1. At the beginning of the first hour feed the rat the 1st bottle. At the start of 2nd-hour feed, the 2nd one, similarly at the start of 3rd-hour feed, the 3rd bottle. If the rat dies after exactly 10 hrs, the first bottle is poisonous. If it dies after 11 hours, 2nd one contains poison else the 3rd one is poisonous. In this way, after exactly 12 hours we would be able to determine the poisonous bottle.

1. They must cross the bridge in the following way:

Step 1**:** A and B cross the bridge. A comes back. Time taken 3 minutes. Now B is on the other side.

Step 2: C and D cross the bridge. B comes back. Time taken 8 + 2 = 10 minutes. Now C and D are on the other side.

Step 3: A and B cross the bridge. Time taken is 2 minutes. All are on the other side.

Total time spent: 3 + 10 + 2 = 15 minutes.

Technical Questions

1. What are the differences between Red Hat and Ubuntu?

* Ubuntu is free to use while Red Hat is not.
* Ubuntu uses the dpkg (Debi an) package system while Red Hat uses RPM package manager.
* Ubuntu primarily aims for better usability and has become exceedingly popular for desktop use. Red Hat, on the other hand, is marketed for enterprise use.
* Red Hat is closely associated to Fedora, another popular type of Linux distribution.
* Red Hat is made by Red Hat Inc. which is founded by Young and Ewing while Ubuntu is headed by Shuttle worth, owner of Canonical Ltd.
* Due to its differing packaging system, Ubuntu is expected to be more flexible and easier to implement.

1. Where are DNS resolvers configured in Red Hat? Ubuntu?

* By default, Red Hat Enterprise Linux (RHEL) sends all DNS requests to the first DNS server specified in the /etc/resolv.conf file. If this server does not reply, RHEL uses the next server in this file. In environments where one DNS server cannot resolve all domains, administrators can configure RHEL to send DNS requests for a specific domain to a selected DNS server.
* Netplan is the default network management tool on Ubuntu 18.04, replacing the /etc/resolv.conf and /etc/network/interfaces configuration files that have been used to configure the network in the previous Ubuntu versions.

1. Where are IP addresses configured in Red Hat? Ubuntu?

* In Redhat Ip addresses are configured in /etc/sysconfig/network
* In Ubuntu if it is configured /etc/network/interfaces

1. How can you install packages on Red Hat? Ubuntu?

* On Redhat we use “yum install <package\_name>”
* On Ubuntu we use “sudo apt-get install <package name>”

1. Describe a basic Docker workflow.

* Everything starts with the Dockerfile. The Dockerfile is the source code of the Image. Once the Dockerfile is created, we build it to create the image of the container. The image is just the "compiled version" of the "source code" which is the Dockerfile. Once we have the image of the container, we should redistribute it using the registry. The registry is like a git repository, where we can push and pull images. Next, we can use the image to run containers. A running container is very similar, in many aspects, to a virtual machine (but without the hypervisor).

Docker pull image-name -latest

Docker run image ID –volume -port

Docker container ps-a

Docker stop container ID

1. How can you run Grafana (https://grafana.com) in Docker?

* Alpine image (recommended)
* Ubuntu image.
* Run Grafana. Run the latest stable version of Grafana.
* Install plugins in the Docker container. Install official and community Grafana plugins.
* Migrate from previous Docker containers versions.
* Configure Docker image.
* Configure Grafana.

1. How can you automate authentication and logging in to a RHEL 7 system?

* To setup a passwordless SSH login in Linux all you need to do is to generate a public authentication key and append it to the remote hosts ~/.ssh/authorized\_keys file.  OpenSSH also includes utilities to automate your login, which we'll be using in this article, plus sftp (secure file transfer protocol) & scp (secure remote file copy).

1. How can you review a log from the chrony service on RHEL 7? Ubuntu 14.04?

* In Redhat, There are several chrony logs that can be used to troubleshoot. Most of them are located in /var/log/chrony/
* In Ubuntu, By default logs for chrony go to syslog, therefore start by searching through /var/log/syslog for details on the chrony service.

1. (Optional Bonus) How would you do tasks 1 through 5 on CoreOS? Alpine Linux?

* Alpine Linux: Security-oriented, lightweight Linux distribution based on musl libc and busybox. Alpine Linux is a security-oriented, lightweight Linux distribution based on musl libc and busybox; CoreOS: Linux for Massive Server Deployments. CoreOS is designed for security, consistency, and reliability. Instead of installing packages via yum or apt, CoreOS uses Linux containers to manage your services at a higher level of abstraction. A single service's code and all dependencies are packaged within a container that can be run on one or many CoreOS machines. I would prefer to use based on the application.

Docker

1. Create a Docker image than can be used to run kafkacat (https://github.com/edenhill/kafkacat)

Went to github and cloned the repository <https://github.com/edenhill/kafkacat>, go into the folder where dockefile is there and then docker build,

Docker build –t sravanthi9999/kafkacat:v1.1 .

Docker run sravanthi9999/kafkacat:v1.1

Docker push sravanthi9999/kafkacat:v1.1

Now kafkacat image is ready to run.

Note: this docker image is already present in the docker hub, where we can just pull and use that image.

Docker pull edenhill/kafkacat:1.5.0