

UNIVERSITÀ DEGLI STUDI DI MILANO  
DIPARTIMENTO DI INFORMATICA

# Mole.io

**Relatore**  
Prof. Ernesto Damiani

**Correlatore**  
Emanuele DelBono

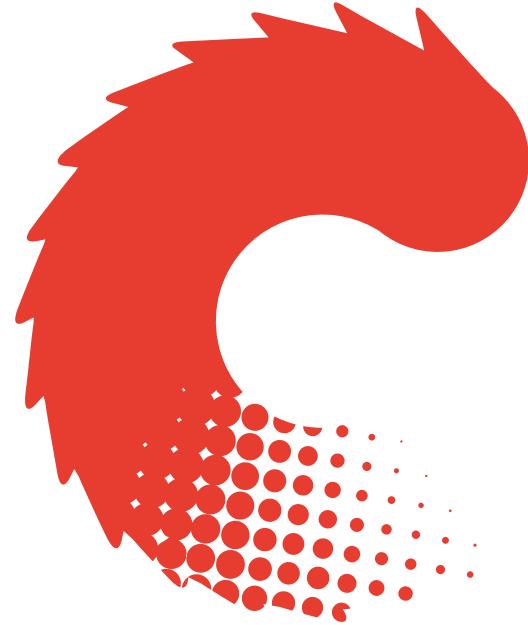
**Federico Gandellini**  
Matr. 703156

UN SISTEMA  
PER LA GESTIONE  
CENTRALIZZATA  
DEI LOG APPLICATIVI

ANNO ACCADEMICO 2012/2013

Corso di Laurea Magistrale in Scienze e Tecnologie dell'Informazione

COMPANY



C O D I C E P L A S T I C O



COMPANY



Applications

