DronaHQ for building apps on top of InfluxDB 3.0

Your Hosts

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Developer Advocate, InfluxData

Shibam Dhar

Developer Advocate, DronaHQ

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Agenda

1. Introductions
2. Demo
3. Q&A

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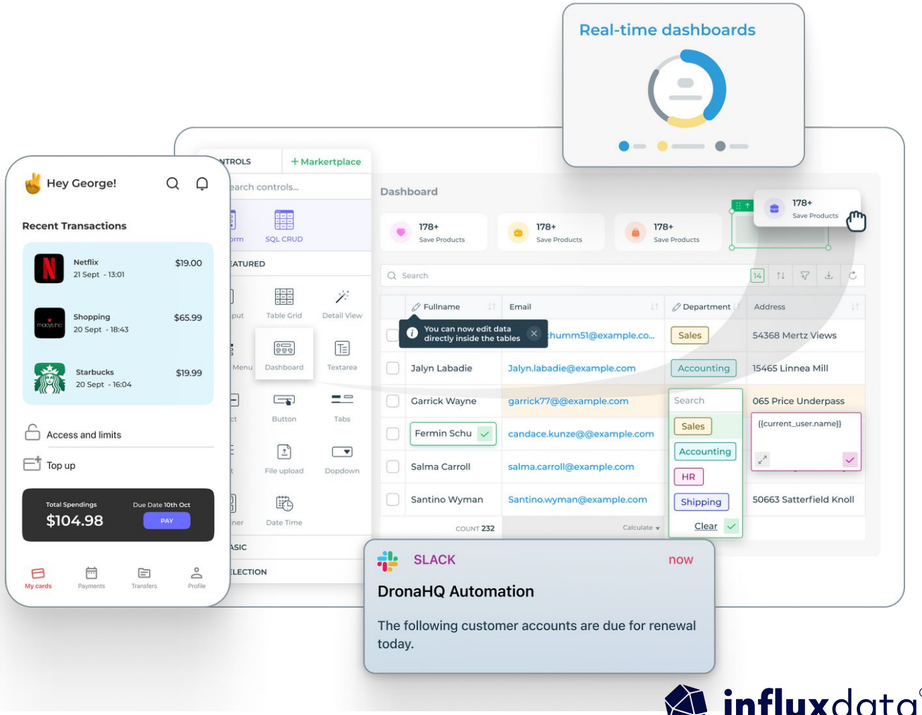

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Why do I need a Time Series Database?

The age of instrumentation

Sensors
in the physical world
(e.g. IoT)

Instrumentation
of the virtual world
(e.g. DevOps)

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Characteristics of the data

- Time-stamped
- Generated in regular (metric) and irregular (event) time periods
- Huge volumes
- Real time and time sensitive
- Example: traces & logs

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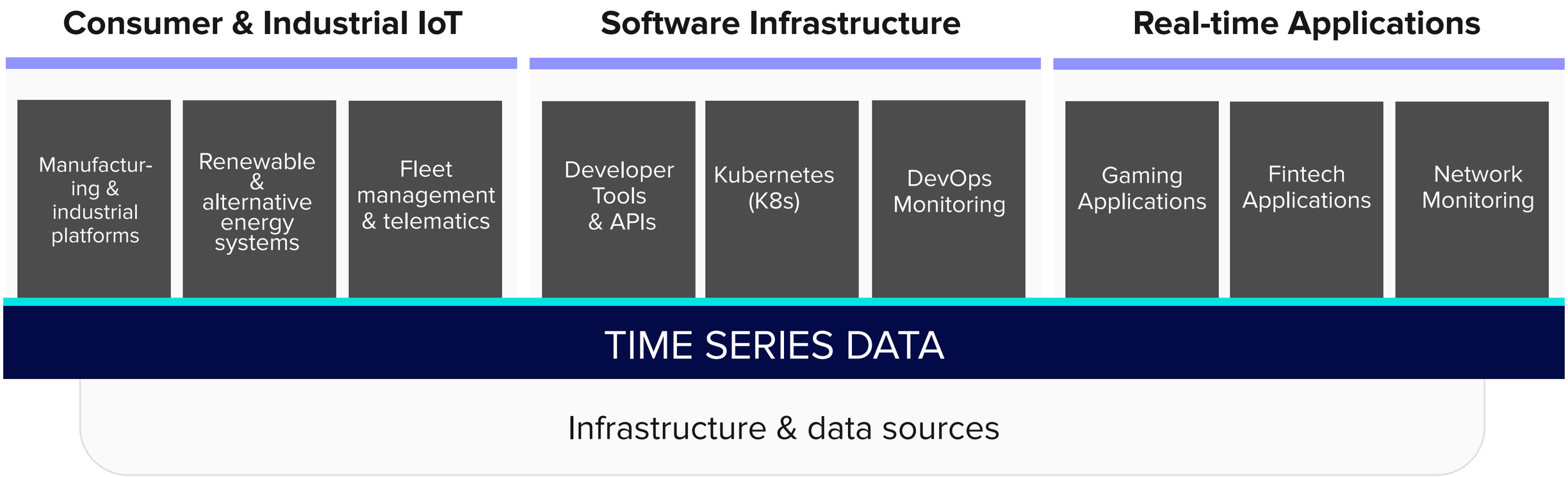
Time series in every application



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Rise of time series as a category

