



WELCOME

App-Driven Analytics

Livestream 2



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Who Am I?

```
{  
  "name": "Jay Runkel",  
  "title": "Distinguished Solutions Architect",  
  "company": "MongoDB",  
  "tenure": 9.5,  
  "documentDatabaseExperience": 14,  
  "email": "jay.runkel@mongodb.com",  
  "twitter": "@jayrunkel",  
}
```



3 Week Agenda

Livestream	Objective	Time
P rework	S etup D evelopment Environment	B efore M arch 15 th
4	B uild A pp D riven A nalytics Capabilities	M arch 15 th, 10:00 AM ET
2	Search, Visualizations, & Triggers	March 22th, 10:00 AM ET
3	Business Visualizations	March 29th, 10:00 AM ET



You can find everything in github

<https://github.com/jayrunkel/rocketLivestream>

- Instructions
- Video links
- Slides
- Code
- Data
- Configuration



Today's Agenda

Livestream	Objective	Topics
2	Search, Visualizations, & Triggers	Embed Charts into React Application Configure Atlas Search Indexes Write Search Queries Write and Test Atlas Triggers

Rocket Analytics Use Case

Our organization manages rocket launches

- Typical rocket launch lasts 8 hours
- Generates 1M metrics per second
- Need to understand what is happening in real-time during launch
- In-depth analytics post launch

Rocket Analytics Architecture in Atlas

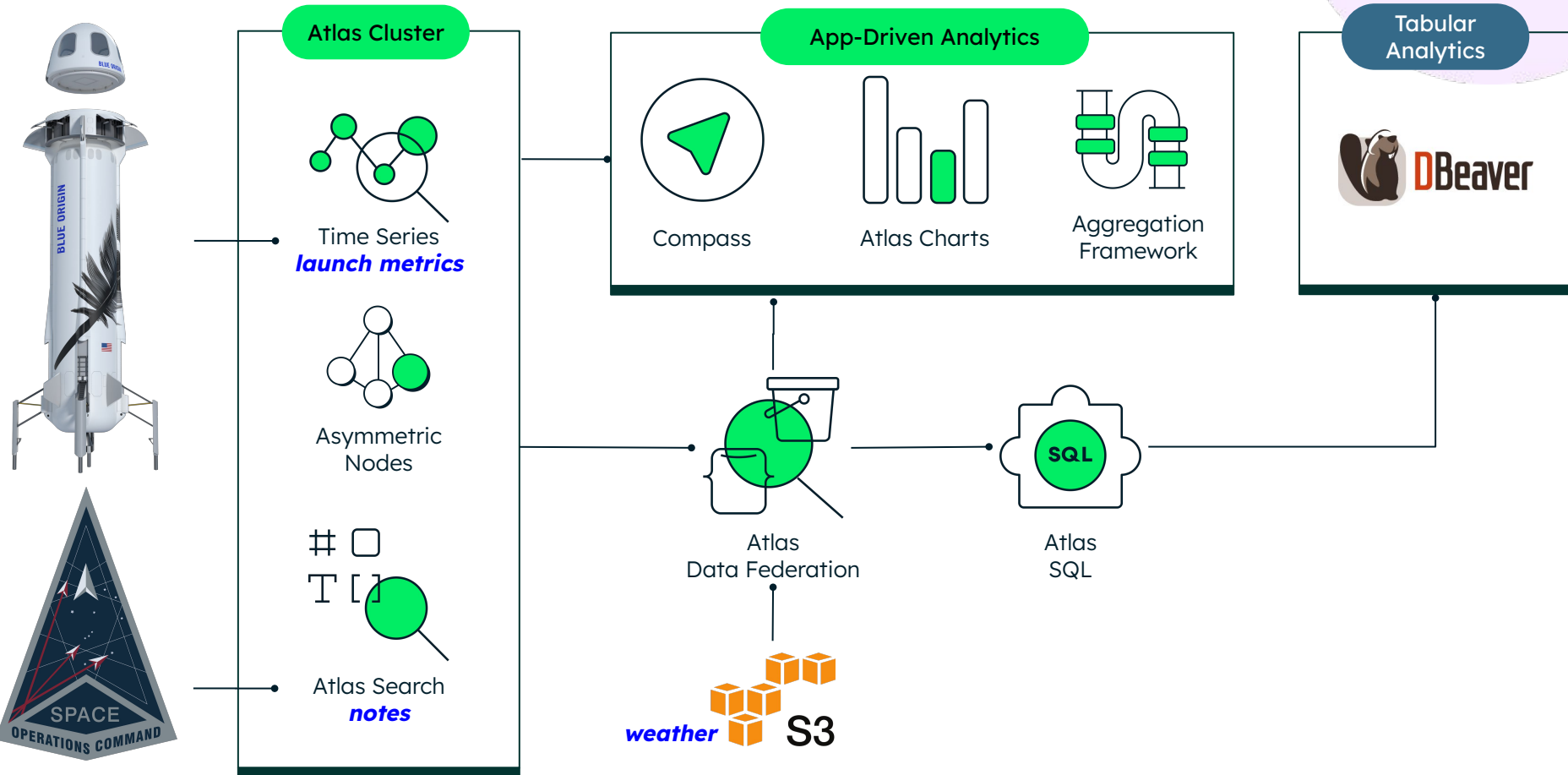
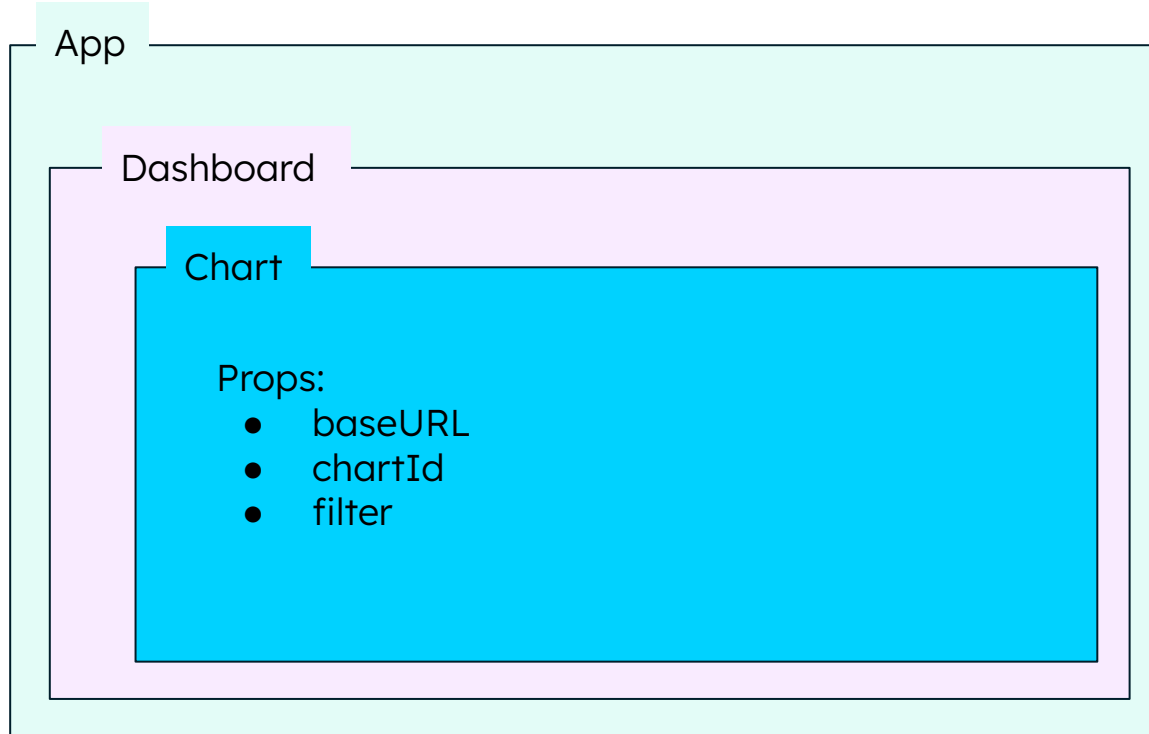




