- Load Balancing with Multiple Indexers
- Deployment Server
- Cluster Master
- Index Cluster
- Deployer
- License Managerr

# 03

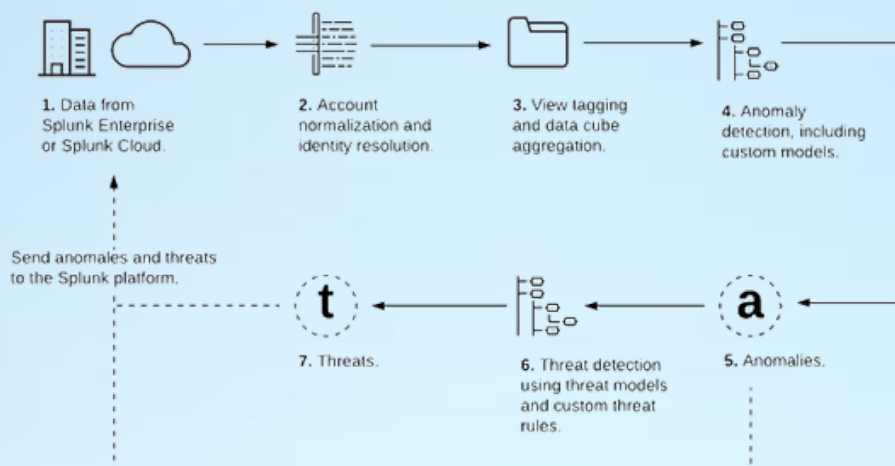
## SEARCH MODES IN SPLUNK

- Fast Mode
- Smart Mode
- Verbose Mode

# 04

## SPLUNK ENVIRONMENT SETUP

- Hardware Requirements
- Splunk Installation (Standalone & Distributed)
- Creating AWS/GCP Instances
- SSH Access to Instances
- Essential Linux Commands for Splunk Admins
- Splunk Directory Structure Overview
- Commonly Used Configuration Files & Their Precedence
- Understanding Splunk Licensing Models
- Key Ports Used in Splunk Environment



# 05

## IN-DEPTH OF SPL (SEARCH PROCESSING LANGUAGE) CONCEPTS

### Search Basics

- Search Terms and Commands
- Search Performance Optimization
- Search Jobs and Execution Flow
- Working with Search Results
- Filtering & Non-Transforming Commands

### Filtering & Non-Transforming Commands

- table
- fields
- dedup
- head
- tail
- reverse
- rename
- replace
- sort
- search





## **Transforming Commands**

- top
- rare
- stats
- chart
- timechart
- eval
- logical operators (AND, OR, NOT)



## **Advanced SPL Commands**

- stats
- eventstats
- streamstats
- geostats
- tstats
- addtotals
- addcoltotals
- join and subsearch usage



**Power of Splunk**  
Search Processing Language  
(SPL™)

# 06



## FIELD EXTRACTIONS

- Index-time field extractions
- Search-time field extractions
- Index-Time vs. Search-Time Field Extractions



## FIELD EXTRACTION METHODS

- GUI based Field extractions
- Regular Expressions
- Props and transformation configurations
- Rex and regex commands
- Centralized Extraction via Deployment Server



## Splunk Search Time Field Extraction

How to use props.conf and transforms.conf to extract field search time

Splunk  
events

event  
types



Splunk  
tags

# 07

## KNOWLEDGE OBJECTS

1

- 
- Event types
  - Tags
  - Fields
  - Lookups
  - User interface
  - Alert actions
  - Data models

2

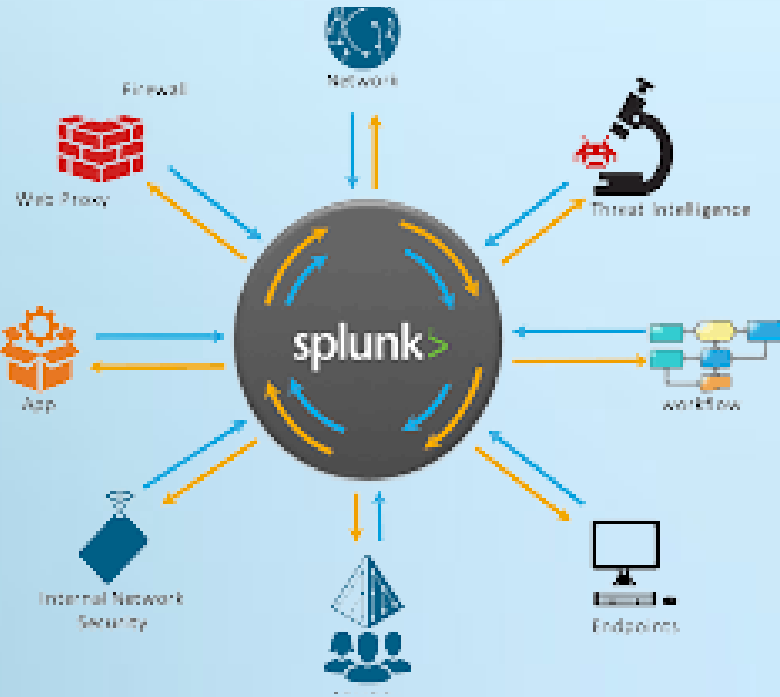
- 
- chart types
  - Lookups
  - KV Store Collections
  - Alerts
  - Reports
  - All configurations
  - Advanced search
  - Macros
  - Visualisations

3

- 
- Dashboards
  - Apps and addons
  - Workflows and aliases
  - Data models
  - Data sets
  - pivots
  - Searches, reports,  
and alerts

# 08

## SPLUNK ADMIN - REAL-TIME SCENARIOS AND DEPLOYMENTS



### SPLUNK BASIC AND ADVANCED COMPONENT DEPLOYMENTS ON CLOUD (AWS/ GCP):

- Universal Forwarder
- Heavy Forwarder
- Indexer
- Searchhead
- Deployment Server
- Cluster Master
- Index Cluster
- Searchhead Cluster
- Deployer
- License Master

**NOTE:** DEPLOYMENT SCENARIOS OF SPECIFIED COMPONENTS ARE PROVIDED IN ALL 3 DIFFERENT MODES:  
A. WEB INTERFACE  
B. COMMAND LINE INTERFACE  
C. CONFIGURATION FILES



### Use Cases of Splunk



- User Management and Authentication
- In-depth of Data storage mechanism
- Data Life stages in Splunk
- Typical Ingestion Flow
- Creating real time setup for Data Onboarding
- Creating real time setup for Deployment Server
- Creating real time setup for Clustered Environment(Cluster Master,Index&shCluster)
- Creating real time setup for Deployer Environment with SH Cluster

**\*Each topic is supplemented with practical oriented sessions, use-case discussions, and real-world problem-solving techniques along with daily class recordings to ensure practical learning and operational confidence.**

# Contact:



+91 75695 80831, +91 99599 64770

+91 99599 64770(whatsapp)

splunkonlinetutorials@gmail.com