The following tables correspond to lists (repeated) members of the different structures or classes:

table 1: Principal\_Athena\_Message

table 2: Principal\_Athena\_Message\_destination\_id

table3: Principal\_Athena\_Message Artemis\_Message

table 4: Principal\_Athena\_Message Artemis\_Message\_General\_Order

table 5: Principal\_Athena\_Message Artemis\_Message\_General\_Order Scan\_Point

table 6: Principal\_Athena\_Message Artemis\_Message\_General\_Order enabled\_triggers

Table 7: Principal\_Athena\_Message Artemis\_Message\_General\_Order action\_point

table 8: Principal\_Athena\_Message\_Mars\_Message

table 9: Principal\_Athena\_Message\_Mars\_Message Mars\_General\_Order

table10: Principal\_Athena\_Message\_Mars\_Message Mars\_General\_Order Waypoint

table 11: Principal\_Athena\_Message\_Mars\_Message Mars\_General\_Order enabled\_triggers

table 12: Principal\_Athena\_Message\_Nike\_Message

table 13: Principal\_Athena\_Message\_Nike\_Message General\_Order

table14: Principal\_Athena\_Message\_Nike\_Message General\_Order Waypoint

table 15: Principal\_Athena\_Message\_Nike\_Message General\_Order enabled\_triggers

table 16: Principal\_Athena\_Message\_Nike\_Message General\_Order action\_point

Table 17: Principal\_Athena\_Message Athena\_Orders

Table 18: Principal\_Athena\_Message Athena\_Orders\_Point

Where all green tables are lists contained in the Principal\_Athena\_Message . All purple tables belong to lists in the corresponding green table, and all light-blue tables correspond to lists in the corresponding purple tables.

The columns belonging to each table are (not including lists):

table 1: Principal\_Athena\_Message

Int64 Primary\_ID

int64 sender\_id

string message\_type

string timestamp\_utc\_time

table 2: Principal\_Athena\_Message\_destination\_id

Int64 Primary\_ID

Int64 Principal\_Athena\_Message\_ID

int64 value

table3: Principal\_Athena\_Message Artemis\_Message

Int64 Primary\_ID

Int64 Principal\_Athena\_Message\_ID

int64 asset\_id

float gps\_lat

float gps\_long

float gps\_alt

float heading

float fire\_fan\_left

float fire\_fan\_right

int64 ammo\_count

float ptu\_pan

float ptu\_tilt

float zoom

string current\_order\_running

table 4: Principal\_Athena\_Message Artemis\_Message\_General\_Order

Int64 Primary\_ID

Int64 Principal\_Athena\_Message\_Artemis\_Message\_ID

string trigger

int64 weapon\_control\_order

int64 behavior

int64 select\_scan\_pattern

float left\_aor

float right\_aor

string continuing\_order

table 5: Principal\_Athena\_Message Artemis\_Message\_General\_Order\_Scan\_Point

Int64 Primary\_ID

Int64 Principal\_Athena\_Message\_Artemis\_Message\_General\_Order\_ID

int64 point\_number

float pan

float tilt

float zoom

table 6: Principal\_Athena\_Message Artemis\_Message\_General\_Order enabled\_triggers

Int64 Primary\_ID

Int64 Principal\_Athena\_Message\_Artemis\_Message\_General\_Order\_ID

String value

Table 7: Principal\_Athena\_Message Artemis\_Message\_General\_Order action\_point

Int64 Primary\_ID

Int64 Principal\_Athena\_Message Artemis\_Message\_General\_Order\_ID

float value

table 8: Principal\_Athena\_Message\_Mars\_Message

Int64 Primary\_ID

Int64 Principal\_Athena\_Message\_ID

int64 asset\_id

float gps\_lat

float gps\_lon

float gps\_alt

float heading

int64 breadcrumb\_number

string current\_order\_running

table 9: Principal\_Athena\_Message\_Mars\_Message Mars\_General\_Order

Int64 Primary\_ID

Int64 Principal\_Athena\_Message\_Mars\_Message\_ID

int64 behavior

int64 driving\_control\_order

table10: Principal\_Athena\_Message\_Mars\_Message Mars\_General\_Order Waypoint

Int64 Primary\_ID

Int64 Principal\_Athena\_Message\_Mars\_Message\_Mars\_General\_Order\_ID

int64 point\_number

float latitude

float longitude

float heading

table 11: Principal\_Athena\_Message\_Mars\_Message Mars\_General\_Order enabled\_triggers

