1. What could you recommend to improve this system? Explain briefly.

Chart

Description automatically generated with medium confidence

*I could suggest the following to improve the system:*

* *High Availability and Redundancy. To ensure high availability, implement redundancy for important components. This includes the installation of several web servers, subnets, firewalls, and load balancers. Consider designing a failover strategy to ensure that operations continue uninterrupted in the event of a component failure.*
* *Add security groups or access controls to control inbound and outbound traffic by permitting or denying access based on rules.*
* *Create a VPC for an isolated network and to have a secure network .*
* *Use a load balancer that will take care of health checks and distributes the load across each server.*
* *Add an auto scaling group availability and reachability can be improved by adding one or more server.*
* *Add multiple leased lines, if one line goes down, traffic can be automatically or manually rerouted to the backup line.*

A diagram of a data center

Description automatically generated

1. Write an Ansible automation (yaml & inventory) that once executed, would restart all api’s and web server at the same time

|  |  |
| --- | --- |
| ***YAML File***  *- name: Restart Web and API Servers*  *hosts: webservers:apiservers*  *become: yes*  *tasks:*  *- name: Restart Web Server Services*  *service:*  *name: "{{ item }}"*  *state: restarted*  *with\_items:*  *- apache2*  *- nginx*  *# Other web servers.*  *- name: Restart API Services*  *service:*  *name: "{{ item }}"*  *state: restarted*  *with\_items:*  *- api\_service\_1*  *- api\_service\_2*  *# Other API servers.* | ***Inventory.ini***  *#example IP Address*  *[webservers]*  *webserver1 ansible\_host=192.168.1.10*  *webserver2 ansible\_host=192.168.1.11*  *#other webservers.*  *[apiservers]*  *apiserver1 ansible\_host=192.168.1.20*  *apiserver2 ansible\_host=192.168.1.21*  *#other apiservers.* |

1. What will you do if the leased line link goes down and the ETA to fix c/o 3rd party provider was 12 hours?

*A 12-hour downtime for a leased line can have severe implications, prompting the need for swift and proactive measures to minimize business disruptions and restore normal operations.*

1. *Notify stakeholders.- Inform key stakeholders within the organization about the outage and expected downtime.*
2. *Explore redundancy options- If we have a secondary leased line or alternative connection, I will use it and initiate failover procedures to minimize the impact on the operations.*
3. *Backup connectivity options- If available, switch to backups connectivity options such as secondary internet connection that will serve as a temporary solution to keep critical operations running. But ensure security.*
4. *Update users and clients. I will keep the end users and clients informed about the situation. I will set realistic expectations regarding service availability during the downtime.*
5. *Implement contingency plans- I will activate any contingency plans or business continuity measures to ensure that critical business functions can continue despite the outage.*
6. *Document the incident- I will keep a detailed record of the incident, the communications to the third party, any actions taken and impact on the operations.*
7. *Follow up and review- I will follow up with the third party for updates on the resolution progress. After the incident is resolved, conduct a thorough review to understand the root cause, identify the areas of improvement, and discuss ways to prevent similar issues in the future.*