

Implementation of NoSQL Barebone Prototype in MongoDB

➤ Importing the data in MongoDB

The screenshot shows the MongoDB Compass interface. The left sidebar displays the database structure with 'cluster0.wiokwz...' selected. The main panel shows the 'SPACE_RESEARCH_INDUSTRIES.MISSIONS' collection. A notification at the bottom states 'Import completed. 12 documents imported.' The collection contains 12 documents, each representing a mission. The documents are displayed in a list view, showing fields like _id, MISSION_NAME, MISSION_ID, DESCRIPTION, DATE, DETAILS, HOURS_STAY, HOURS_LANDED, VIDEO_URL, OBJECTIVE, and STATUS.

```
{ "_id": "ObjectID('657909840339809b78f7aa90')", "MISSION_NAME": "APOLLO 11", "MISSION_ID": "AP1111", "DESCRIPTION": "THE MISSION IS TO LAND ON THE MOON FOR THE FIRST TIME", "DATE": "69-08-2023", "DETAILS": Array (1), "HOURS_STAY": "2300 HOURS", "HOURS_LANDED": "1800 HOURS", "VIDEO_URL": "https://apoll11.youtube.com", "OBJECTIVE": "THE GOAL OF NASA IS TO SUCCESSFULLY LAND HUMANS ON THE MOON", "STATUS": "SUCCESSFUL" }
```

The screenshot shows the MongoDB Compass interface. The left sidebar displays the database structure with 'cluster0.wiokwz...' selected. The main panel shows the 'SPACE_RESEARCH_INDUSTRIES.MISSIONS' collection. A notification at the bottom states 'Import completed. 12 documents imported.' The collection contains 12 documents, each representing a mission. The documents are displayed in a list view, showing fields like _id, MISSION_NAME, MISSION_ID, DESCRIPTION, DATE, DETAILS, HOURS_STAY, HOURS_LANDED, VIDEO_URL, OBJECTIVE, and STATUS.

```
{ "_id": "ObjectID('657909840339809b78f7aa92')", "MISSION_NAME": "ASTROVENTURE X", "MISSION_ID": "ASTRO123", "DESCRIPTION": "THE MISSION IS TO EXPLORE THE PLANET CALLED MARS", "DATE": "65-08-2026", "DETAILS": Array (1), "HOURS_STAY": "4156 HOURS", "HOURS_LANDED": "5346 HOURS", "VIDEO_URL": "https://aastro.youtube.com", "OBJECTIVE": "THE GOAL OF NASA IS TO STUDY THE ATMOSPHERIC CONDITIONS SUCH AS MARS S.", "STATUS": "IN PROGRESS" }
```

MongoDB Compass - cluster0.wiokwz.mongodb.net/SPACE_RESEARCH_INDUSTRIES.MISSIONS

Connect Edit View Collection Help

cluster0.wiokwz... Documents SPACE_RESEARCH...

My Queries Databases Search

SPACE_RESEARCH_INDUSTRI... MISSIONS admin config local

SPACE_RESEARCH_INDUSTRIES.MISSIONS

12 DOCUMENTS 1 INDEXES

Documents Aggregations Schema Indexes Validation

Filter Type a query: { field: 'value' } or [Generate query](#)

ADD DATA EXPORT DATA

1 - 12 of 12

```
{
  "_id": "ObjectID('657909848339869b78f7aa94')",
  "MISSION_NAME": "LUNAR ECLIPSE",
  "MISSION_ID": "LMECP51234",
  "DESCRIPTION": "THE MISSION IS TO DEPLOY ROBOTIC ROVERS ON THE MOON'S SURFACE",
  "DATE": "84-03-2932",
  "DETAILS": Array (1)
  HOURS_STAY: "5565 HOURS"
  HOURS LANDED: "1866 HOURS"
  VIDEO_URL: "https://lunar.youtube.com"
  OBJECTIVE: "THE GOAL OF NASA IS TO CONDUCT GEOLOGICAL SURVEYS THAT COULD SUPPORT F..."
  STATUS: "PLANNING"
}
```

```
{
  "_id": "ObjectID('657909848339869b78f7aa95')",
  "MISSION_NAME": "ORION EXPLORER",
  "MISSION_ID": "ORNG657",
  "DESCRIPTION": "THE MISSION IS TO STUDY ICY BODIES OF VARIOUS PLANETS",
  "DATE": "88-07-1939",
  "DETAILS": Array (1)
  HOURS_STAY: "4646 HOURS"
  HOURS LANDED: "78965 HOURS"
  VIDEO_URL: "https://orion.youtube.com"
  OBJECTIVE: "THE GOAL OF NASA IS TO ANALYZE THE SPACECRAFT FOR THE COMPOSITION OF I..."
  STATUS: "SUCCESSFUL"
}
```

```
{
  "_id": "ObjectID('657909848339869b78f7aa96')",
  "MISSION_NAME": "BLACK HOLE VOYAGER",
  "MISSION_ID": "BHNG87",
  "DESCRIPTION": "THE MISSION IS TO STUDY BLACK HOLES AT THE CENTER OF GALAXIES",
  "DATE": "12-09-2023",
  "DETAILS": Array (1)
  HOURS_STAY: "78548 HOURS"
  HOURS LANDED: "9876 HOURS"
  VIDEO_URL: "https://blackhole.youtube.com"
  OBJECTIVE: "THE GOAL OF NASA IS TO APPROACH THE EVENT HORIZON OF A BLACK HOLE IN T..."
  STATUS: "IN PROGRESS"
}
```

