Install MySQL on Ubuntu and Connect It with Python (FastAPI)-Part 1:

Step 1: Install MySQL Server

sudo apt update
sudo apt install mysql-server -y

Step 2: Secure MySQL Installation

sudo mysql_secure_installation

- You can set a root password (if not set).
- Remove anonymous users, disallow root login remotely, remove test database.
- Answer Y to all prompts for better security.

Step 3: Start and Enable MySQL

sudo systemctl start mysql
sudo systemctl enable mysql

Step 4: Log in to MySQL CLI

sudo mysql -u root -p

Step 5: Create a New Database and User

Inside MySQL CLI:
CREATE DATABASE secretDatabase;
CREATE USER 'root'@'localhost' IDENTIFIED BY 'Farhad###123';
GRANT ALL PRIVILEGES ON secretDatabase.* TO 'root'@'localhost';
FLUSH PRIVILEGES;
EXIT;

Step 6: Install Required Python Libraries

Make sure your virtual environment is activated, then:
pip install fastapi uvicorn sqlalchemy pymysql python-jose

Step 7: Connect FastAPI with MySQL using SQLAlchemy

database.py

```
from sqlalchemy import create_engine
from sqlalchemy.ext.declarative import declarative_base
from sqlalchemy.orm import sessionmaker

DB_URL = "mysql+pymysql://root:Farhad###123@localhost:3306/secretDatabase"

engine = create_engine(DB_URL)
SessionLocal = sessionmaker(autocommit=False, autoflush=False, bind=engine)

Base = declarative_base()
```

Creating Registration, Login & JWT Token in FastAPI–Part 2:

Step 1: Create SQLAlchemy Models

models.py

```
from sqlalchemy import Column, Integer, String, DateTime
from database import Base
from datetime import datetime

class TblUser(Base):
    __tablename__ = "tbl_user"
    id = Column(Integer, primary_key=True, index=True)
    username = Column(String(100), unique=True, nullable=False)
    password = Column(String(100), nullable=False)
    created_at = Column(DateTime, default=datetime.utcnow)

class TblUserLog(Base):
    __tablename__ = "tbl_user_log"
    id = Column(Integer, primary_key=True, index=True)
    user_id = Column(Integer)
    login_time = Column(DateTime, default=datetime.utcnow)
```