

Mobile Application Development – Assignment # 3

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Program: BSSE / BSCS
Semester & Section: 5 (A/B/C)
Course Name: Mobile Application Development
Instructor: Muhammad Azhar

Project Title:
Offline-Capable Android Application with API, SQLite, Theme Switching & WebView

Project Overview:
This Android application fetches data from a public REST API and stores it locally using SQLite for offline access. The app supports multiple themes, login state, menu-based navigation, RecyclerView adapters, WebView integration, and proper lifecycle handling.

Functional Requirements Summary:

1. Theme Management:

- Light, Dark, Custom themes
- Runtime switching via menu
- Saved using SharedPreferences

2. User State:

- Login screen
- isLoggedIn flag
- Intent-based navigation

3. API Integration:

- REST API using Retrofit
- JSON parsing into model classes
- Network failure handling

4. SQLite Database:

- Store API data
- Offline access
- CRUD operations

5. Adapters:

- ArrayAdapter
- RecyclerView.Adapter
- Item click handling

6. Menus:

- Options Menu (Theme, Logout)
- Context Menu (Edit, Delete)
- Popup Menu

7. WebView:

- In-app browsing
- JavaScript enabled

8. UI Controls:

- EditText, Button, Spinner, Switch
- Input validation

9. Lifecycle Handling:

- onSaveInstanceState
- Configuration changes handled

GitHub Submission:

- Android Studio project
- README.md
- Screenshots

CLO-3 Achieved Successfully.