RELATIONAL

- Orders
- Customers
- Records

PostgreSQL

DOCUMENT

- High throughput
- Large document

MongoDB

SEARCH

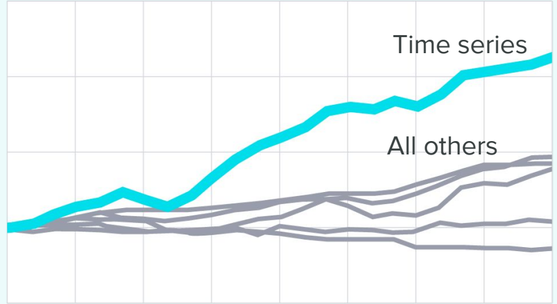
- Distributed search
- Logs
- Geo

elastic

TIME SERIES

- Events, metrics, time stamped
- for IoT, analytics, cloud native

Time series is fastest growing data category by far



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source: DB Engines

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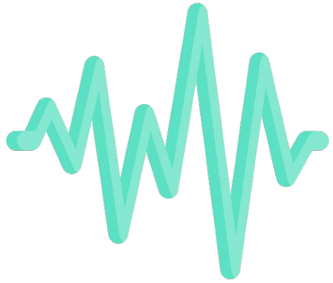
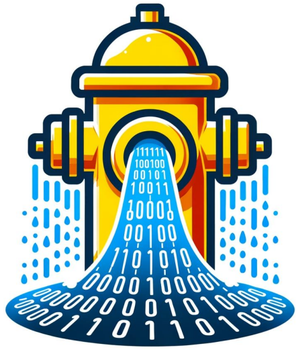
The characteristics of a TSDB

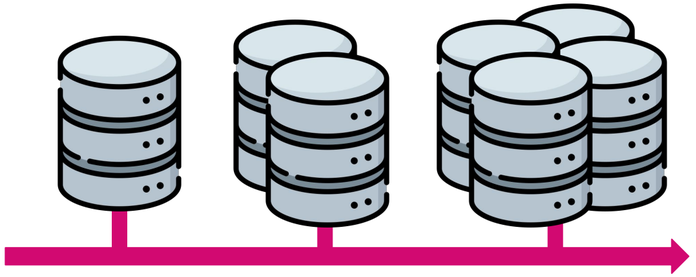


Time Series Data



High write throughput

Efficient Queries Over Time Ranges



Scalability and Performance

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Large and Growing Customer Base

1900+

Customers

IOT

ThermoFisher SCIENTIFIC
Schneider Electric
TESLA
ptc
Lam RESEARCH
nest
equinor

OTHER

SAP
CISCO
salesforce
IBM
coupa
BNP PARIBAS
Expedia
Bethesda
Capital One
COMCAST
DISCOVER
SIEMENS

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The InfluxDB Platform

InfluxDB is 3 things

1

POWERFUL

API & Toolset

for real-time apps

2

HIGH PERFORMANCE

Time Series Engine

for real-time data workloads

3

MASSIVE

Community & Ecosystem

of cloud & open source developers

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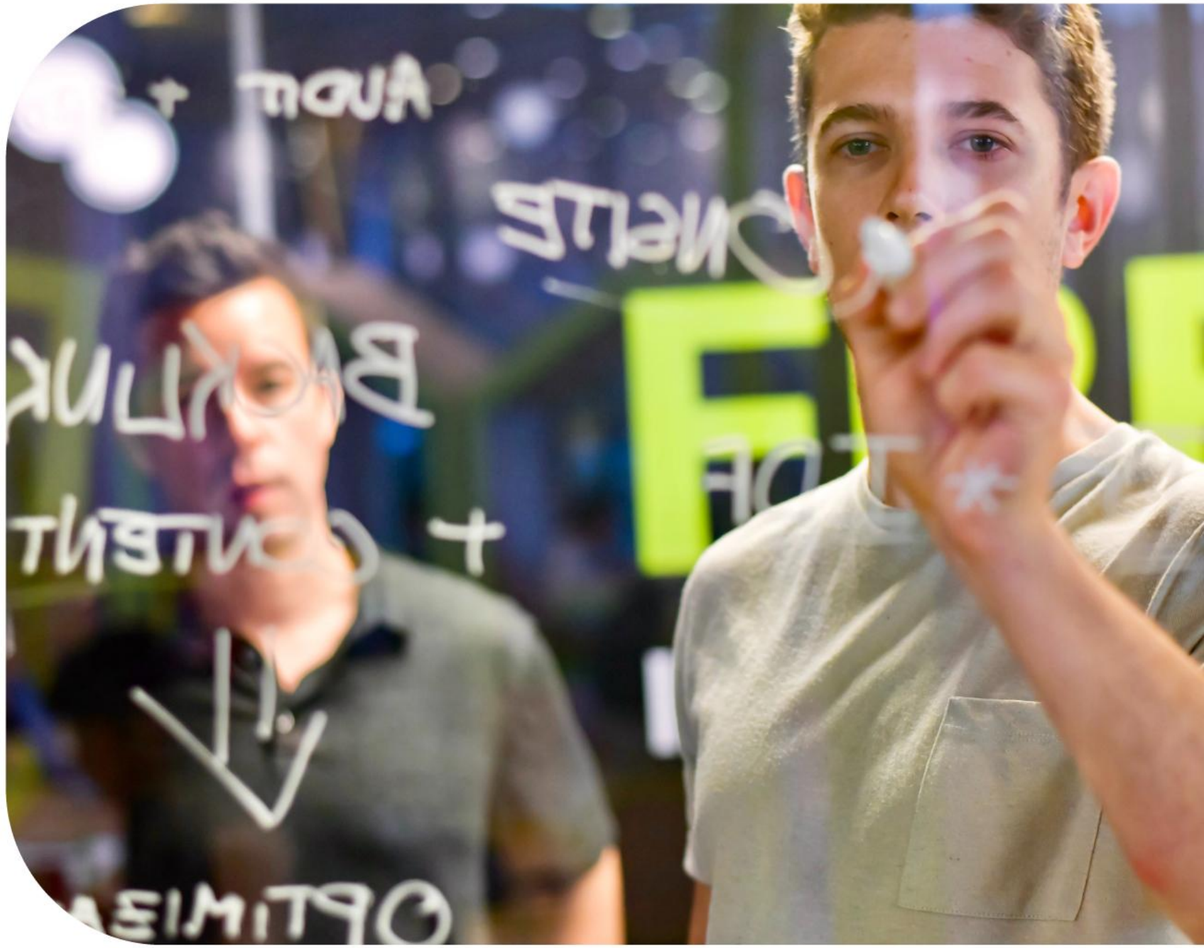
influxdb