## Requirements

**Monitor** customer installations across the Italian country

**Reverse** workflow

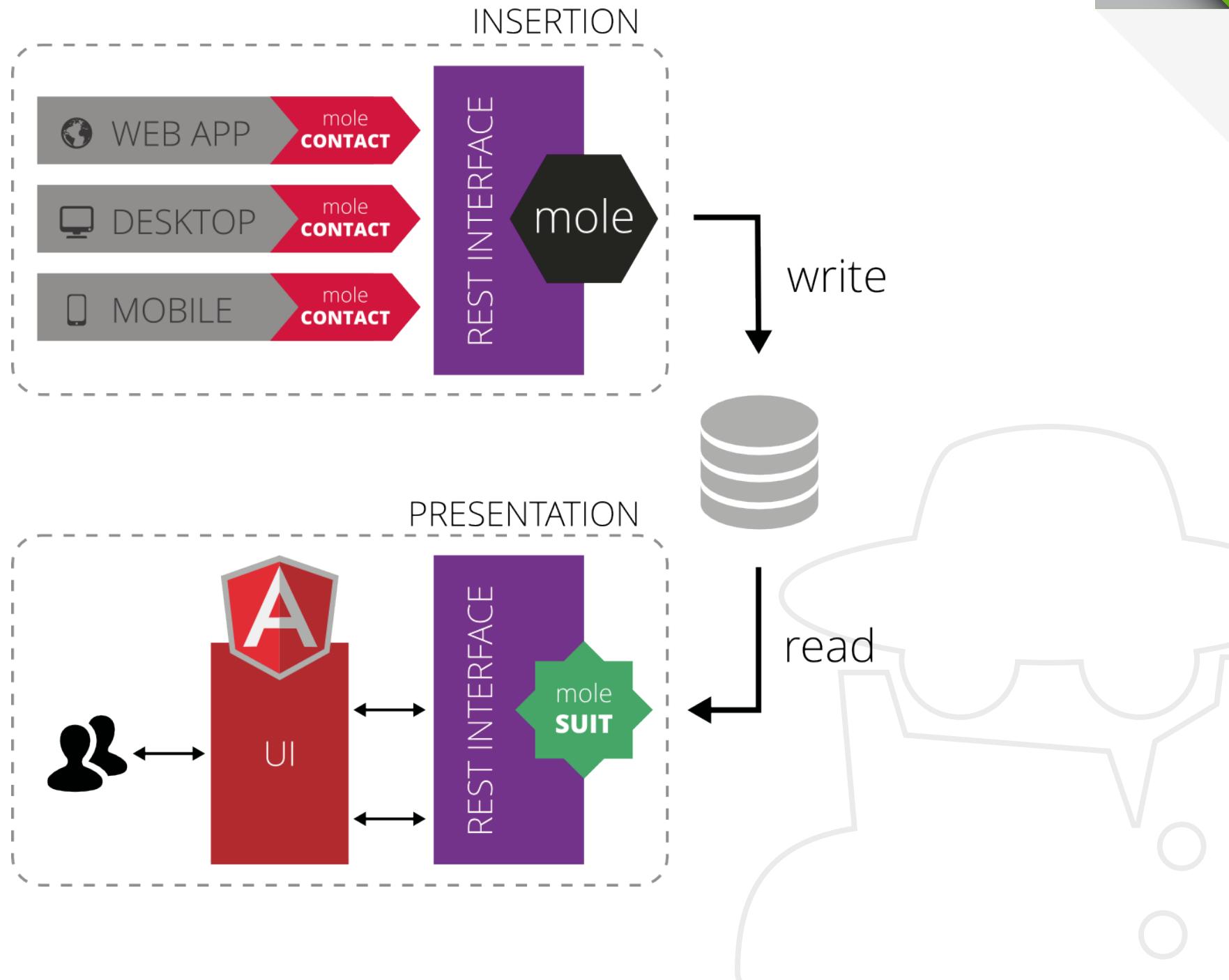
**Centralization** of app statuses



mole.io

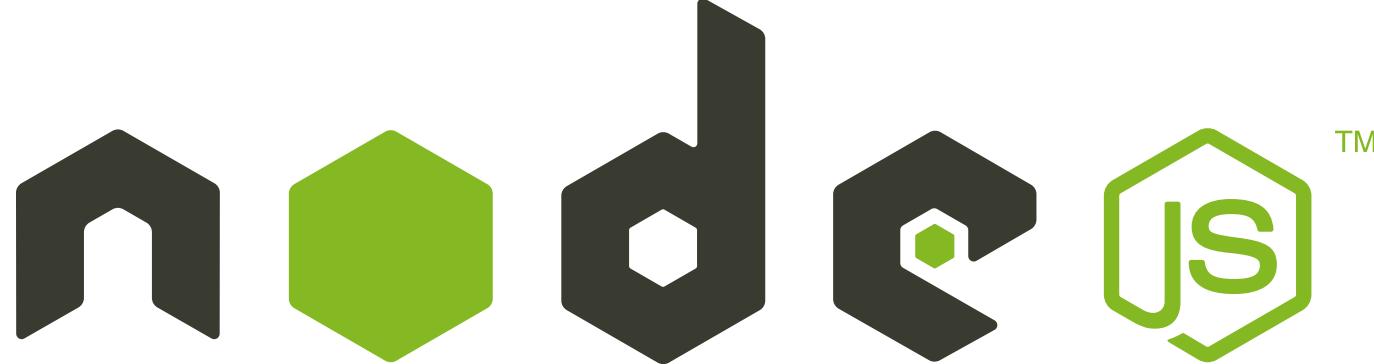


# MOLE.IO





TECHNOLOGY



# Server-side JavaScript Framework

**HIGH  
PERFORMANCES**

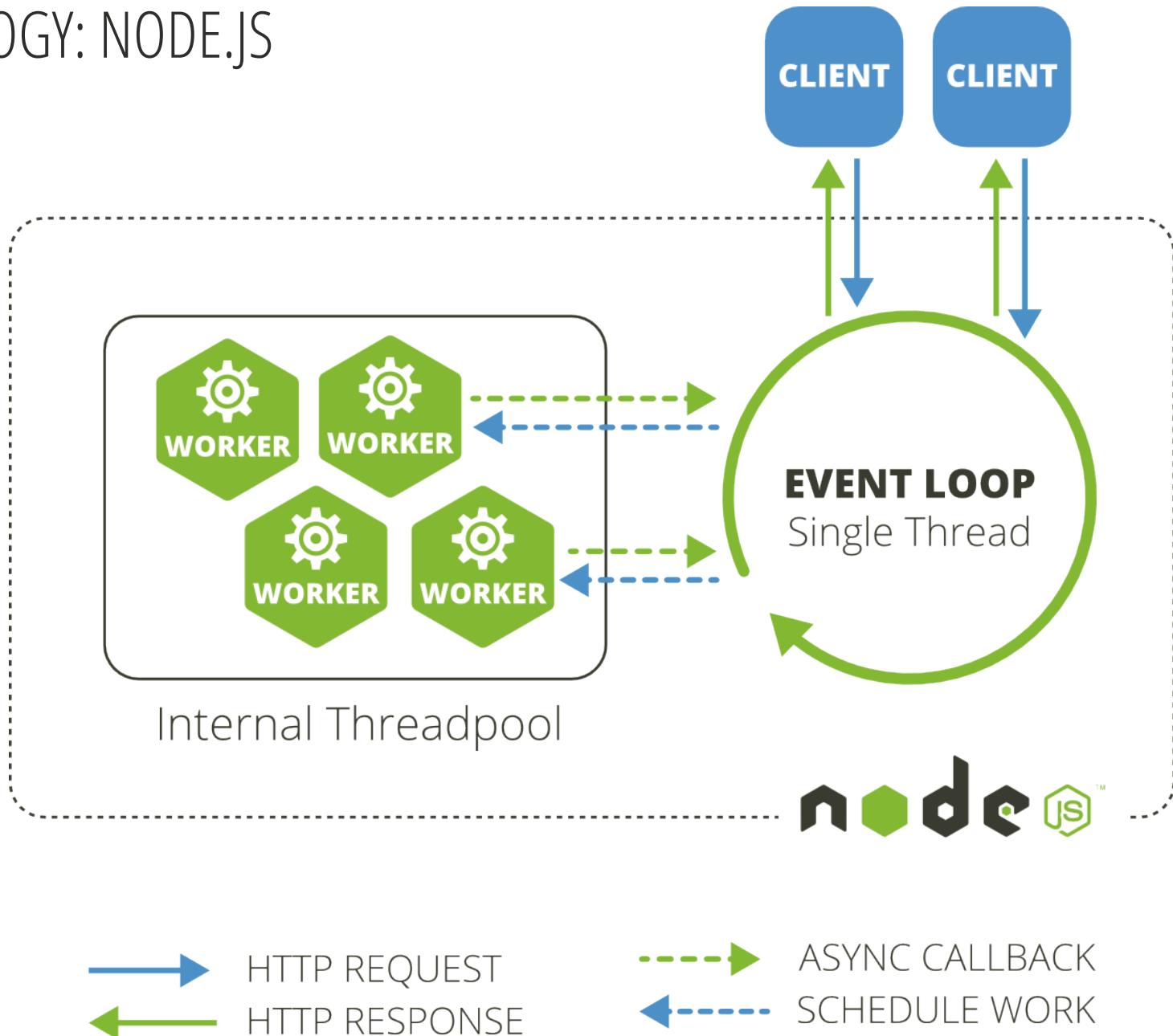
**SMALL  
FOOTPRINT**

**ASYNC  
(BY DESIGN)**

**EVENTED  
I/O**

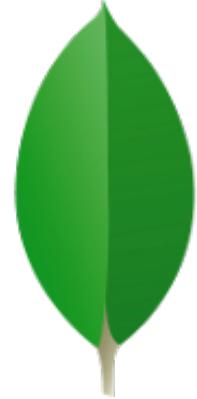


