**Scenario: You are responsible for deploying an internal HR system for a large enterprise. The system will have a Web Tier for the user interface, an Application Tier for processing employee data, and a Database Tier for storing sensitive information. Security and compliance are critical.**

**Question2: Explain how a user’s request to update their personal information would flow through the three tiers. Detail the path the data takes and the role of the firewall in each step.**

**Answer:-**

Steps for showing the path how information will flow through the three tiers when a user wants to update their personal information:-

**Step 1:- Web Tier**

* Firstly user login in his System and navigate to the personal information update page.
* Then user will fill out a form with the updated personal information.

**Role of Firewall:**

* Protects the web server and ensure that only acceptable traffic reaches the web server like HTTP/HTTPS traffic.

**Step 2:- Application Tier**

* Next step is to get the request from the web tier.
* The authentication process is done to ensure that user is authenticated to make changes.
* The application server processes the received request and ensures that this will obey all the security rules.
* Then application server executes necessary steps to update the information.

**Role of Firewall:**

* A firewall applied between the Application Tier and the Web Tier which controls the flow of data between them. It ensures that from where the request is coming is a acceptable web server.
* A firewall applied in the application server which saves it from the malicious traffic and helps to prevent attacks.

**Step 3:- Database Tier**

* Next step is to construct the database query like SQL query to update the user’s information in the database.
* The application server sends the query to the database server.
* The database server executes the query and save the updated information in the database.
* To know the information is updated or not it generates a success or failure response.

**Role of Firewall:**

* A firewall is applied between the application tier and the database tier. It ensures that only the correct query reach to the database server.
* A firewall is applied in the database tier which ensures database instructions and prevent from the unauthorized access, and saves it from the attacks.