Enables organizations to make cost–disruptive decisions on high volumes of time-sensitive data

InfluxDB – Time Series Platform

Empowers developers to build IoT, analytics, & monitoring software

- Designed for time series analysis
- Easy to share, easy to extend
- Open Source (MIT license)
- Easy to get started, powerful to scale



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InfluxDB – Time Series Platform

Core focus: Developers and Builders

- Developer happiness
- Time to awesome
- Ease of scale-out & deployment

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Reference Architecture

InfluxDB Platform

influxdb™ 3.0

Data Sources

All time-stamped data

Metrics
Sensors
Events
Devices
& more

Data Collection

Multiple data ingest methods

Telegraf
Client libraries
& more

Data Storage & Transformation

Purpose-built time series database

Collect
Store
SQL queries

+ INTEGRATIONS

Data Visualization & Analysis

Machine learning
Analytics tools
BI tools
& more

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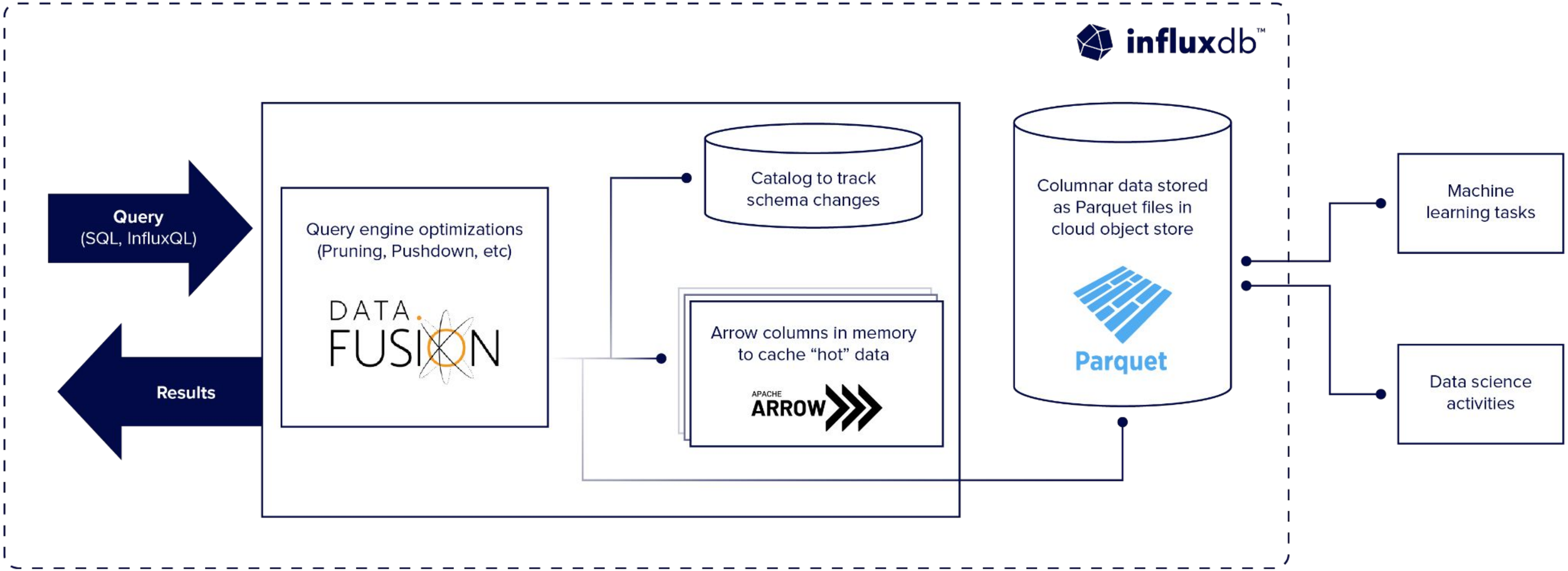
Deep dive Architecture



