

## Network Automation in Lab Deployment Using Ansible and Python

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**Abstract :** Network automation has evolved into a solution that ensures efficiency in all areas. The age-old technique to configure common software-defined networking protocols is inefficient as it requires a box-by-box approach that needs to be repeated often and is prone to manual errors. Network automation assists network administrators in automating and verifying the protocol configuration to ensure consistent configurations. This paper implemented network automation using Python and Ansible to configure different protocols and configurations in the container lab virtual environment. Ansible can help network administrators minimize human mistakes, reduce time consumption, and enable device visibility across the network environment.

**Keywords :** Python network automation, Ansible configuration, container lab deployment, software-defined networking, networking lab

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