DevOps Interview Question (18-05-23)

SECTION 1
To fix the email issue I would check email settings, verify internet connection, and review server logs for errors.
To fix the network error I would verify all physical connections, check IP settings, and ensure firewall or antivirus software isn't blocking access.
To fix the issue with Microsoft office first I will disable conflicting add-ins, clear temporary files, and consider repairing or reinstalling Office.
In order to prevent muchdamage from the virus I will disconnect infected system, run full system scan using antivirus software, and employ specialized tools if necessary.
To fix excel ### first thing I would do is to increase column width to display cell contents properly.
To I'm disconnect old router, connect new Linksys router, configure network settings, and test connectivity.
I would prefer to use built-in defragmentation tool to analyze and defragment disk if necessary.
I would stop disk writes, use file recovery software to scan and attempt restoration.
Unix/Linux Commands: ls, cd, mkdir, rm, cp, mv, grep, chmod, ps, ssh. These commands are used to List files and directory in current directory, Change directory, Make a new directory, Delete files and directory, Copy files and directory, Move or rename files and directory, Search for specific patterns in files, Change permissions of files and directories,Display running processes. Connect to a remote server using.

New computer: Compatibility issues with hardware or software,
Insufficient system resources for desired tasks, Incorrectly installed or outdated drivers
Inadequate security measures, Data migration and transfer complications.

Elon Musk is an Entrepreneur for Tesla, SpaceX, and other ventures, Michael Dell is the Founder of Dell Technologies, a multinational computer technology company, Paul Allen is the Co-founder of Microsoft alongside Bill Gates, Steve Wozniak is the Co-founder of Apple Inc. and pioneer of personal computing, Sim Shagaya is a Nigerian entrepreneur, founder of e-commerce platform Konga,Ulesson and other ventures.

SECTION 2
What was the hardest system engineering issue you had to resolve and how did you resolve it?

For me the hardest system engineering issue I had was last year when I tried to run a virtual machine on my friends system but it stopped working half way, so I had to do more research on the list of errors I got from the audit log file, and I had to use wsl Ubuntu on his system to access the VM directory and edit some few configuration files on his system and reboot his system and it didn't work so I had to back out for 3hours just to ease my mind out of it then later at night I went back to fix the issue and I discovered all I need to do was to write a shell script that will run on start-up before the VM launches this will tell the VM what format the virtual-operating system

we want to run reads on..I had use the following resources for questions and brainstorming: Reddit, medium, stack overflow.

What was the second hardest?

The second hardest was trying to recover a locked device+windows 10, I had to reboot into safe mode and scan the system to find running programs, I noticed notepad running which was wrong and wasn't executed before, I checked the processes and it was running as administrator..I got the mindset that this must be a malicious software from the internet that's just using a cloned icon of notepad, after using antivirus for 2days,I just restored the computer to previous state and it worked.

SECTION 3

IT Infrastructure Improvements
Process Review for W.D. Widgets IT Infrastructure

W.D. Widgets, a growing sales company, currently faces several limitations and challenges with their IT infrastructure. To address these issues and improve efficiency, here are five process improvements:

Implementing an automated provisioning and deployment system would significantly streamline the process of setting up new machines for employees. Instead of ordering hardware individually and manually installing sales-specific applications on each machine, an automated system could handle these tasks. This would save time and effort, allowing the IT personnel to focus on more critical tasks. Additionally, standardized machine configurations can be defined and deployed consistently across the organization, ensuring consistency and reducing the chances of errors.

Introduce a centralized application management system that allows for remote installation, updates, and removal of sales-specific applications. This would eliminate the need for manual installation on individual machines, saving considerable time and effort. By centrally managing the applications, IT personnel can ensure that everyone has access to the latest versions and that any security patches or updates are promptly applied.

Implementing a ticketing system for IT support requests would enhance the efficiency of issue resolution. Instead of relying on direct email communication, users would submit their requests through the ticketing system. This would allow for better tracking, prioritization, and delegation of tasks. The system could also provide self-help options, such as a knowledge base or FAQs, which could address common issues and reduce the number of support requests.

