

INFOSOFT IT SOLUTIONS

Training | Projects | Placements

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Ansible

Introduction to Ansible

- Overview of Ansible: What is Ansible, its features, and benefits
- Ansible Architecture: Control node, Managed nodes, Inventory
- Ansible Components: Ansible Playbooks, Roles, Modules

Ansible Installation and Setup

- Installing Ansible: Using package managers (yum, apt), Installing from source
- Setting up Ansible Configuration: ansible.cfg file, Inventory hosts file

Ansible Inventories and Hosts

- Inventory Basics: Defining hosts, groups, and variables
- Dynamic Inventory: Using dynamic inventory scripts (AWS, GCP, Azure)
- Working with Host Patterns: Targeting specific hosts or groups

Ansible Playbooks

- Writing Ansible Playbooks: YAML syntax, Playbook structure
- Tasks and Modules: Using Ansible modules (apt, yum, file, template, etc.)
- Variables and Facts: Defining variables, Using Jinja2 templating
- Handlers: Defining handlers for notified tasks

Ansible Roles

- Introduction to Ansible Roles: Structure and purpose
- Creating and Organizing Roles: Role directory structure
- Using Roles in Playbooks: Including and applying roles

Ansible Vault

- Introduction to Ansible Vault: Securing sensitive data
- Encrypting Files with Vault: ansible-vault command usage
- Integrating Vault with Playbooks: Decrypting files during playbook execution

Ansible Ad-Hoc Commands

- Running Ad-Hoc Commands: ansible command-line tool
- Managing Packages and Services: Examples of ad-hoc tasks
- Working with Files and Directories: Copying files, Managing permissions

Ansible Modules Deep Dive

- Commonly Used Modules: package, service, file, template, shell, command, etc.
- Working with Dynamic Inventory Modules: aws_ec2, gcp_compute, azure_rm
- Developing Custom Modules Writing custom Python modules

Ansible Playbook Best Practices

- Best Practices for Playbook Organization and Structure
- Error Handling and Troubleshooting: Debugging Ansible playbooks
- Using Tags: Tagging tasks for selective execution

Ansible Tower

- Introduction to Ansible Tower: Features and benefits
- Tower Installation and Configuration
- Managing Projects and Inventories

- Creating and Scheduling Jobs

Ansible for Cloud Integration

- Using Ansible with Cloud Providers: AWS, Azure, GCP
- Managing Cloud Resources: Deploying VMs, Managing Security Groups
- Automating Cloud Infrastructure: Infrastructure as Code (IaC) concepts

Ansible and Docker (Optional)

- Managing Docker Containers with Ansible
- Docker Image Builds: Using Docker modules in Ansible
- Deploying Dockerized Applications: Ansible and Docker Compose

Ansible and Kubernetes (Optional)

- Introduction to Kubernetes and Ansible Integration
- Deploying Kubernetes Resources: Using Ansible Kubernetes modules
- Managing Kubernetes Configurations: Automating with Ansible

Ansible Security and Compliance

- Ansible Security Best Practices: Securing Ansible control node and managed nodes
- Compliance Automation: Using Ansible for compliance checks and remediation

Ansible Backup and Restore Strategies

- Backup Strategies for Ansible Playbooks and Inventory
- Disaster Recovery Planning with Ansible

Ansible Performance Optimization

- Optimizing Ansible Playbook Execution
- Parallelism and Pipelining: Improving performance with configuration options

Ansible Integration with CI/CD Tools

- Using Ansible with Jenkins: CI/CD pipelines integration
- Ansible and GitLab CI/CD
- Automating Deployments with Ansible and other CI/CD tools

Real-world Use Cases and Projects

- Implementing Ansible in real-world scenarios: Use cases across industries
- Project Work: Hands-on projects to apply learned concepts

Career Development and Job Preparation

- Building a career in DevOps: Skills and certifications
- Interview Preparation: Ansible-related interview questions
- Freelancing and Consulting Opportunities