**Reservation Management System**

**SCC Project – 2020/2021**

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**Introduction**

The proposed project was challenging and very interesting to us, allowing us to explore some important cloud concepts and models, while developing a system that is pertinent and useful.

We implemented all the services that we set out to implement. The project was not implemented for the full grade (20), given that we did not implement support for advanced search or computation with Cognitive Search or Spark, and also did not test for geo-replication, though we tried to implement it.

testes completos:

Add\_image

Delete\_Entity 204

Add\_reservation 200

Add\_Entity 200

Add\_Calendar 200

Testes Imcompletos:

Add\_Forum error in code

Add\_Message error 405

Add\_mesage\_reply erro because message

Check entry not done

Get\_All\_Entity 500

**Design**

We set the consistency level to SESSION in all our Cosmos DB containers. We decided to use the SESSION consistency level as it is appropriate for our use case. The trade-off between the SESSION consistency level and a stronger one are just not worth it for this use case, though obviously a STRONG consistency level would be ideal for the reservations container at least, but given that it could, and in most cases would, lead to a big decrease in performance, we opted for the SEASON level. As for a weaker level, one could be used in the entities or forums containers possibly (CONSISTENT PREFIX), but we thought the SESSION level was still the most appropriate and reasonable one, given the performance trade-off.

The database is using Last Write Wins conflict resolution, as we think it is appropriate for our use case, with no need to write a custom merge procedure.

**Implementation**

**Evaluation**

**Add Calendar – 500**

**Add entity – media 200, entity getting 500**

**Add forum – error (artillery > TypeError: Cannot read property 'capture' of null)**

**Add image – 200 OK, post and get**

**Add message reply – error**

**Add reservation – 200 OK**

**Check entry – error**

**Comment – TODO**

**Delete entity – 204 not working?**

**Get all entity – 500**

Testes completos: Add\_image Delete\_Entity 204 most likely wrong Testes Imcompletos: Add\_Calendar error 500 Add\_reservation error 400 Add\_Entity 2 flows add\_Media 200 addEntity 400 Add\_Forum error in code Add\_Message error 405 Add\_mesage\_reply erro because message Check entry not done Get\_All\_Entity 500

**Caching**

Create entity: 352 ms

Get entity: 221 ms

Delete entity: 233 ms

Post calendar: 136 ms

Get calendar: 147 ms

Delete calendar: 107 ms

**No caching**

**Conclusions**