Import completed.
12 documents imported.

MongoDB Compass - cluster0.wiokwz.mongodb.net/SPACE_RESEARCH_INDUSTRIES.MISSIONS

Connect Edit View Collection Help

cluster0.wiokwz... Documents SPACE_RESEARCH...

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SPACE_RESEARCH_INDUSTRI... MISSIONS admin config local

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{
  "_id": "ObjectID('657909848339869b78f7aa96')",
  "MISSION_NAME": "BLACK HOLE VOYAGER",
  "MISSION_ID": "BHNG87",
  "DESCRIPTION": "THE MISSION IS TO STUDY BLACK HOLES AT THE CENTER OF GALAXIES",
  "DATE": "12-09-2023",
  "DETAILS": Array (1)
  HOURS_STAY: "78548 HOURS"
  HOURS LANDED: "9876 HOURS"
  VIDEO_URL: "https://blackhole.youtube.com"
  OBJECTIVE: "THE GOAL OF NASA IS TO APPROACH THE EVENT HORIZON OF A BLACK HOLE IN T..."
  STATUS: "IN PROGRESS"
}
```

```
{
  "_id": "ObjectID('657909848339869b78f7aa97')",
  "MISSION_NAME": "COSMIC FRONTIERS",
  "MISSION_ID": "CF4252",
  "DESCRIPTION": "THE MISSION IS AN INTERNATIONAL COLLABORATIVE MISSION TARGETING THE OR...",
  "DATE": "97-05-2023",
  "DETAILS": Array (1)
  HOURS_STAY: "7354 HOURS"
  HOURS LANDED: "1334 HOURS"
  VIDEO_URL: "https://cosmicfrontiers.youtube.com"
  OBJECTIVE: "THE GOAL OF NASA IS TO CAPTURE DEEP SPACE IMAGERY TO EXPLORE THE UNIVE..."
  STATUS: "NOT SUCCESSFUL"
}
```

```
{
  "_id": "ObjectID('657909848339869b78f7aa98')",
  "MISSION_NAME": "NEPTUNE ODYSSEY",
  "MISSION_ID": "NEP4252",
  "DESCRIPTION": "THE MISSION IS TO FOCUS ON THE ICE GIANTS OF NEPTUNE",
  "DATE": "97-05-2023",
  "DETAILS": Array (1)
  HOURS_STAY: "7354 HOURS"
  HOURS LANDED: "1334 HOURS"
  VIDEO_URL: "https://neptune.youtube.com"
  OBJECTIVE: "THE GOAL OF NASA IS TO FIND AND GATHER DATA ABOUT NEPTUNE PLANET"
}
```

Import completed.
12 documents imported.

MongoDB Compass - cluster0.wiokwz.mongodb.net/SPACE_RESEARCH_INDUSTRIES.MISSIONS

Connect Edit View Collection Help

cluster0.wiokwz... Documents SPACE_RESEARCH...

My Queries Databases Search

SPACE_RESEARCH_INDUSTRIES MISSIONS admin config local

SPACE_RESEARCH_INDUSTRIES.MISSIONS

12 DOCUMENTS 1 INDEXES

Documents Aggregations Schema Indexes Validation

Filter Type a query: { field: 'value' } or [Generate query](#)

Explain Reset Find Options

1 - 12 of 12

ADD DATA EXPORT DATA

```
{
  "MISSION_NAME": "SOLARIS SORVELYON",
  "MISSION_ID": "SOLAS46",
  "DESCRIPTION": "THE MISSION IS TO STUDY THE SUN'S OUTER ATMOSPHERE AND SOLAR WIND",
  "DATE": "04-03-2024",
  "DETAILS": Array (1)
  "HOURS_STAY": "78055 HOURS",
  "HOURS_LANDED": "78065 HOURS",
  "VIDEO_URL": "https://solar.youtube.com",
  "OBJECTIVE": "THE GOAL OF NASA IS TO GATHER INFORMATION ABOUT SOLAR PLANET",
  "STATUS": "IN PROGRESS"
}
```

