

## **DEVELOPMENT OF AN APPLIANCE FOR VIRTUAL MACHINE DEPLOYMENT WITH A WEB STACK**

In today's world, the speed and efficiency of web application deployment are critical factors for successful business. With the number of websites globally reaching about 2 billion and growing rapidly, the workload on developers is immense. To alleviate this, the focus was on developing an appliance that automates and simplifies deploying virtual machines with a configured Web stack. This tool is designed to allow users to deploy websites without requiring deep virtualization and backend knowledge, thereby lightening the load on developers.

The first step was choosing a web stack to build an appliance. Although the IIS-ASP.Net (Core) stack is not the most popular for web development, its advanced capabilities are often overlooked. Manually deploying web applications using IIS-ASP.Net (Core) can lead to many problems and delays. Therefore, a tool was developed that automates this process, ensuring speed, reliability, and consistency and showcasing the true potential of the IIS-ASP.Net (Core) stack.

A web stack is a collection of tools and technologies to develop web applications and websites. The IIS-ASP.Net (Core) stack used in the developed appliance mainly consists of Microsoft products: the IIS web server, Windows Server 2019 operating system, SQL Server database management system, and Orchard Core content management system.

This work's second key component is optimizing the virtual environment's deployment. The strategies and techniques have been developed to optimize the deployment of web applications in the IIS-ASP.Net (Core) environment to ensure maximum performance and scalability. The research has demonstrated that a properly configured environment can significantly improve web application performance and reduce deployment time.

An equally important aspect is the safety and reliability of this tool. Significant efforts have been put into developing mechanisms that ensure virtual machines' safe and secure deployment with the IIS-ASP.Net (Core) WEB stack. These solutions protect against various threats and ensure the system's stability, instilling in our audience a sense of trust and security.

In conclusion, this appliance is the result of careful work and research. It will help many development teams simplify and speed up web application deployment.

### **REFERENCES**

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