

LOMBA KOMPETENSI SISWA (LKS) SEKOLAH MENENGAH KEJURUAN TINGKAT PROVINSI JAWA TENGAH TAHUN 2024

KISI-KISI SOAL



Bidang Lomba IT NETWORK SYSTEMS ADMINISTRATION



PEMERINTAH PROVINSI JAWA TENGAH DINAS PENDIDIKAN

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INFORMASI UMUM

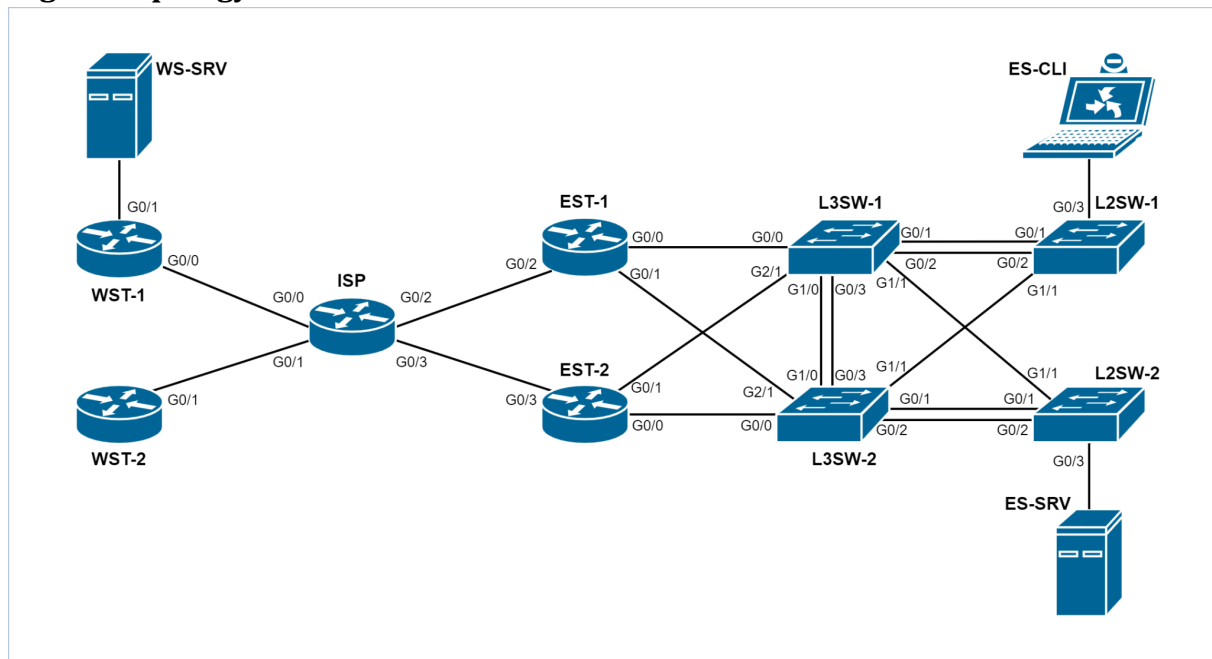
Lomba Kompetensi Siswa (LKS) tingkat Provinsi Jawa Tengah tahun 2024 bidang lomba IT Network Systems Administration (ITNSA) menggunakan Test Project yang mengacu kepada Test Project LKS Tingkat Nasional 2023, maka kisi-kisi yang diberikan merupakan kisi-kisi berdasarkan Test Project LKS Nasional tahun 2023. Berkaitan dengan hal tersebut, maka Test Project Actual yang akan digunakan pada pelaksanaan LKS Tingkat Provinsi tahun 2024 akan dibuka pada saat kompetisi dengan memberikan perubahan maksimal 30% dari kisi-kisi LKS Provinsi Jawa Tengah 2024 yang sudah di publikasikan. Perubahan tersebut meliputi topology, IP Address, nama host dan domain serta termasuk perubahan perintah spesifik yang diberikan.

MODULE A

NETWORK SYSTEMS – CISCO PACKET TRACER

The Network System Module will use Cisco Packet Tracer. The Packet Tracer mode that will be used is physical mode with disabled score and check results. The material coverage in the Test Project includes CCNA Routing & Switching. Competitors are asked to complete each network service task requested in the test project. There are several routers, switches, servers and computers which will be divided into several sites. In general, these devices must be able to connect to each other with network services such as security and redundancy.