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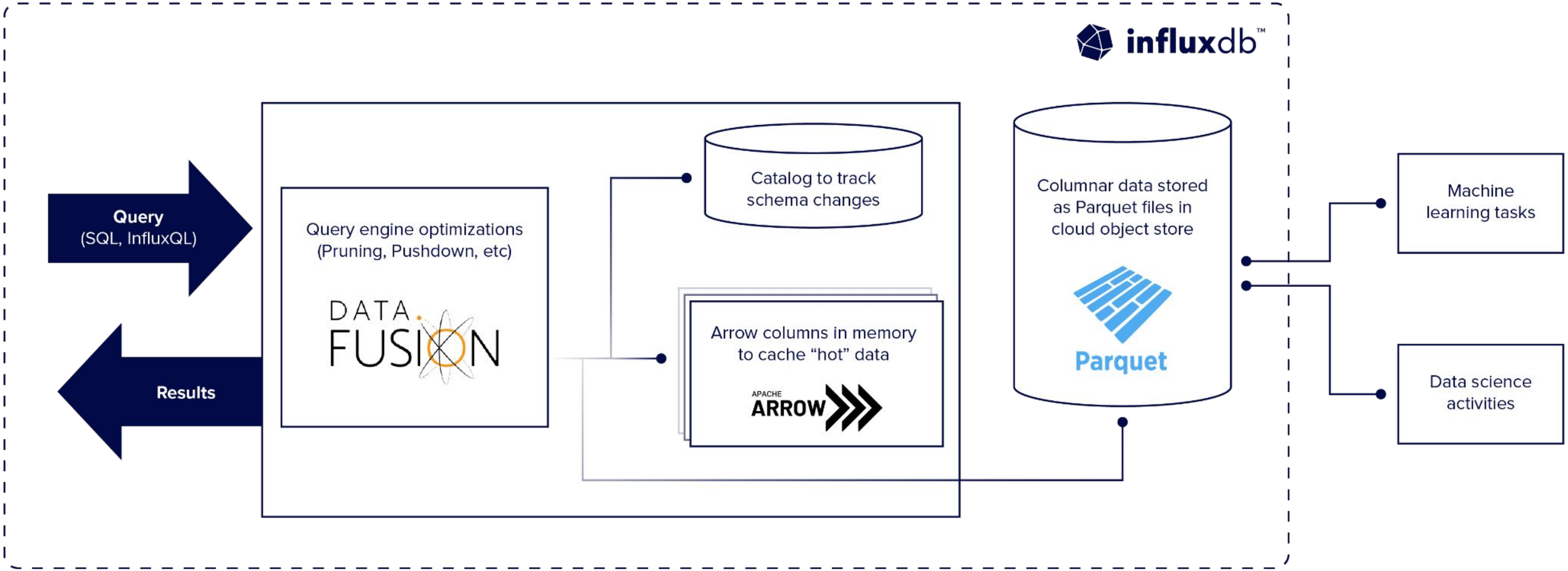
Deep dive Architecture



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Using InfluxDB

Concepts: Data Model

Bucket

- All InfluxDB data is stored in a bucket. A bucket combines the concept of a d
  duration of time that each data point persists).

Measurement

- A name to a group of data at a high level (Table)

Tag set

- A set of key-value pairs to group data at a low level (values are strings)

Field set

- A set of key-value pairs to represent data (values are numerical & strings)

Timestamp

Line Protocol: Simple but powerful

- Writing points to InfluxDB uses Line Protocol, which takes the follow

```
<measurement>[,<tag-key>=<tag-value>] [<field-key>=<field-value>]
[unix-nano-timestamp]
```

Measurement	Tag Set	Field Set	Timestamp
cpu_load	,hostname=server02,us_west=az	temp=24.5,volts=7	1234567890000000

Reference: https://docs.influxdata.com/influxdb/cloud/reference/syntax/line-protocol/

Schema Considerations

Benefits of the InfluxDB 3.0 Schema

- Eliminates cardinality restraints

Schema Restrictions

- No duplicate columns
- 200 column limit

Design for performance

- Avoid Wide Schemas
- Avoid Sparse Schemas
- Homogeneous

Design for query simplicity

- Keep simple
- Avoid Special characters

Writing Data

```
from influxdb_client_3 import InfluxDBClient3, Point
import datetime
```

Library Import

```
host = “eu-central-1-1.aws.cloud2.influxdata.com”
org="6a841c0c08328fb1"
token = “”
database = “database”

client = InfluxDBClient3(
    token=token,
    host=host,
    org=org)
```

Initialization

```
data = Point().tag().field().field().time()
client.write(data)
```

Write

Querying Data

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```

Write

```
sql = '''SELECT * FROM table'''
table = client.query(query=sql, language='sql', mode='all')
print(table)
```

Query

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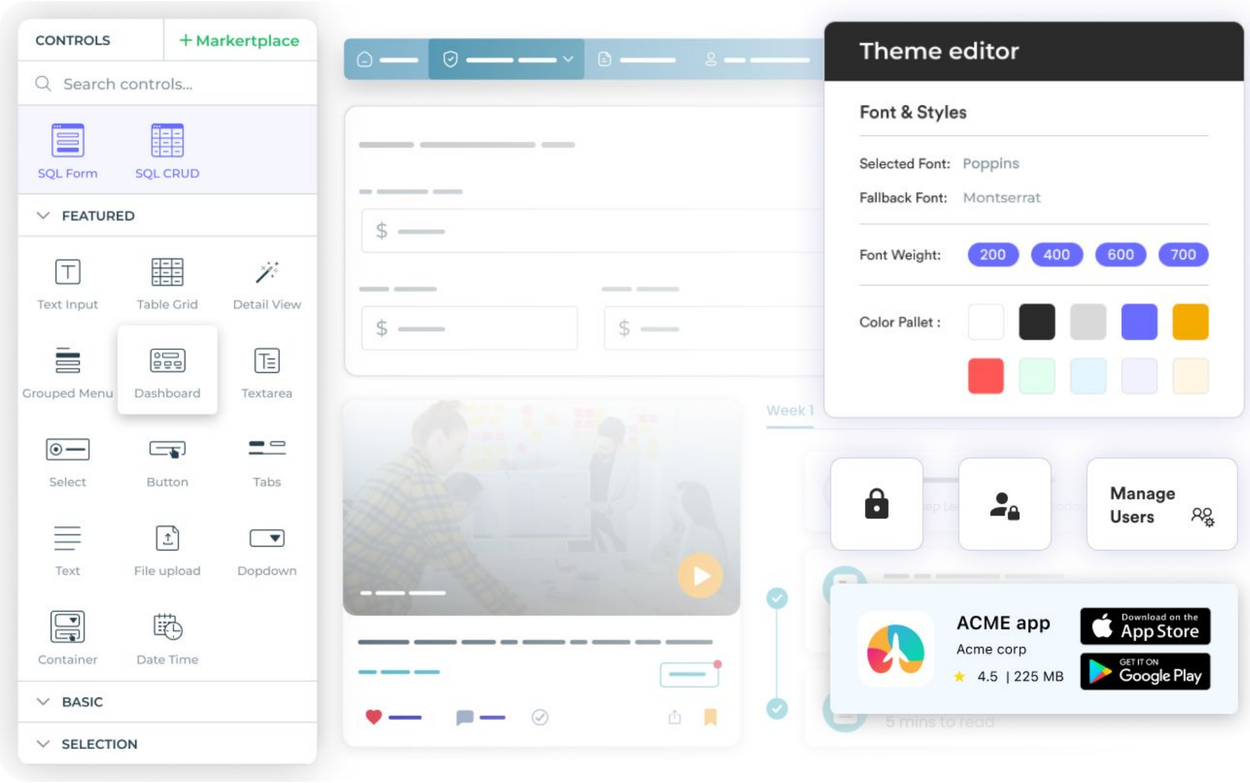
About DronaHQ