Int64 Primary\_ID

Int64 Principal\_Athena\_Message\_Mars\_Message\_Mars\_General\_Order\_ID

String value

table 12: Principal\_Athena\_Message\_Nike\_Message

Int64 Primary\_ID

Int64 Principal\_Athena\_Message\_ID

int64 asset\_id

bool connection\_ok

float batt\_level

float gps\_lat

float gps\_lon

float gps\_alt

string gps\_type

int64 breadcrumb\_number

int32 can\_rth

int32 asset\_type

string airspace

int64 airspace\_start

int64 airspace\_stop

bool nerfed

string current\_order\_running

table 13: Principal\_Athena\_Message\_Nike\_Message General\_Order

Int64 Primary\_ID

Int64 Principal\_Athena\_Message\_Nike\_Message ID

string trigger

int64 weapon\_control\_order

int64 behavior

string continuing\_order

table14: Principal\_Athena\_Message\_Nike\_Message\_General\_Order\_Waypoint

Int64 Primary\_ID

Int64 Principal\_Athena\_Message\_Nike\_Message\_General\_Order\_ID

int64 point\_number

float latitude

float longitude

float alititude

table 15: Principal\_Athena\_Message\_Nike\_Message General\_Order enabled\_triggers

Int64 Primary\_ID

Int64 Principal\_Athena\_Message\_Nike\_Message\_General\_Order\_ID

String value

table 16: Principal\_Athena\_Message\_Nike\_Message General\_Order action\_point

Int64 Primary\_ID

Int64 Principal\_Athena\_Message\_Nike\_Message\_General\_Order\_ID

Float value

Table 17: Principal\_Athena\_Message\_Athena\_Orders

Int64 Primary\_ID

Int64 Principal\_Athena\_Message\_ID

int64 weapon\_control\_order

int64 behavior

Table 18: Principal\_Athena\_Message\_Athena\_Orders\_Point

Int64 Primary\_ID

Int64 Principal\_Athena\_Message\_Athena\_Orders\_ID

int64 point\_number

float latitude

float longitude

float alititude

where the first column ‘Primary\_ID’ is the ID corresponding to the particular Row of the present table, and the second column ‘Principal\_Athena\_Message\_...................\_ID’ (in color) is the ID of the Row of the containing table to which the present row belongs. For example Principal\_Athena\_Message\_ID in a Row of table 2: Principal\_Athena\_Message\_destination\_id corresponds to the Primary\_ID in the Row of table 1: Principal\_Athena\_Message

to which it is associated.

We can notice that we have the following list of IDs that can be defined and assigned (incremented) directly in the (C#) code and sent to the Db at the time of Row creation:

Principal\_Athena\_Message\_ID

Principal\_Athena\_Message\_destination\_id\_ID

Principal\_Athena\_Message Artemis\_Message\_ID

Principal\_Athena\_Message Artemis\_Message\_General\_Order\_ID

Principal\_Athena\_Message Artemis\_Message\_General\_Order Scan\_Point\_ID

Principal\_Athena\_Message Artemis\_Message\_General\_Order enabled\_triggers\_ID

Principal\_Athena\_Message Artemis\_Message\_General\_Order action\_point\_ID

Principal\_Athena\_Message\_Mars\_Message ID

Principal\_Athena\_Message\_Mars\_Message Mars\_General\_Order\_ID

Principal\_Athena\_Message\_Mars\_Message Mars\_General\_Order Waypoint\_ID

Principal\_Athena\_Message\_Mars\_Message Mars\_General\_Order enabled\_triggers\_ID

Principal\_Athena\_Message\_Nike\_Message ID

Principal\_Athena\_Message\_Nike\_Message\_General\_Order\_ID

Principal\_Athena\_Message\_Nike\_Message General\_Order Waypoint\_ID

Principal\_Athena\_Message\_Nike\_Message General\_Order enabled\_triggers\_ID

Principal\_Athena\_Message\_Nike\_Message General\_Order action\_point\_ID

Principal\_Athena\_Message Athena\_Orders\_ID

Principal\_Athena\_Message Athena\_Orders\_Point\_ID,

These IDs will be assigned to the ‘Primary\_ID’ of each Row in each table at the time of Row addition. In this way the C# code will know all IDs and will be easier to set the ‘Principal\_Athena\_Message\_...................\_ID’ values on each sub-table, directly from the code without the need to query the Db for the ID values each time they will be needed.

9/10/2021

Modifications in tables:

table 1: Principal\_Athena\_Message Athena\_Message

Int64 Primary\_ID

int64 sender\_id string

string message\_type

string timestamp\_utc\_time

table 2: Principal\_Athena\_Message\_destination\_id Message\_destination\_id

Int64 Primary\_ID

Int64 Principal\_Athena\_Message\_ID

int64 value string

table3: Principal\_Athena\_Message Artemis\_Message Artemis\_Message

Int64 Primary\_ID

Int64 Principal\_Athena\_Message\_ID

int64 asset\_id string uuid

float gps\_lat float latitude

float gps\_long float longitude

float gps\_alt float altitude

float heading

float fire\_fan\_left

float fire\_fan\_right

int64 ammo\_count int32

float ptu\_pan

float ptu\_tilt

float zoom

string current\_order\_running

table 4: Principal\_Athena\_Message Artemis\_Message\_General\_Order Artemis\_General\_Order

