

# Enterprise Linux Automation with Ansible

ELA040 is Altkom Akademia's author training.



## Purpose of the training

The training is intended for operational system, application administrators and the remaining technical staff who would like to be acquainted with Ansible automation technology, administrators of the systems from Open Source family, who would like to improve their everyday administration duties. For all the people who would like to refresh and consolidate their knowledge. The training prepares for EX294 exam.



## Benefits of completing the training

- An ability to implement automation platform using Ansible
- Understanding Ansible technology and mechanisms used
- Gaining skills of practical use of Ansible main modules to automate configuration and manage Linux environment
- An ability to create playbooks, roles, configuration and environment security
- Increasing the knowledge and skills from DevOps technology



## Expected Listener Preparation

Taking part in Enterprise Linux Administration I and II (ELA010 and ELA020) trainings or proper knowledge at RHCSA level.



## Training Language

- Training: English
- Materials: English



## Training Includes

- lab environment (112h within 14 days)



## Duration

5 days / 35 hours

## Training agenda

Understanding basic Ansible components:

- inventory file – developing, configuring, using at administrator's work
- Ansible modules – structure, most frequently used modules at work with Linux systems, the use in practice
- Variables
- Ansible facts – gathering, using in playbooks, templates etc.
- playbooks – most important elements, good practices in writing one's own playbooks, running, coordinating the execution etc.
- configuration files – position, most important variables, the use of several configuration files in the projects
- gaining knowledge based on documentation, use in practice (ad-hoc commands, playbooks etc.)

Implementing automation platform with Ansible

- Installing necessary software, dependencies, software versions etc.
- preparing management system
- configuring Clients (generating authentication keys, configuring sshd service, configuring system authorisations)
- preparing configuration files
- best practices while developing inventory file
- dynamic inventory
- checking the accuracy of environment's functioning, connection with Clients etc.

Working with main modules in typical administration tasks:

- Software and repository management
- Group, system users management
- access rights management
- working with filesystem
- Firewall configuration
- Service management in the system
- Configuring with disks and local partitions (among others LVM)
- archiving, backups etc.
- managing files and their content (especially system configuration files)
- SELinux configuration
- task scheduling in the system (cron)

#### Working with scripts

- Preparing the script for the needs of automation
- Using the script during the process of automating environment work

#### Ansible playbooks

- YAML language description
- Sprawdzanie checking the correct syntax, error detection
- Preparing the editor in terms of work with YAML language
- importing external playbooks, tasks, variables etc.
- optimising and improving already existing playbooks
- error interception
- working with variables
- the use of conditions in playbooks
- navigating the execution of particular plays
- the use of handlers

#### Ansible roles

- Structure of ansible roles
- creating the role
- the use of your own roles in server automation
- successful search of roles in Ansible Galaxy

#### Advanced Ansible aspects:

- securing playbooks and remaining components (for example, files with variables) with the use of Ansible Vault
- the use of templates jinja2
- navigating structures in jinja2
- logging Ansible events
- troubleshooting
- checking the correct syntax of playbooks
- validating the accuracy of creating playbooks
- parallelism, pipelining
- accelerating Ansible functioning