CSAIOPS - Cisco Splunk for AI Operations

Days: 3

Prerequisites: Familiarity with Cisco products and foundational knowledge of IT operations, data analysis, and basic Splunk concepts are recommended.

Audience: System engineers, system administrators, architects, channel partners, data analysts, and IT operations professionals who want to apply AI and machine learning through Splunk.

Description: This three-day instructor-led course introduces Artificial Intelligence for IT Operations (AIOps) and demonstrates how Splunk uses machine data, analytics, and machine learning to improve operational visibility, predict incidents, identify anomalies, automate response, and support more resilient IT services.

Course Objectives: Upon completion of this course, students will:

- Explain AIOps fundamentals, business drivers, and architectural concepts.
- Use Splunk to ingest, index, search, analyze, and visualize machine data.
- Prepare and cleanse data for AI and machine learning use cases.
- Apply machine learning techniques for correlation, anomaly detection, prediction, and automation.
- Operationalize AIOps insights through monitoring, incident management, and response workflows.
- Design and scale AIOps solutions that improve efficiency, security, and business value.

OUTLINE:

MODULE 1: AI OPERATIONS FUNDAMENTALS

- What AIOps is and why it matters
- The role of AI in IT operations
- Splunk AIOps capabilities

MODULE 2: SPLUNK ESSENTIALS

- Splunk platform and interface
- Interoperability
- Data ingestion and indexing
- Basic searches and visualizations

MODULE 3: DATA PREPARATION AND CLEANSING

- Data quality and preprocessing
- Missing values and outliers
- Data analysis and correlation
- Feature preparation

MODULE 4: CISCO SPLUNK AIOPS USE CASES

- Data modeling
- Predictive incident prevention
- Anomaly detection and root-cause analysis
- Full-stack visibility and incident intelligence

MODULE 5: MACHINE LEARNING WITH SPLUNK

- Core machine learning algorithms
- Classification, regression, clustering, and anomaly detection
- Predictive models with the Splunk Machine Learning Toolkit

MODULE 6: AIOPS DATA ANALYSIS TECHNIQUES

- Real-time search, analysis, and visualization
- Event correlation
- Clustering and anomaly detection

MODULE 7: OPERATIONALIZING AIOPS

- Incident-management integration
- Monitoring and alerting
- Testing and tuning use cases
- Automation based on model predictions

MODULE 8: SCALING, ADOPTION, AND BEST PRACTICES

- Scaling and integrating AIOps
- Implementation practices
- Workflow integration
- Adoption considerations and future trends

MODULE 9: HANDS-ON LABS

- Set up and navigate a Splunk environment
- Ingest, index, and visualize data
- Cleanse data and create features
- Build and evaluate an AIOps model
- Deploy a model and work through incident-response scenarios