```
{
  "_id": ObjectId('657909840339809b78f7aa8a'),
  "MISSION_NAME": "DARK MATTER PROBE",
  "MISSION_ID": "DARKM7856",
  "DESCRIPTION": "THE MISSION IS TO STUDY THE SUN'S OUTER ATMOSPHERE AND SOLAR WIND",
  "DATE": "02-22-2080",
  "DETAILS": Array (1)
  "HOURS_STAY": "78055 HOURS",
  "HOURS_LANDED": "78065 HOURS",
  "VIDEO_URL": "https://dark.youtube.com",
  "OBJECTIVE": "THE GOAL OF NASA IS TO EMPLOY SPECIALIZED DETECTORS TO SEARCH FOR DARK.",
  "STATUS": "SUCCESSFUL"
}
```

```
{
  "_id": ObjectId('657909840339809b78f7aa9b'),
  "MISSION_NAME": "ORBITAL ECLIPSE",
  "MISSION_ID": "ORBS044",
  "DESCRIPTION": "THE MISSION IS TO STUDY SATELLITES IN ORBIT",
  "DATE": "06-22-2089",
  "DETAILS": Array (1)
  "HOURS_STAY": "78055 HOURS",
  "HOURS_LANDED": "78065 HOURS",
  "VIDEO_URL": "https://orbital.youtube.com",
  "OBJECTIVE": "THE GOAL OF NASA IS TO ASSESS THE ENVIRONMENTAL IMPACT OF ORBIT",
  "STATUS": "SUCCESSFUL"
}
```

MONGOSH

Type to search

ENG 12-12-2023 20:33

MongoDB Compass - cluster0.wiokwz.mongodb.net/SPACE_RESEARCH_INDUSTRIES.MISSIONS

Connect Edit View Collection Help

cluster0.wiokwz... Documents SPACE_RESEARCH...

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12 DOCUMENTS 1 INDEXES

Documents Aggregations Schema Indexes Validation

Filter Type a query: { field: 'value' } or [Generate query](#)

Explain Reset Find Options

1 - 12 of 12

ADD DATA EXPORT DATA

```
{
  "MISSION_NAME": "SOLARIS SORVELYON",
  "MISSION_ID": "SOLAS46",
  "DESCRIPTION": "THE MISSION IS TO STUDY THE SUN'S OUTER ATMOSPHERE AND SOLAR WIND",
  "DATE": "04-03-2024",
  "DETAILS": Array (1)
  "HOURS_STAY": "78055 HOURS",
  "HOURS_LANDED": "78065 HOURS",
  "VIDEO_URL": "https://solar.youtube.com",
  "OBJECTIVE": "THE GOAL OF NASA IS TO GATHER INFORMATION ABOUT SOLAR PLANET",
  "STATUS": "IN PROGRESS"
}
```

```
{
  "_id": ObjectId('657909840339809b78f7aa8a'),
  "MISSION_NAME": "DARK MATTER PROBE",
  "MISSION_ID": "DARKM7856",
  "DESCRIPTION": "THE MISSION IS TO STUDY THE SUN'S OUTER ATMOSPHERE AND SOLAR WIND",
  "DATE": "02-22-2080",
  "DETAILS": Array (1)
  "HOURS_STAY": "78055 HOURS",
  "HOURS_LANDED": "78065 HOURS",
  "VIDEO_URL": "https://dark.youtube.com",
  "OBJECTIVE": "THE GOAL OF NASA IS TO EMPLOY SPECIALIZED DETECTORS TO SEARCH FOR DARK.",
  "STATUS": "SUCCESSFUL"
}
```

