

Assignment: Affiliate–Advertising Data Reconciliation Platform

Hi Parth,

As discussed, please build a working project (language/framework of your choice) that demonstrates the following:

Functional Requirements

1. Integrations:

- Support integrations with multiple advertising platforms (e.g., Reddit, Instagram, Meta).
- You may mock these platform APIs if real ones are costly or unavailable.

2. Affiliate Reporting Models:

- Support two modes of affiliate data reporting:
 - a) Affiliates submitting data via Discord-like platforms (messages, screenshots, links).
 - b) Affiliates pushing data directly via APIs into your system.

3. Data Mapping & Verification:

- At a configurable frequency, reconcile affiliate-reported data with advertising platform data.
- Verify affiliate claims (views, clicks, conversions, etc.).

4. Data Quality & Inconsistencies:

- Implement mechanisms to detect missing data, duplicates, or suspicious discrepancies.
- Show how you would flag inconsistencies for review.

5. Unified Client View:

- Model the final matched data in a uniform schema.

- Present it as a consolidated view for advertisers across multiple affiliates and platforms.

Non-Functional Expectations

- Code should be **modular and extensible** (easy to add new platforms/affiliates).
- Use **best practices in API design and data modeling**.
- Demonstrate **logging/observability** for reconciliation runs.
- Clearly document assumptions (mock APIs, data schemas, reconciliation rules).

Deliverables

- Working solution (GitHub repo or hosted demo).
- README with:
 - System architecture overview.
 - Example data flows (affiliate → system → advertiser view).
 - Instructions to run locally.

Stretch Goals (Optional)

- Use a **background job scheduler** for reconciliation (e.g., cron, worker queues).
- Implement a **simple dashboard or API endpoint** for advertiser view.
- Add a basic **alert mechanism** when discrepancies cross a threshold.