DronaHQ is a low-code developer toolset, to build internal tools, custom portals, AI-powered apps, and custom visualizations & dashboards at 10X speed.



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- 16+ years of Enterprise Product
- Million+ users supported
- 100+ enterprise customers
- Global audience

> Where we've really enjoyed success with DronaHQ is that we can turn things around, now, **from an idea to a real thing in five weeks**, which for us is wonderful.

Andrew Scott
Global Solutions Owner
Mondelēz International

Gartner 4.2/5.0

Capterra 4.6/5.0

G2 CROWD 4.4/5.0

Trusted by

Mondelēz International, Nestlé, wipro, LTI Let's Solve, Pfizer, Cipla, IDFC FIRST Bank, purplle, McKinsey & Company, ICICI PRUDENTIAL, SANY, BAJAJ FINSERV, dolly, Boston Scientific

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How does it help?

Visual development

Ready UI controls, action blocks

Ready data connectors

50+ APIs + Databases connectors

Customization & flexibility

Flexible to add your custom code, JS,

Deploy across devices

Web, mobile, URL, embed, public apps

Iterate & Maintain

Easy to maintain and upgrade

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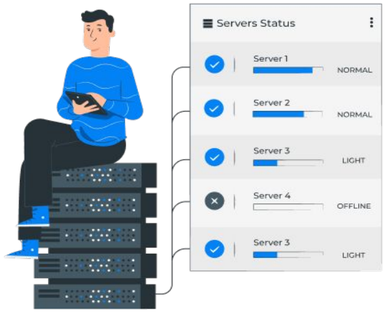
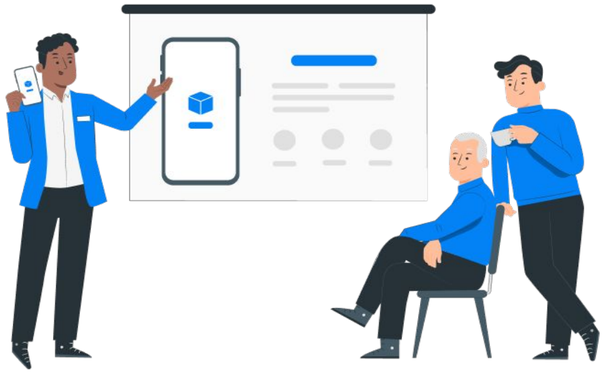
Who can use DronaHQ?

Developers



Database Engineers



Product Managers

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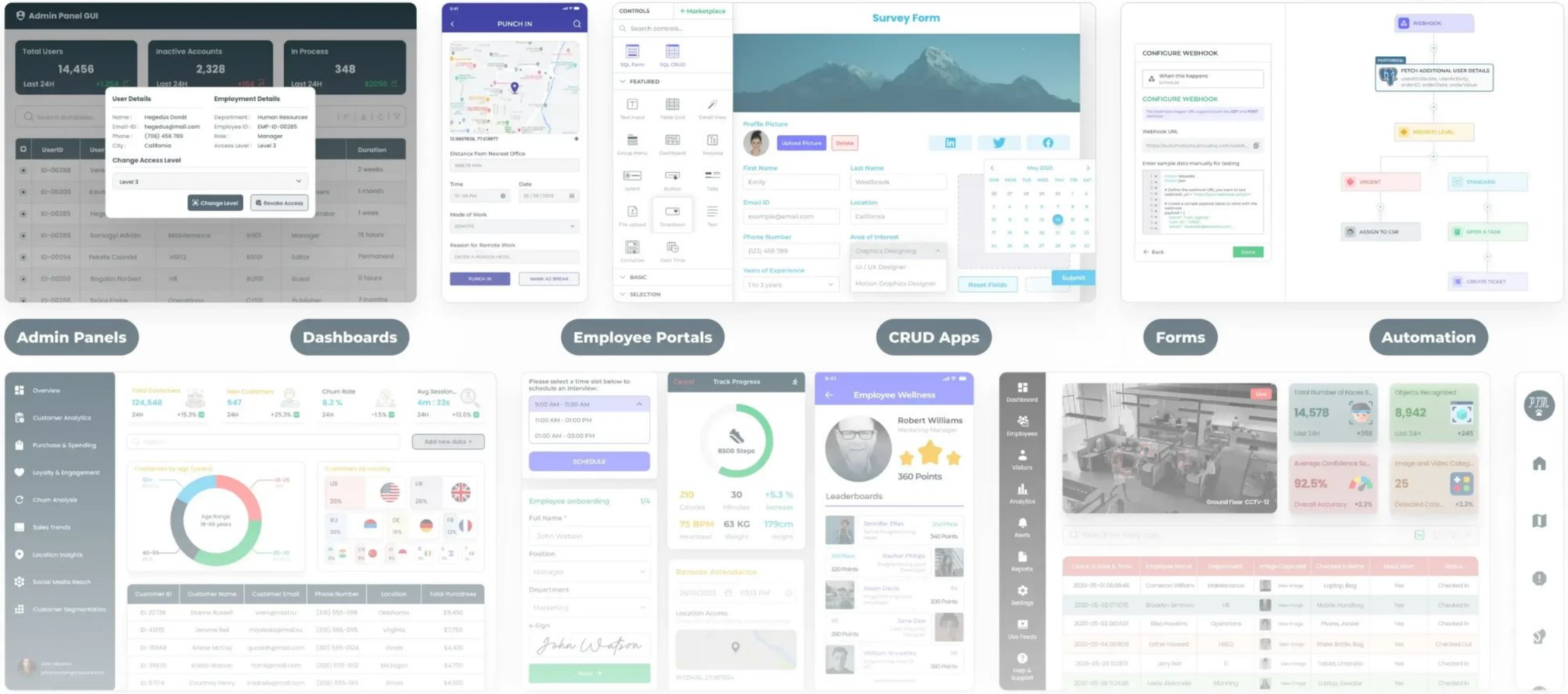
What can you build?