Transitioning some or all of the company's services to the cloud would provide several benefits. Moving the email server, local machine software, and instant messaging services to the cloud would offload the management and maintenance responsibilities from the in-house IT team. It would also provide scalability, reliability, and redundancy features that may not be feasible with an on-premises infrastructure. Cloud-based services would allow the company to focus more on their core business, while the service provider handles the infrastructure management.

Establish a robust backup and recovery system for customer data stored on the file server. Implementing regular backups, ideally using a combination of local and off-site backups, would protect against data loss caused by accidental deletions, hardware failures, or other unforeseen events. By having multiple restore points available, the company can recover lost or corrupted data, ensuring business continuity and customer satisfaction.

By implementing these process improvements, W.D. Widgets can enhance their IT infrastructure, improve efficiency, and prepare for future growth. The proposed changes aim to automate manual tasks, centralize management, streamline support, leverage cloud services, and protect critical data, allowing the IT team to better support the company's expanding needs.

SECTION 4: LINUX
What are the steps you will take if your newly registered domain is not pointing to your server?

Check the domain's DNS configuration to ensure that the correct DNS records are in place. This includes verifying the domain's nameservers, A (IPv4) or AAAA (IPv6) records, and CNAME (canonical name) records.
Ensure that the nameservers are set to the correct values provided by the domain registrar or DNS hosting provider.

Perform a DNS propagation check to determine if the DNS changes have propagated worldwide.

Clear the local DNS cache on the computer or device that is used for testing.

Ensure that any firewalls or routers between the server and the internet are properly configured to allow incoming connections on the required ports for web traffic (typically port 80 for HTTP and port 443 for HTTPS).

Double-check the server configuration to ensure that it is properly set up to handle requests for the domain. Verify that the server's web server software (e.g., Apache, Nginx) is running, and the virtual host or server block configurations are correctly configured to handle requests for the domain name.

2 What will happen if you run “rm *.*” in a folder and in the root directory?

the command will delete files with extensions in the folder, but it will not delete files without an extension. Directories will also not be affected.

If you run the command in the root directory ("/"), it will attempt to delete all files with an extension in the entire file system

3 How will you lockdown the SSH access of your server to yourself alone?

Open the SSH configuration file. The location of this file may vary depending on the Linux distribution, but it is commonly located at /etc/ssh/sshd_config.

Look for the line that starts with "AllowUsers" or "AllowGroups". If the line doesn't exist, you can add it.

Specify the username or user group that should be allowed to connect. For example, if your username is "myuser", you would add: AllowUsers myuser

Save the changes to the SSH configuration file.

Restart the SSH service for the changes to take effect. The command to restart the SSH service depends on your Linux distribution. For example, you can use: sudo service ssh restart

4 Is it possible to create a replica of a running Server instance and deploy it in another region?

Creating a replica of a running server instance and deploying it in another region is possible, but the exact steps may vary depending on the cloud provider or virtualization technology you are using.

5 What are the things a DevOps engineering must take note of during deployment of an Environment?

Ensure that the configuration of the deployed environment is properly managed and version controlled. Use tools like Ansible, Chef, or Puppet to automate configuration tasks and maintain consistency.
Consider the expected load and usage patterns of the environment to determine appropriate resource allocation and ensure scalability. Monitor resource utilization and plan for future growth.
Implement security best practices during deployment, such as using secure communication protocols (e.g., HTTPS, SSH), configuring proper access controls, patching vulnerabilities, and adhering to relevant compliance requirements.
Set up monitoring and logging solutions to track the performance, health, and security of the environment. Configure alerts and notifications to quickly identify and respond to issues.
Establish a backup strategy and implement regular backups of critical data. Plan for disaster recovery scenarios and test the recovery process to ensure it is effective.

Automate the deployment process using tools like Jenkins, GitLab CI/CD, or AWS CodePipeline. Implement continuous integration and continuous deployment practices to streamline and ensure the reliability of deployments.
Document the deployment process, configuration details, and any relevant troubleshooting steps. This helps in knowledge sharing, onboarding new team members, and ensuring reproducibility.