```
{
  "_id": ObjectId('657909840339809b78f7aa9b'),
  "MISSION_NAME": "ORBITAL ECLIPSE",
  "MISSION_ID": "ORBS044",
  "DESCRIPTION": "THE MISSION IS TO STUDY SATELLITES IN ORBIT",
  "DATE": "06-22-2089",
  "DETAILS": Array (1)
  "HOURS_STAY": "78055 HOURS",
  "HOURS_LANDED": "78065 HOURS",
  "VIDEO_URL": "https://orbital.youtube.com",
  "OBJECTIVE": "THE GOAL OF NASA IS TO ASSESS THE ENVIRONMENTAL IMPACT OF ORBIT",
  "STATUS": "SUCCESSFUL"
}
```

MONGOSH

Type to search

ENG 12-12-2023 20:33

- Using the `updateMany()` command to add a variable "LEVEL" into all existing records.

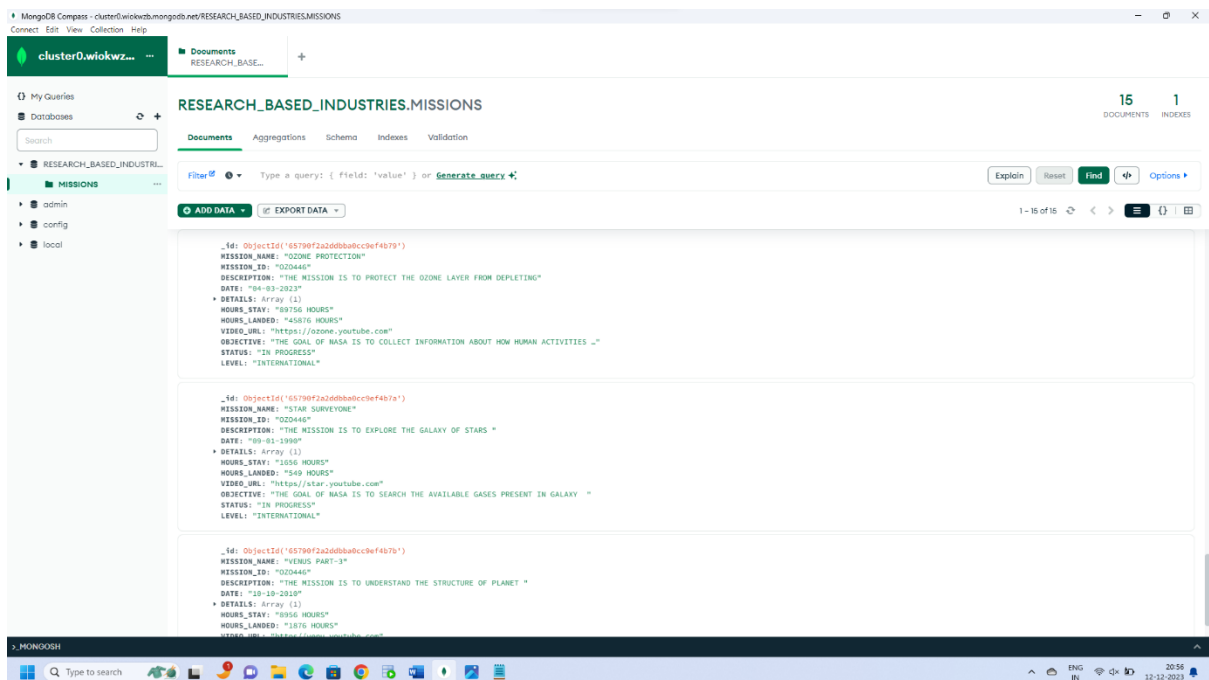
The screenshot shows the MongoDB Compass interface. The left sidebar displays the database structure with 'cluster0.wiokwz...' and 'SPACE_RESEARCH_INDUSTRIES' selected. The main panel shows the 'SPACE_RESEARCH_INDUSTRIES.MISSIONS' collection with 12 documents and 1 index. The 'Filter' bar is empty. The 'ADD DATA' button is highlighted. The command window at the bottom shows the following JavaScript code:

```
use SPACE_RESEARCH_INDUSTRIES
db.MISSIONS.updateMany({}, { $set: { "LEVEL": "INTERNATIONAL" } })
```

- Using the `InsertMany()` command to insert the new records by adding them to the existing records.

The screenshot shows the MongoDB Compass interface. The left sidebar displays the database structure with 'cluster0.wiokwz...' and 'RESEARCH_BASED_INDUSTRIES' selected. The main panel shows the 'RESEARCH_BASED_INDUSTRIES.MISSIONS' collection with 12 documents and 1 index. The 'Filter' bar is empty. The 'ADD DATA' button is highlighted. The command window at the bottom shows the following JavaScript code:

```
use RESEARCH_BASED_INDUSTRIES
db.MISSIONS.insertMany([
  {
    acknowledged: true,
    insertedId: {
      '0': ObjectId('65790f2a2d0b0cc9ef4b79'),
      '1': ObjectId('65790f2a2d0b0cc9ef4b7a'),
      '2': ObjectId('65790f2a2d0b0cc9ef4b7b')
    }
  }
])
```



➤ The outcome of the `Aggregate()` query displays the count of the variable "LEVEL" in the database.

