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DOE500 - Ansible: Software Provisioning, Configuration Management and Application-deployment

Presentation

Objectives: Master software provisioning, configuration management and application-deployment with Ansible.
Who can benefit: Linux Technicians and Administrators.
Prerequisites: One of the following certifications or the equivalent skills: CompTIA Linux+ Powered by LPI or LPIC-1 or SUSE CLA or ITT Debian Linux - Technician or ITT CentOS Linux - Technician.
Learning technique: Clear, theoretical course content divided into lessons and extensive LABS.
Student Progression: Student progression is monitored both in terms of effective attendance and in terms of comprehension using self-assessment tests.
Duration: 2 days (14 hours).

Prerequisites

Hardware

- A computer running MacOS, Linux, Windows™ or Solaris™,
- AZERTY FR or QWERTY US keyboard,
- Minimum 4 GB of RAM,
- Minimum dual-core processor,
- Headphones/Earphones,
- A microphone (optional).

Software

- If Windows™ - Putty and WinSCP,
- Chrome or Firefox web browser.

Internet

- A fast Internet connection (4G minimum) and **no** proxy,
- Unhindered access to the following domains : https://my-short.link, https://itraining.center, https://ittraining.io, https://ittraining.institute, https://ittraining.support.

Curriculum

Day #1

- **DOE500 - Ansible: Software Provisioning, Configuration Management and Application-deployment** - 1 hour.
  - Prerequisites
    - Hardware
    - Software
    - Internet
  - Using the Infrastructure
    - Connecting to the Cloud Server
      - Linux, MacOS and Windows 10 with a built-in ssh client
      - Windows 7 and Windows 10 without a built-in ssh client
    - Starting the Virtual Machine
    - Connecting to the Virtual Machine
  - Course Curriculum
- **DOE501 - Installing Ansible** - 1 hour.
  - What is Ansible?
  - LAB #1 - Installing Ansible
  - LAB #2 - Configuring ssh and sudo
    - 2.1 - ssh
    - 2.2 - sudo
- **DOE502 - The ansible, ansible-playbook and ansible-galaxy Commands** - 3 hours.
  - LAB #1 - Working with Ansible
    - 1.1 - The ansible command
  - LAB #2 - The ansible-playbook command
    - 2.1 - Playbook Files
    - 2.2 - Tasks
    - 2.3 - Handlers
    - 2.4 - Modules
      - 2.4.1 - Package modules
      - 2.4.2 - File modules
      - 2.4.3 - System modules
    - 2.5 - Inventory Files
    - 2.6 - Rights
      - 2.6.1 - Creating groups
  - LAB #3 - The ansible-galaxy command
    - 3.1 - Using roles with a Play Book
    - 3.2 - Ansible Galaxy
- **DOE503 - Roles, Templates and Variable Hierarchy** - 2 hours.
  - LAB #1 - Role dependancy
  - LAB #2 - Using templates
    - 2.1 - Variables
    - 2.2 - Conditional templates
    - 2.3 - Loops
    - 2.4 - Macros

        - 2.5 - Filters
            - 2.5.1 - Default
            - 2.5.2 - Join
            - 2.5.3 - Map
        - 2.6 - Parent-child templates
            - 2.6.1 - The parent template
            - 2.6.2 - The child template
    - LAB #3 - Managing variable hierarchy

Day #2

- **DOE504 - Facts, Secret Facts and Docker** - 2 hours.
    - LAB #1 - Using Ansible facts
    - LAB #2 - The ansible-vault command
        - 2.1 - Encrypting a file
        - 2.2 - Editing the file
        - 2.3 - Decrypting the file
        - 2.4 - Using random passwords
    - LAB #3 - Ansible and Docker
        - 3.1 - What is Docker?
        - 3.2 - Installing Docker
        - 3.3 - Connecting Ansible to Docker

- **DOE505 - Using Ansible with Windows** - 2 hours.
    - Prerequisites
    - LAB #1 - Preparing Windows 10
        - 1.1 - Updating PowerShell and .NET
        - 1.2 - Configuring WinRM
        - 1.3 - Getting information from WinRM
        - 1.4 - Creating a local user for Ansible
    - LAB #2 - Preparing the Ansible controller
        - 2.1 - Installing pywinrm
        - 2.2 - Testing the configuration
    - LAB #3 - Working with Ansible and Windows
        - 3.1 - Getting information about Windows 10
        - 3.2 - Executing a command
        - 3.3 - Executing a PowerShell script
        - 3.4 - Installing software with Chocolatey
        - 3.5 - Creating a local user with Ansible

- **DOE506 - Ansible in Practice** - 2 hours.
    - LAB #1 - Case study
        - 1.1 - Instructions
        - 1.2 - Corrections
            - Error #1
            - Error #2
            - Error #3
            - Errors 4, 5 and 6

- **DOE507 - Course completion** - 1 hour.
    - What's next?

        - Training materials
        - What you need
            - Hardware
            - Software
            - Virtual Machine
    - What we covered
        - Day #1
        - Day #2
    - Resetting the course infrastructure
    - Evaluate the training session
    - Thanks