Logical Topology



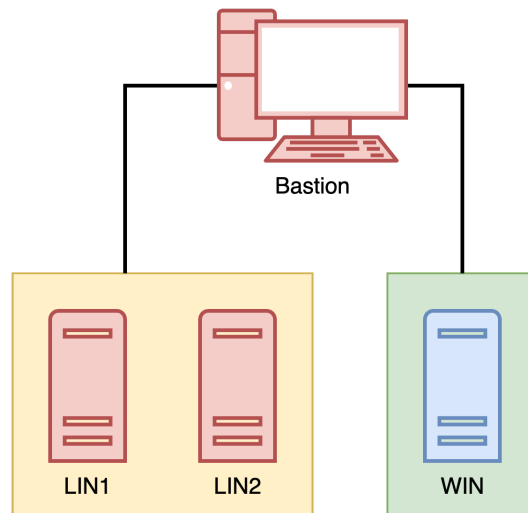
Task Summary

- Basic Configuration
- IP Services
- Static Routing
- Dynamic Routing Protocol
- LAN Switching
- Etherchannel
- STP (Spanning Tree Protocol)
- FHRP (First Hop Redundancy Protocol)
- Virtual Private Network
- Network Security
- Network Address Translation

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MODULE B**INFRASTRUCTURE PROGRAMMABILITY & AUTOMATION****Description**

The government infrastructure has already been manually configured, but they now want to transition to Infrastructure as Code (IAC) using Ansible tools. We are tasked with designing this IAC solution based on the following criteria.

Topology**Task requirements:**

- Use Jinja2 Template
- Managing ansible inventory
- Managing role
- Managing secrets
- Playbook are idempotent
- Loop

Service that will install use ansible

- DNS Server
- WEB Server
- HAProxy

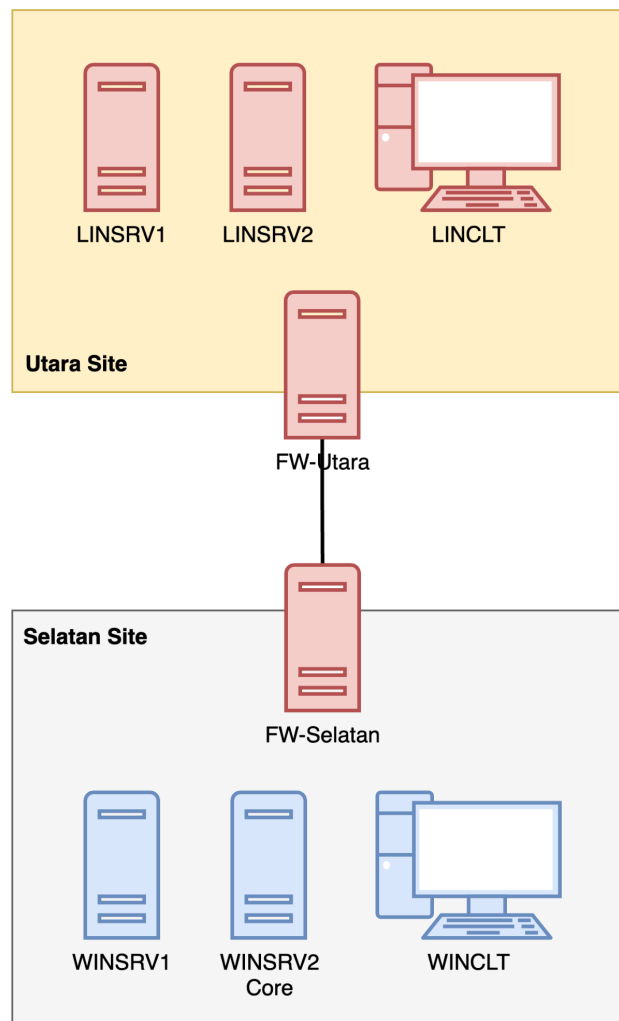
MODULE C

CLIENT SERVER ENVIRONMENT

Description

An IT company specializing in automotive industry aims to broaden their sales in Indonesia by establishing branches across different time zones in the country. As engineers, we are tasked with configuring servers according to their requirements. Subsequently, details regarding the required Topology and Services will be provided.

Topology



Services :

Utara Site:

- DNS Server
- WEB Server
- HAProxy
- Email Server with SMTP and IMAP
- Roundcube Webmail
- DHCP Server
- RAID
- Certificate Authority
- Sudo Restriction

Selatan Site:

- Active Directory Server
- DNS Server
- Web Server
- Windows Backup
- DFS Replication
- Cron/Scheduled Task
- ISCSI

MODULE D**NETWORK TROUBLESHOOTING – CISCO PACKET TRACER**

The Network Troubleshooting Module will use Cisco Packet Tracer. The Packet Tracer mode that will be used is physical mode with disabled score and check results. The material coverage in the Test Project includes CCNA Routing & Switching. Because this is a Troubleshooting module, detailed information will only be known on the day of the competition. Participants are asked to analyze and solve problems for each existing problem..

Logical Topology

Topology is part of the Test Project that needs to be analyzed in solving problems.