Chart Embedding



React App Component Structure

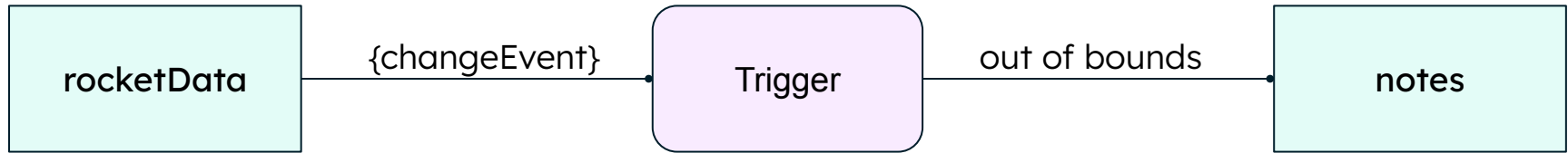




Atlas Triggers



Generating Notes With Atlas Triggers





changeEvent

```
{
  "_id": "826419"
  "operationType": "insert",
  "clusterTime": {"$timestamp": {"t": 1679408725, "i": 1}},
  "fullDocument": {
    "_id": "6419be3522ec81824cb292df",
    "meta": {"device": "testTrigger"},
    "truth_quat_CON2ECE4": 0.7049953208872,
    "truth_vel_CON_ECEF_ECEF_MpS1": -1,
    "truth_pos_CON_ECEF_ECEF_M1": -1387897.36558835,
    "truth_vel_CON_ECEF_ECEF_MpS3": 0.00414972080992211},
    "ns": {"db": "launchData", "coll": "rocketData"},
    "documentKey": {"_id": "6419be3522ec81824cb292df"}
  }
}
```



3 Week Agenda

Livestream	Objective	Time
Pework	Setup Development Environment	Before March 15th
1	Build App Driven Analytics Capabilities	March 15th, 10:00 AM ET
2	Search, Visualizations, & Triggers	March 22th, 10:00 AM ET
3	Business Visualizations	March 29th, 10:00 AM ET



Free 50 Atlas Credits

Livestream 3 will use some paid Atlas Features

- M10 cluster
- Atlas Data Lake
- Atlas Data Federation
- Atlas SQL

We have 100 x \$50 free Atlas codes available

The Atlas code is in rocketData collection.

Find the document where the sum of the sum of the **truth_pos_CON_ECEF_ECEF_M1** and **truth_vel_CON_ECEF_ECEF_MpS3** equals **-1387989.7605416959**

Hint: You many need to use the \$expr operator

Thank you for
your time.