There are three certs made

Challenge for the cert: PFC2025

MySQL root password: ProgramingForSecurity@2025

MySQL users for the app details:

CREATE USER 'readonly\_user'@'%' IDENTIFIED BY 'Readonly\_pass789!';

CREATE USER 'app\_user'@'%' IDENTIFIED BY 'App\_password123!';

CREATE USER 'admin\_user'@'%' IDENTIFIED BY 'Admin\_password456!';

-- Readonly user

GRANT SELECT ON stockdb.\* TO 'readonly\_user'@'%';

-- Standard app user

GRANT SELECT, INSERT, UPDATE, DELETE ON stockdb.\* TO 'app\_user'@'%';

-- Admin user

GRANT ALL PRIVILEGES ON stockdb.\* TO 'admin\_user'@'%';

-- Important: apply privileges

FLUSH PRIVILEGES;

-- 1. Create the new user

CREATE USER 'inventory\_mover'@'%' IDENTIFIED BY 'Strong\_Password1234!';

-- 2. Grant SELECT only on specific tables (exclude `users`)

GRANT SELECT ON stockdb.items TO 'inventory\_mover'@'%';

GRANT SELECT ON stockdb.locations TO 'inventory\_mover'@'%';

GRANT SELECT ON stockdb.suppliers TO 'inventory\_mover'@'%';

GRANT SELECT ON stockdb.rfid\_tags TO 'inventory\_mover'@'%';

GRANT SELECT ON stockdb.stock\_levels TO 'inventory\_mover'@'%';

-- 3. Grant limited write access

GRANT UPDATE (current\_location\_id, status) ON stockdb.rfid\_tags TO 'inventory\_mover'@'%';

GRANT INSERT (item\_id, location\_id, quantity), UPDATE (quantity) ON stockdb.stock\_levels TO 'inventory\_mover'@'%';

-- 4. Apply all permission changes

FLUSH PRIVILEGES;

Security features set for mysql:

From sudo mysql\_secure\_installation:

- Password policy

-8 Char at least, number, and special char

- Removed anonymous users

- Disallowed remote root login

- Removed test database

- Reloaded privilege tables

Connecting to the machine:

Open cmd and go to the directory where you downloaded the key file and run:

ssh -i "sql\_server.pem" ubuntu@ec2-3-25-95-9.ap-southeast-2.compute.amazonaws.com