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Code vs Connector

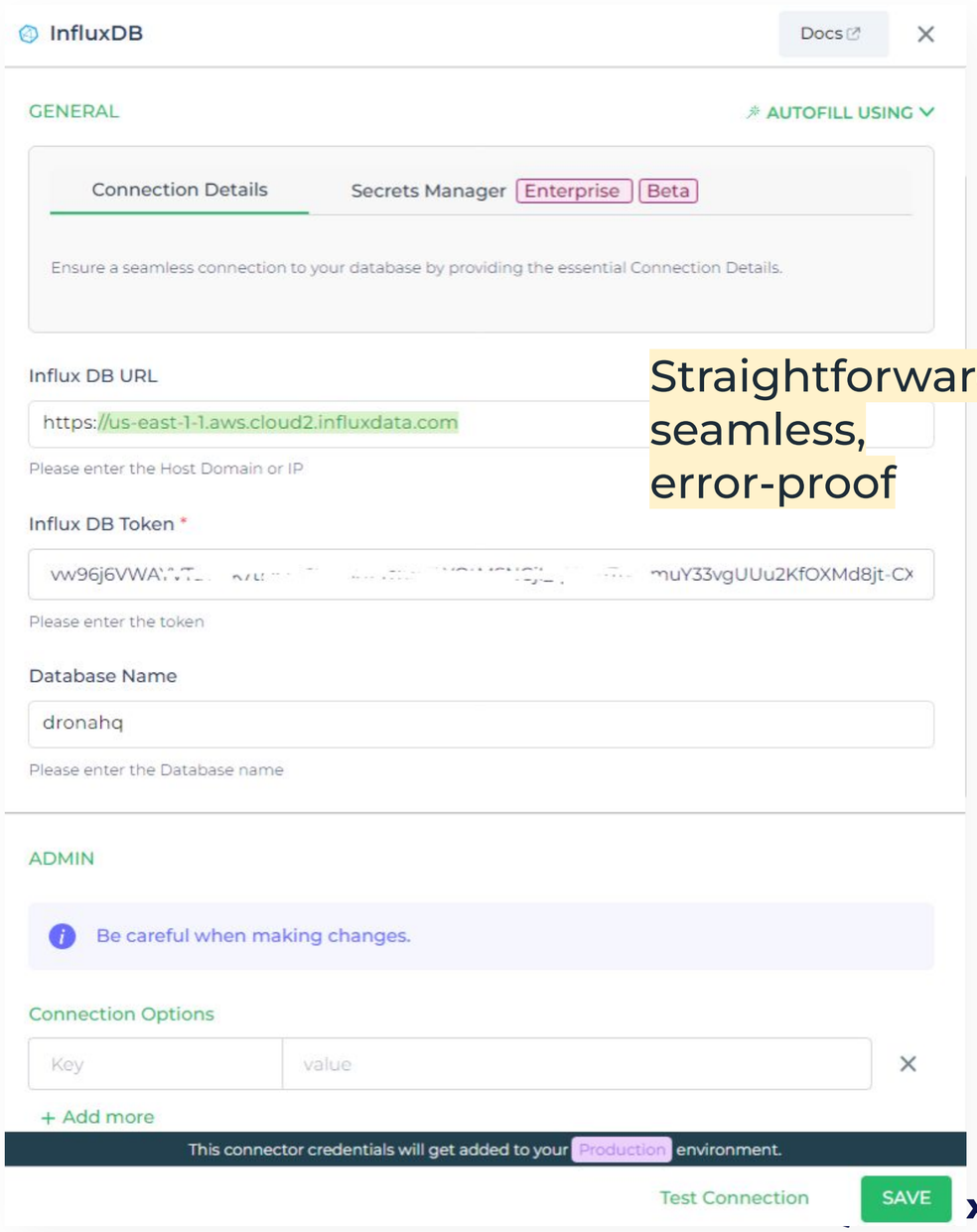
How does it help?

```python
import requests

def fetch_data_from_api(api_url):
    try:
        response = requests.get(api_url)
        if response.status_code == 200:
            return response.json()
        else:
            print(f"Error: {response.status_code} - {response.reason}")
            return None
    except requests.exceptions.RequestException as e:
        print(f"Request Error: {e}")
        return None

# Example usage
api_url = "https://api.example.com/data"
data = fetch_data_from_api(api_url)
if data:
    print("Received data from API:", data)
else:
    print("Failed to fetch data from API.")
```