Int64 Primary\_ID

Int64 Principal\_Athena\_Message\_Artemis\_Message\_ID

string trigger

int64 weapon\_control\_order int32

int64 behavior int32

int64 select\_scan\_pattern int32

float left\_aor

float right\_aor

string continuing\_order

table 5: Principal\_Athena\_Message Artemis\_Message\_General\_Order\_Scan\_Point Artemis\_Scan\_Point

Int64 Primary\_ID

Int64 Principal\_Athena\_Message\_Artemis\_Message\_General\_Order\_ID

int64 point\_number int32

float pan

float tilt

float zoom

table 6: Principal\_Athena\_Message Artemis\_Message\_General\_Order enabled\_triggers Artemis\_enabled\_triggers

Int64 Primary\_ID

Int64 Principal\_Athena\_Message\_Artemis\_Message\_General\_Order\_ID

String value

Table 7: Principal\_Athena\_Message Artemis\_Message\_General\_Order action\_point Artemis\_action\_point

Int64 Primary\_ID

Int64 Principal\_Athena\_Message Artemis\_Message\_General\_Order\_ID

float value

table 8: Principal\_Athena\_Message\_Mars\_Message Mars\_Message

Int64 Primary\_ID

Int64 Principal\_Athena\_Message\_ID

int64 asset\_id string uuid

float gps\_lat latitude

float gps\_lon longitude

float gps\_alt

float heading

int64 breadcrumb\_number int32

string current\_order\_running

table 9: Principal\_Athena\_Message\_Mars\_Message Mars\_General\_Order Mars\_General\_Order

Int64 Primary\_ID

Int64 Principal\_Athena\_Message\_Mars\_Message\_ID

string trigger

int64 behavior int32

int64 driving\_control\_order int32

string continuing\_order

table10: Principal\_Athena\_Message\_Mars\_Message Mars\_General\_Order Waypoint Mars\_Waypoint

Int64 Primary\_ID

Int64 Principal\_Athena\_Message\_Mars\_Message\_Mars\_General\_Order\_ID

int64 point\_number int32

float latitude

float longitude

float altitude

float heading

table 11: Principal\_Athena\_Message\_Mars\_Message Mars\_General\_Order enabled\_triggers Mars\_enabled\_triggers

Int64 Primary\_ID

Int64 Principal\_Athena\_Message\_Mars\_Message\_Mars\_General\_Order\_ID

String value

table 12: Principal\_Athena\_Message\_Nike\_Message Nike\_Message

Int64 Primary\_ID

Int64 Principal\_Athena\_Message\_ID

int64 asset\_id string uuid

bool connection\_ok

float batt\_level

float gps\_lat latitude

float gps\_lon longitude

float gps\_alt altitude

int32 current\_point\_number

string gps\_type

int64 breadcrumb\_number

int32 can\_rth

int32 asset\_type

string airspace

int64 airspace\_start int32

int64 airspace\_stop int32

bool nerfed

string current\_order\_running

table 13: Principal\_Athena\_Message\_Nike\_Message General\_Order Nike\_General\_Order

Int64 Primary\_ID

Int64 Principal\_Athena\_Message\_Nike\_Message ID

string trigger

int64 weapon\_control\_order int32

int64 behavior int32

string continuing\_order

table14: Principal\_Athena\_Message\_Nike\_Message\_General\_Order\_Waypoint Nike\_Waypoint

Int64 Primary\_ID

Int64 Principal\_Athena\_Message\_Nike\_Message\_General\_Order\_ID

int64 point\_number int32

float latitude

float longitude

float altitude

float heading

table 15: Principal\_Athena\_Message\_Nike\_Message General\_Order enabled\_triggers Nike\_enabled\_triggers

Int64 Primary\_ID

Int64 Principal\_Athena\_Message\_Nike\_Message\_General\_Order\_ID

String value

table 16: Principal\_Athena\_Message\_Nike\_Message General\_Order action\_point Nike\_action\_point

Int64 Primary\_ID

Int64 Principal\_Athena\_Message\_Nike\_Message\_General\_Order\_ID

Float value

Table 17: Principal\_Athena\_Message\_Athena\_Orders Athena\_Orders

Int64 Primary\_ID

Int64 Principal\_Athena\_Message\_ID

int64 weapon\_control\_order int32

int64 behavior int32

int32 group\_number

Table 18: Principal\_Athena\_Message\_Athena\_Orders\_Point Athena\_Waypoint

Int64 Primary\_ID

Int64 Principal\_Athena\_Message\_Athena\_Orders\_ID

int64 point\_number

float latitude

float longitude

float alititude

float heading