

# Test Task- Technical Account Manager at adjoe

## 1. Mobile Task - Build a sample app

- a. Review our [Android documentation](#) and build a small sample app using the code snippets and examples provided. You should use the latest version - 3.1.0 - and you can build the project with any of our wrappers.
- b. The sample should:
  - i. Initialize the SDK at app start with the sdkhash (1ba0c6f1ac7ac4f09b245838ec23e366) and a dummy user-id
  - ii. Show the catalog
- c. You do not need to set up your test device or use any additional parameters or extensions.
- d. You can choose to show the catalog directly or you can place it behind a button.
- e. Explain your work! Add in-line comments.
- f. Send us the project as a zip file and any additional answers or explanations in a google doc.

Q: Did you see any games in your catalog? If yes, which types of campaigns did you see? If not, explain why you think no games were displayed.

## 2. Client Communications / Troubleshooting

In this section, we'd like to see how you would respond to a publisher who is experiencing an issue. Please provide your answer in the form of an email to the publisher.

**Part 1:** Hi adjoe, I'm a backend engineer at Arcade Studios and I'm working on getting our backend set up to start getting rewards from adjoe. I'm having some trouble with the sid calculation, I can't seem to get the sid to match the value that is being returned in the URL sent by adjoe. I'm attaching the test url sent to us by adjoe and a small python script. Can you help me figure out what I'm doing wrong? Thanks!

[https://api.arcadestudios.com/callbacks/adjoe?app\\_id=6477849277&currency\\_name=Coins&device\\_id=814C21F9-FD28-40F2-45A8-62E8B1627C92&sid=2af71e1c0558ce7ee914f00dd622ee5e797cf29e&coin\\_amount=256&reward\\_level=0&reward\\_type=AdvancePlus&sdk\\_app\\_id=com.ios.arcade.studios&trans\\_uuid=d1c64a0b-2603-4869-a7d3-d65879248s58&user\\_uuid=18a18894-15cd-40df-a011-15818c602df4](https://api.arcadestudios.com/callbacks/adjoe?app_id=6477849277&currency_name=Coins&device_id=814C21F9-FD28-40F2-45A8-62E8B1627C92&sid=2af71e1c0558ce7ee914f00dd622ee5e797cf29e&coin_amount=256&reward_level=0&reward_type=AdvancePlus&sdk_app_id=com.ios.arcade.studios&trans_uuid=d1c64a0b-2603-4869-a7d3-d65879248s58&user_uuid=18a18894-15cd-40df-a011-15818c602df4)

Python

```
import hashlib

# Values from the Example URL
app_id='6477849277'
trans_uuid = 'd1c64a0b-2603-4869-a7d3-d65879248s58';
user_uuid = '18a18894-15cd-40df-a011-15818c602df4';
currency = 'Coins';
coin_amount = '21';
sdk_app_id = 'com.ios.arcade.studios';
device_id = '814C21F9-FD28-40F2-45A8-62E8B1627C92';
reward_type = 'AdvancePlus'
reward_level = '0'
s2s_token = 'dlxPKYbKFn3fNwJWLdZ4NPLHqe34i4m1';

# Concatenate the values
concatenated_string = concatenated_string = app_id+ trans_uuid +
user_uuid + currency + coin_amount + sdk_app_id + device_id +
reward_type + reward_level+ s2s_token;

# Calculate SHA1 hash
sid = hashlib.sha1(concatenated_string.encode()).hexdigest();

print('sid:', sid);

sid: 12558aa71050d9a92657479da913ef683e3a918d
```

### 3. Data analytics: SQL

As a Technical Account Manager working in a mobile adtech company, you're responsible for ensuring the smooth delivery of user rewards and successful postback (payout) events. Your role involves validating when users complete in-app milestones, checking if server callbacks were successful, and identifying potential delivery issues across different apps, users, and reward types.

You have access to the following three database tables:

#### **Dataset Overview:**

##### **Reward Table:**

Tracks when a user completes a milestone and is eligible for a reward.

Each row represents one rewarded event triggered by a user.

Column	Type	Description
event_id	TEXT	Unique identifier for each reward event
user_id	TEXT	ID of the user who triggered the milestone
milestone_id	TEXT	Milestone that was completed
timestamp	DATETIME	When the reward event occurred

##### **Payout Table:**

Logs the result of sending a payout (postback) to reward the user.

Each row corresponds to one reward event and shows the payout response code

Column	Type	Description
event_id	TEXT	Corresponding reward event ID
payout_timestamp	DATETIME	When the postback attempt occurred
response_code	INTEGER	HTTP response code from the payout endpoint

##### **Apps milestones table:**

Contains metadata about each milestone, including which app it belongs to and the reward amount.

Column	Type	Description
milestone_id	TEXT	Unique milestone identifier
app_id	TEXT	ID of the app where the milestone belongs
app_name	TEXT	Human-readable app name
milestone_name	TEXT	Milestone name (e.g., "Played 15 min")
reward_amount	INTEGER	Value of the reward for completing the milestone

### Questions:

#### 1. Total Number of Rewards Issued

Write a query to count the total number of reward events across all apps.

#### 2. Unique Users per App

For each app, count the number of distinct users who received at least one reward.

#### 3. Milestone Rewards Summary

List each milestone along with the app name and total number of times it was rewarded.

#### 4. Most Problematic Milestones

Which milestones have the highest failure rate in payouts? List the top 3 with failure counts and associated app names.

#### 5. Multi-Milestone Users

Are there users who have achieved more than one milestone across different apps? List those users and the apps they've interacted with.