Write custom codes for the APIs and connectors



Straightforward, seamless, error-proof

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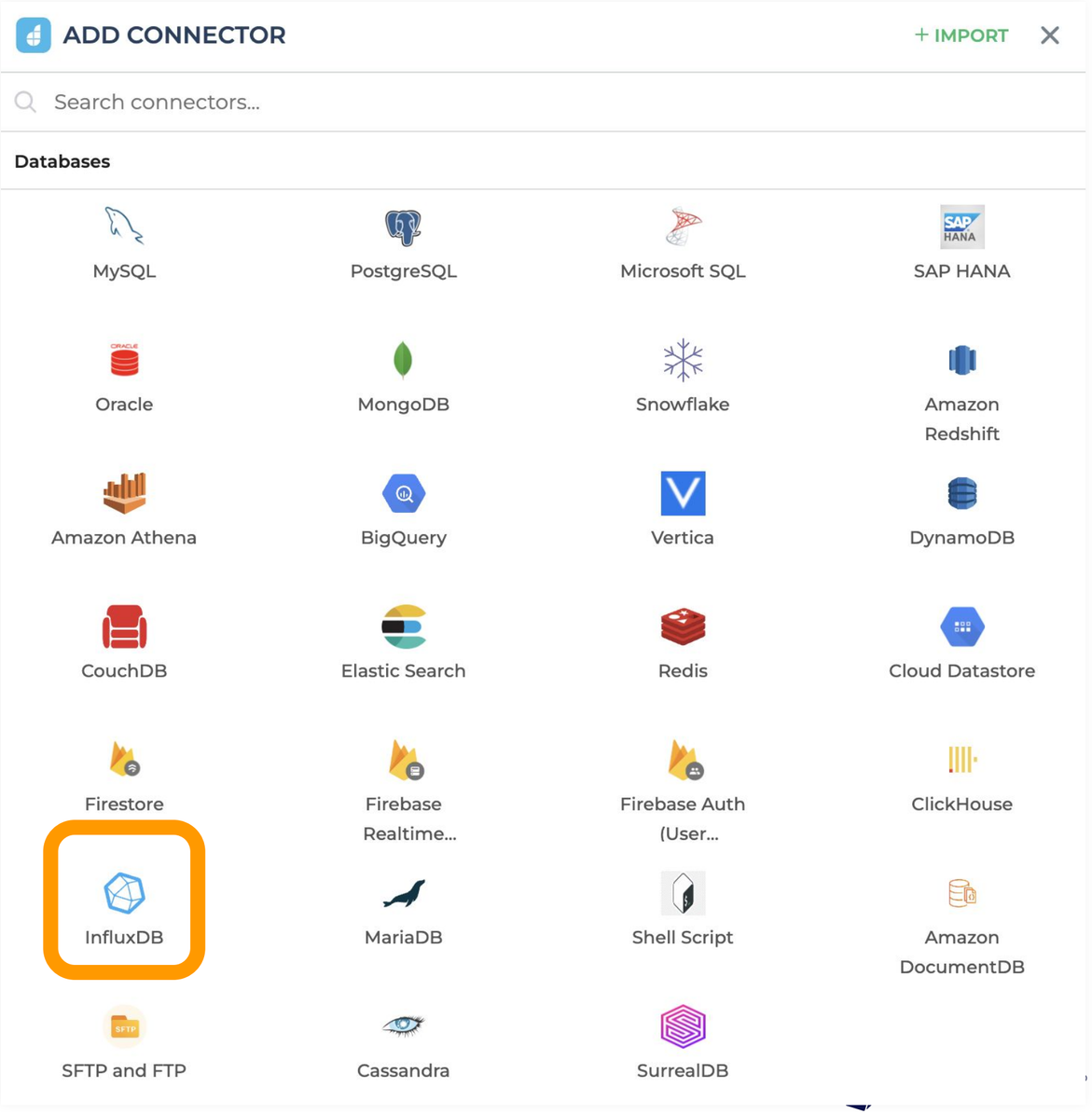
What we will demonstrate

1. Integration

2. Frontend

3. Data Binding



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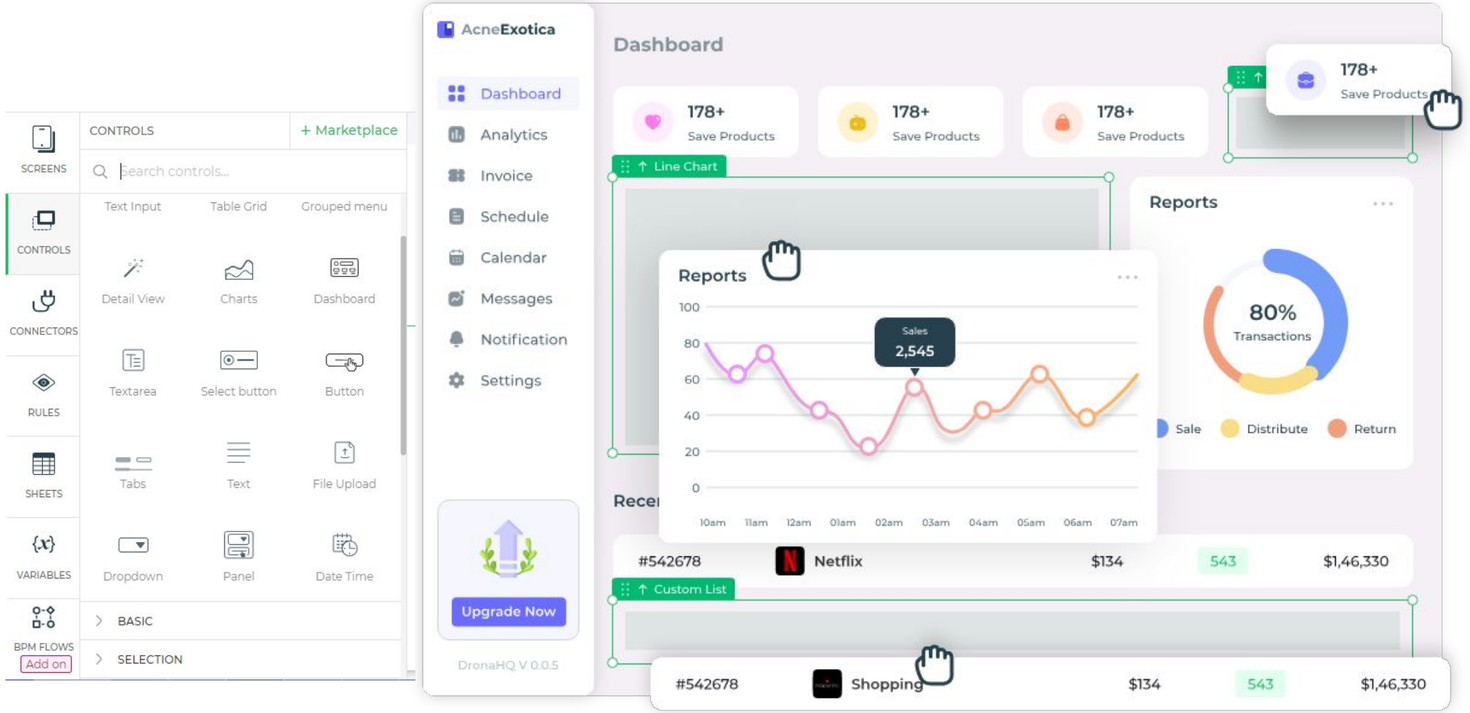

