



Gaming API within RPG game settings

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Road Map

- Gaming concept overview
- API Design and setup
- Operation Flow and Demo (Guild joining)
- Pipeline and Presto Query Showcase





Gaming concept overview



Gaming concept overview

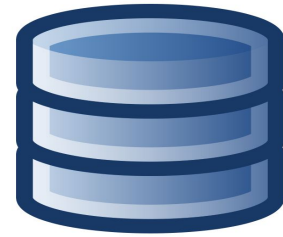
- Inventory system
 - Live track of player's inventory
- Randomization in weapon rarity generation
- Guild Joining mechanism
 - Qualification checks
 - Instant feedback and notice for player entry





API Design and Setup

- SQLite Database Generation and Connection
 - Record tracking
- API Function Call
 - Randomization implementation
 - Querying database and qualification checks



SQLite3
SQL
database
engine



Flask





API Design and Setup

Two Major database Creation:

Player Status DB

		
Name	Weapon Type	Rarity

Guild Status DB

	
Guild Name	Member's Name



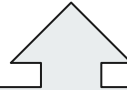
Guild Joining Example



Previous Join Check



Weapon
ownership check



Congratulations on
join this guild!

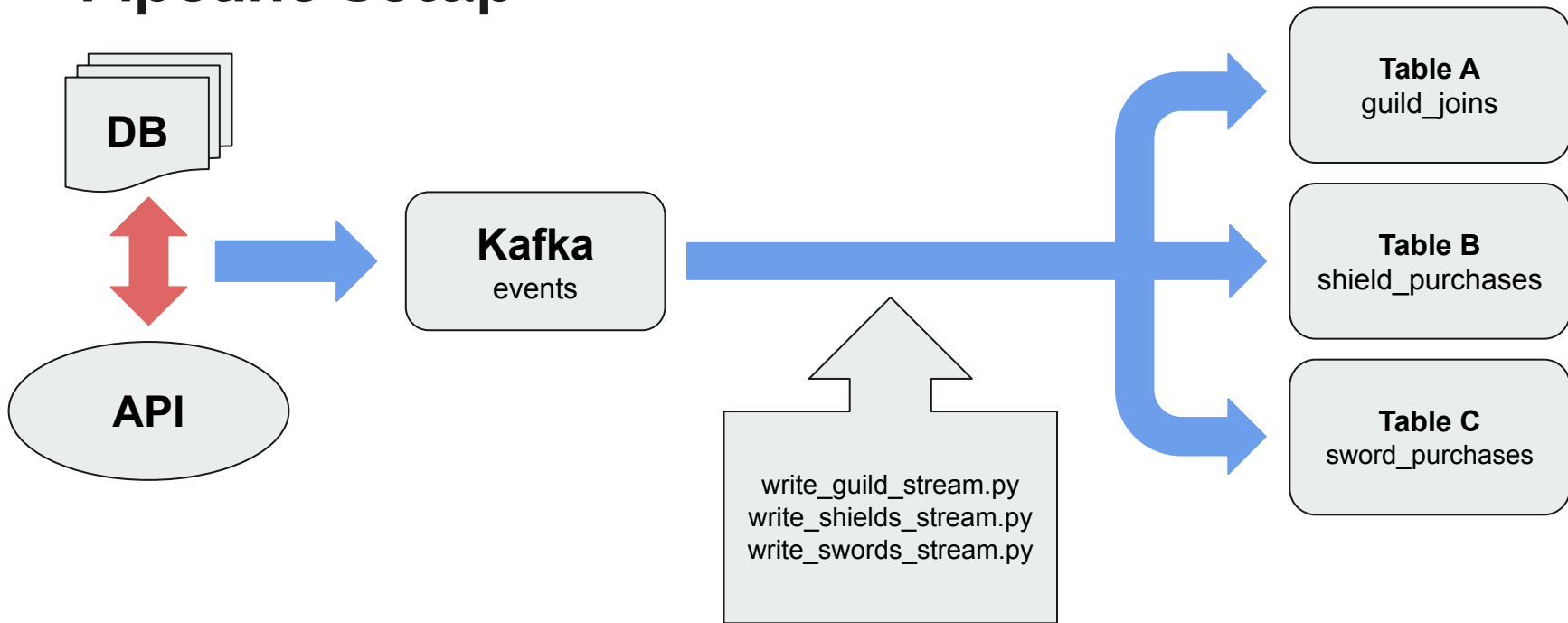




Guild Joining Example

```
jupyter@w205-1:~/w205/project-3-haoyuzhang89$ docker-compose exec mids curl http://localhost:5000/join_a_guild/Ferrari/Haoyu
Congratulation on join this guild
jupyter@w205-1:~/w205/project-3-haoyuzhang89$ docker-compose exec mids curl http://localhost:5000/join_a_guild/Ferrari/Haoyu
You are already in this guild !
jupyter@w205-1:~/w205/project-3-haoyuzhang89$ docker-compose exec mids curl http://localhost:5000/join_a_guild/Ferrari/Hao
Congratulation on join this guild
jupyter@w205-1:~/w205/project-3-haoyuzhang89$ docker-compose exec mids curl http://localhost:5000/join_a_guild/Ferrari/Alan
You need at least a weapon to join guild
jupyter@w205-1:~/w205/project-3-haoyuzhang89$ █
```


