

INFOSOFT IT SOLUTIONS

Training | Projects | Placements

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Apache Ambari

Introduction to Apache Ambari

- Overview of Apache Ambari: Features, benefits, and architecture
- Role of Ambari in managing Hadoop clusters
- Comparison with other Hadoop cluster management tools

Apache Ambari Installation and Setup

- Installing Ambari Server: Requirements and prerequisites
- Setting up Ambari Agents: Node setup and configuration
- Configuring Ambari Server: Database setup, Configuration settings

Ambari Concepts and Terminology

- Understanding Ambari Stacks: Services, Components, and Versions
- Ambari Blueprints: Automated cluster provisioning
- Managing Hadoop Services: Starting, stopping, and configuring services

Ambari Web Interface

- Navigating the Ambari Dashboard: Overview and navigation
- Monitoring Cluster Health: Alerts, Metrics, and Heatmaps

- **Managing Configurations:** Configuration management and overrides

Managing Hadoop Services

- **Adding and Removing Services:** Service management through Ambari
- **Configuring Service Components:** Custom configurations and properties
- **High Availability (HA) Configurations:** Setting up HA for critical services

Ambari Stacks and Versioning

- **Creating and Managing Stacks:** Custom stacks and versioning
- **Adding Custom Services:** Integrating third-party or custom services
- **Upgrading Ambari and Hadoop:** Version upgrade procedures

Ambari Blueprints and Automation

- **Creating Blueprints:** Defining cluster topologies and configurations
- **Automating Cluster Provisioning:** Using Blueprints for rapid deployment
- **Advanced Blueprint Features:** Handling dependencies and custom configurations

Security in Ambari

- **Securing Ambari:** Authentication and authorization mechanisms
- **Integration with Kerberos:** Configuring Kerberos for secure authentication
- **SSL/TLS Configuration:** Encrypting communications within the cluster

Ambari Metrics and Monitoring

- **Monitoring Cluster Performance:** Metrics collection and visualization

- Using Grafana and Ambari Metrics: Setting up and configuring dashboards
- Alerting and Notifications: Setting up alerts for critical events

Ambari REST API

- Introduction to Ambari REST API: API endpoints and capabilities
- Automating Tasks with Ambari API: Scripting and integration with other tools
- Practical Examples and Use Cases: API calls for common tasks

Backup and Disaster Recovery

- Backup Strategies for Ambari: Configuration and database backups
- Disaster Recovery Planning: Restoring Ambari and Hadoop services

Performance Tuning and Optimization

- Performance Optimization Techniques: Tuning Hadoop and Ambari configurations
- Capacity Planning: Scaling and resource management
- Monitoring and Tuning JVM Parameters

Ambari Views and Customizations

- Introduction to Ambari Views: Using pre-built and custom views
- Creating Custom Views: Developing and integrating custom UI components
- Integrating External Applications: Embedding external applications in Ambari

Advanced Topics

- Multi-Tenancy and Resource Isolation: Configuring multi-tenant environments

- Big Data Ecosystem Integration: Integrating Ambari with Apache Spark, Hive, etc.
- Cloud Integration: Managing Hadoop clusters on cloud platforms (AWS, Azure)

Real-world Use Cases and Projects

- Implementing Ambari in Production: Use cases across industries
- Project Work: Hands-on projects to apply learned concepts
- Project Planning and Execution: Applying learned concepts

Career Development and Job Preparation

- Building a career in Big Data and Hadoop: Skills and certifications
- Interview Preparation: Ambari-related interview questions
- Freelancing and Consulting Opportunities