

# Data Lifecycle Scenario: Fitness Tracker Data

You are given a short scenario to analyze.

**Step 1: Individual work** Draw the lifecycle diagram, indicating:

- the sources of data,
- potential issues with quality, trustworthiness, or usability,
- the expected type(s) of data (structured / semi-structured / unstructured)

**Step 2: Group Discussion:** Compare your individual diagrams and notes with group members. Reflect on each stage of the lifecycle with your team and answer the guiding questions provided, completing the **lifecycle-step boxes** together. Prepare a brief summary (keywords or 1–2 sentences) to present.

**Time guideline:** 5 minutes individually, 10 minutes in groups.

## Scenario Description: Fitness Tracker Data

Wearable fitness trackers and smartwatches collect detailed data on steps, heart rate, sleep patterns, workout routines, and calories burned. Users may also connect third-party apps that track GPS runs, cycling routes, nutrition logs, or meditation sessions. The platform aggregates this data to provide personalized health insights, visualize progress over time, and generate challenges or recommendations. Users expect real-time feedback, gamified experiences, and privacy protection. In addition, the platform must handle large-scale, continuous data streams from thousands or millions of users while maintaining data quality and consistency.

**Scenario Analysis (individual work):** Draw the lifecycle diagram, indicating:

- Source(s) of the data (human/machine, internal/external)
- Data type (structured / semi-structured / unstructured)
- Any obvious quality, reliability, or trustworthiness issues

Lifecycle diagram

**Data Lifecycle Reflection (group work):** For each stage, reflect on what it could involve in this scenario. Consider:

- How should missing or inconsistent sensor readings be handled?
- How can personal health data privacy be preserved?
- How can insights be personalized for each user?
- How could social features or gamification affect the data collected?

Collect

Clean / Preprocess

Store

Analyze

Communicate / Report