Pipeline Setup





Presto Query

Distribution of equipments rarity:

```
presto:default> select count(*) as number, rarity from shield_purchases group by rarity order by number desc;
```

number	rarity
99	1
91	2
89	6
85	4
84	3
82	5



Presto Query

Guild Size:

```
presto:default> select guild_name, count(*) as team_size from guild_joins group by  
guild_name;
```

guild_name	team_size
Benz	1
Mclaren	4
Williams	3
Ferrari	4



Presto Query

Player name format exploration:

```
presto:default> select player_name, guild_name from guild_joins where player_name like '%J%';
```

player_name	guild_name
Joe	Mclaren
Joe	Williams
Jon	Mclaren
Jon	Williams
Jon	Ferrari



Potential Future Improvement

- Move database to the server side
- Assign randomization to a distribution
- More Complicated Schema design and table creation in Hive for deeper analysis



Thank You



Appendix: Sanity Check

```
jupyter@w205-1: ~/w205/ | x
1.0" 200 -
127.0.0.1 -- [06/Dec/2020 06:19:24] "GET /purchase_a_sword/Amy HTTP/1.1" 200 -
127.0.0.1 -- [06/Dec/2020 06:19:30] "GET /purchase_a_sword/Brad HTTP/1.1" 200 -
127.0.0.1 -- [06/Dec/2020 06:19:46] "GET /purchase_a_sword/Alan HTTP/1.1" 200 -
127.0.0.1 -- [06/Dec/2020 06:19:52] "GET /purchase_a_sword/Hao HTTP/1.1" 200 -
127.0.0.1 -- [06/Dec/2020 06:19:56] "GET /purchase_a_sword/Jason HTTP/1.1" 200 -
127.0.0.1 -- [06/Dec/2020 06:20:39] "GET /purchase_a_sword/Jason HTTP/1.1" 200 -
127.0.0.1 -- [06/Dec/2020 06:20:42] "GET /join_a_guild/Ferrari/Haoyu HTTP/1.1" 200 -
127.0.0.1 -- [06/Dec/2020 06:26:53] "GET /join_a_guild/Ferrari/Alan HTTP/1.1" 200 -
[]

jupyter@w205-1: ~/w205/ | x
url http://localhost:5000/purchase_a_sword/Alan
Sword Purchased! You now have a sword with rarity 6
jupyter@w205-1:~/w205/project-3-haoyuzhang89$ docker-compose exec mids c
url http://localhost:5000/purchase_a_sword/Hao
Sword Purchased! You now have a sword with rarity 5
jupyter@w205-1:~/w205/project-3-haoyuzhang89$ docker-compose exec mids c
url http://localhost:5000/purchase_a_sword/Jason
Sword Purchased! You now have a sword with rarity 2
jupyter@w205-1:~/w205/project-3-haoyuzhang89$ docker-compose exec mids c
url http://localhost:5000/purchase_a_sword/Jason
Sword Purchased! You now have a sword with rarity 2
jupyter@w205-1:~/w205/project-3-haoyuzhang89$ docker-compose exec mids c
url http://localhost:5000/join_a_guild/Ferrari/Haoyu
Congratulation on join this guild
jupyter@w205-1:~/w205/project-3-haoyuzhang89$ docker-compose exec mids c
url http://localhost:5000/join_a_guild/Ferrari/Alan
Congratulation on join this guild
jupyter@w205-1:~/w205/project-3-haoyuzhang89$ []

Project3_Report.ipynb x jupyter@w205-1: ~/w205/ | x
{
  "events" : {
    "0" : 18
  },
  "endOffset" : {
    "events" : {
      "0" : 18
    }
  },
  "numInputRows" : 0,
  "inputRowsPerSecond" : 0.0,
  "processedRowsPerSecond" : 0.0
},
{
  "sink" : {
    "description" : "FileSink[tmp/guild_joins]"
  }
}
}

jupyter@w205-1: ~/w205/ | x
0
(1 row)
Query 20201206_062610_00002_54dp9, FINISHED, 1 node
Splits: 2 total, 0 done (0.00%)
0:05 [0 rows, 0B] [0 rows/s, 0B/s]

presto:default> select count(*) from guild_joins;
_ col0
-----
1
(1 row)

Query 20201206_062711_00003_54dp9, FINISHED, 1 node
Splits: 3 total, 1 done (33.33%)
0:01 [0 rows, 0B] [0 rows/s, 0B/s]

presto:default> []
```