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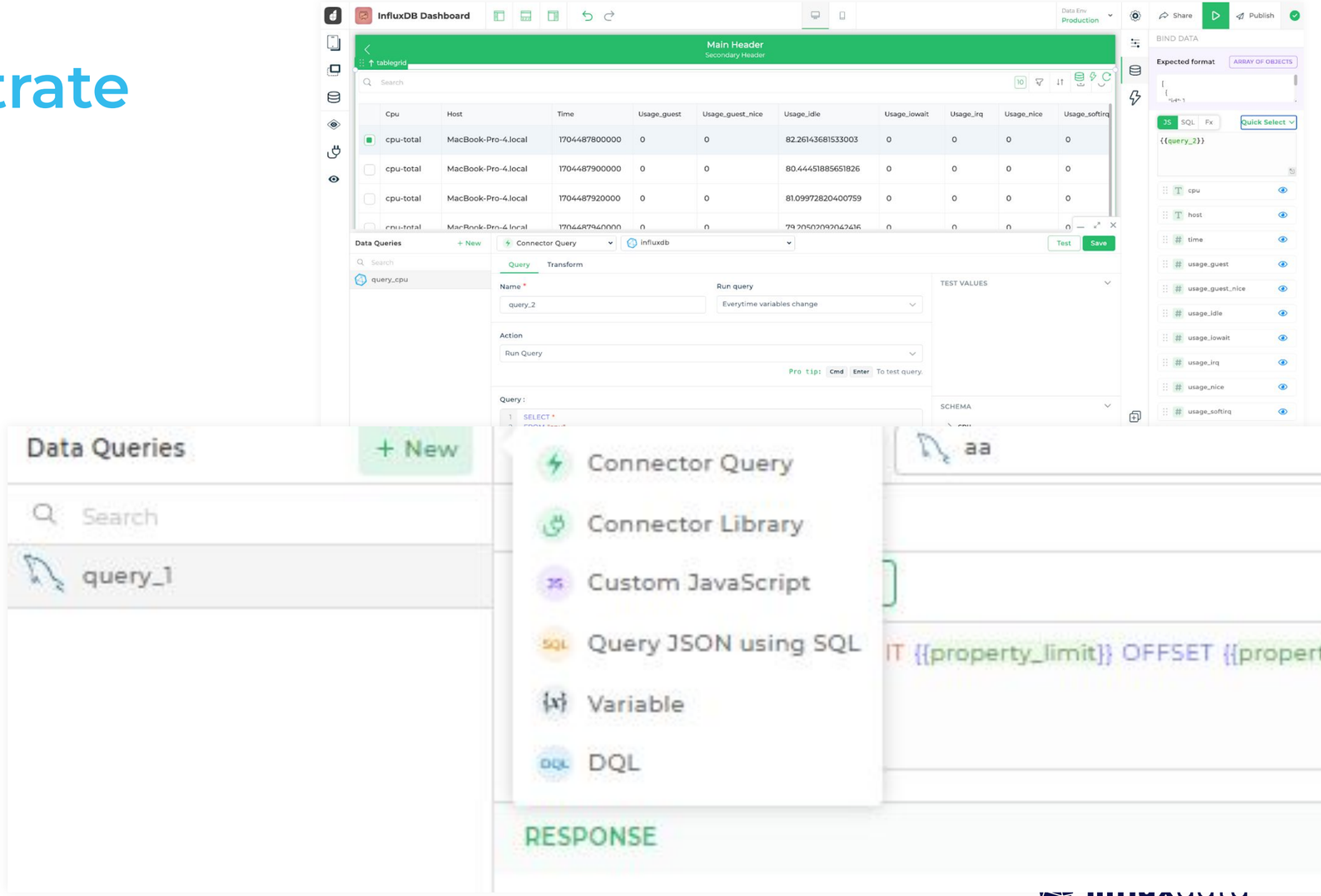

On to the demo...

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More resources

1. Get started with 30-day free trial: https://www.dronahq.com/signup/
2. DronaHQ documentation: https://docs.dronahq.com/getting-started/introduction/