

## SUMMERY

Master's diploma work contains: 175 pages; 121 figures; 20 tables; 22 references.

In this master's thesis, the concept of study is developed and implemented and the principles of configuration and testing of automation systems based on Ethernet network are practically learned. In the given work the method of software-hardware configuration and procedure of data transmission testing using Ethernet networks was created. 4 laboratory works were created, which give an opportunity to gain knowledge on systems of automation on the basis of Ethernet network.

The research was carried out with IP address and network masks set up on the nodes, network device end connections, real-time network validation, router settings according to specified parameters, and research on applied postal protocols.

In the framework of this work a set of laboratory works on computer network technologies was developed with the help of the simulator Cisco Packet Tracer. The main software products that allow computer network modeling are considered.

NETWORK ETHERNET, LABORATORY PRACTICE, IP-ADDRESS, CISCO PACKET TRACER, SERVER, ROUTER, NETWORK, COMPUTER NETWORK.

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