

Integrating a Mobile app with Students Manager API

Connect a mobile app to new REST API endpoints in **StudentsManager** so the mobile client can submit and retrieve data. Expose secured API endpoints in StudentsManager.Mvc to collect and retrieve registered users' mobile device telemetry: geolocation (lat/long), battery status (level, plugged), and network state.

Functional Requirements

- Authentication: Mobile app must authenticate against StudentsManager.Mvc before sending telemetry.
- Telemetry Capture (client):
 1. Geolocation (latitude, longitude).
 2. Battery status (level %, isPlugged).
 3. Network state (WiFi, CELL_4G, NONE, etc).
- Telemetry Submission:
 1. POST endpoint to store a snapshot.
 2. Snapshot includes timestamp (UTC) server-side.
- Telemetry Retrieval:
 1. GET latest snapshot for current user.
 2. GET recent N snapshots (query parameter take).
 3. Authorization: Endpoints reject unauthenticated requests (401).
 4. Server-Side Tasks (StudentsManager.Mvc)
 5. Add DeviceTelemetry entity, migration, DbSet.
 6. Add DTO.
 7. Service layer.
 8. Register service in Program.cs.
 9. API controller.
- Migration:
 1. dotnet ef migrations add AddDeviceTelemetry
 2. dotnet ef database update
- Client-Side Tasks
 1. Add API base URL and JWT usage (assume login implemented separately).
 2. Send telemetry after each update (debounced).
 3. Optional button to fetch latest telemetry.