# TECHNOLOGY: NODE.JS





TECHNOLOGY: MONGODB



# mongoDB

NoSQL Schema-less DBMS

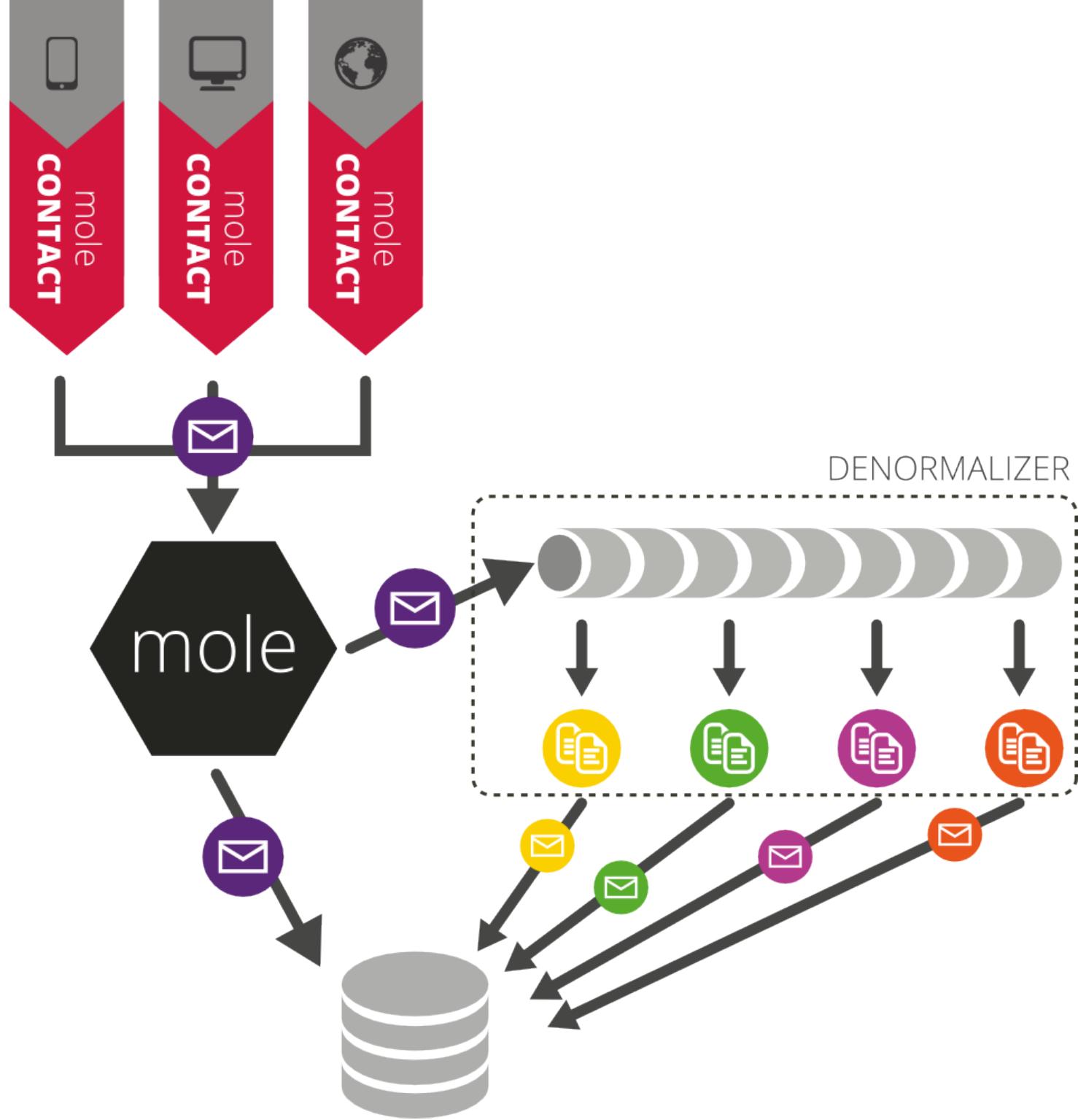
UNSTRUCTURED  
**DATA**

**EASY  
SCALING  
SHARDING**

**HIGH  
AVAILABILITY  
REPLICASET**

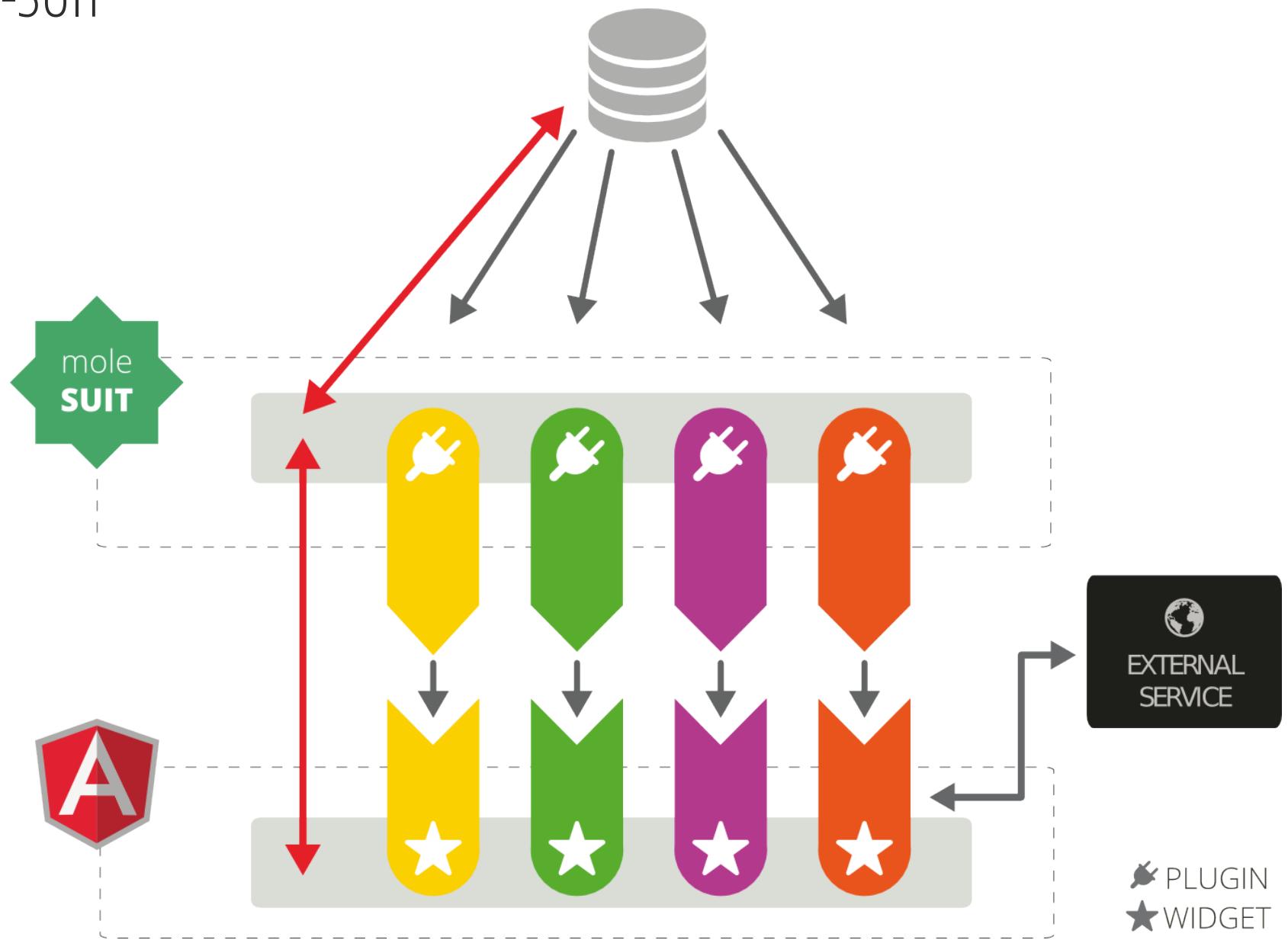


MOLE





# MOLE-SUIT





# WORKFLOW - 1/6



mole.io

Is something strange happening in your app? You need a mole to find out more!

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 Sign in with Twitter



# WORKFLOW - 2/6

 gandellinux ▾

## Vuoi autorizzare mole.io - dev a usare il tuo account?

Questa applicazione **potrà**:

- Leggere i Tweet dalla tua cronologia.
- Vedere chi segui.

**Autorizza app** **Annulla**

Questa applicazione **non potrà**:

- Seguire nuove persone.
- Aggiornare il tuo profilo.
- Pubblicare Tweet dal tuo account.
- Accedere ai tuoi messaggi diretti.
- Vedere la tua password di Twitter.

Puoi revocare l'accesso a qualsiasi applicazione in qualsiasi momento dal [pannello Applicazioni](#) nella tua pagina delle Impostazioni.

Autorizzando un'applicazione continui ad essere soggetto ai [Termini di Servizio di Twitter](#). In particolare, alcune informazioni sull'uso verranno condivise con Twitter. Per saperne di più, leggi la nostra [Informativa sulla Privacy](#).



# WORKFLOW - 3/6

mole.io Sources gandellinux +

### Add Source

Source Name +

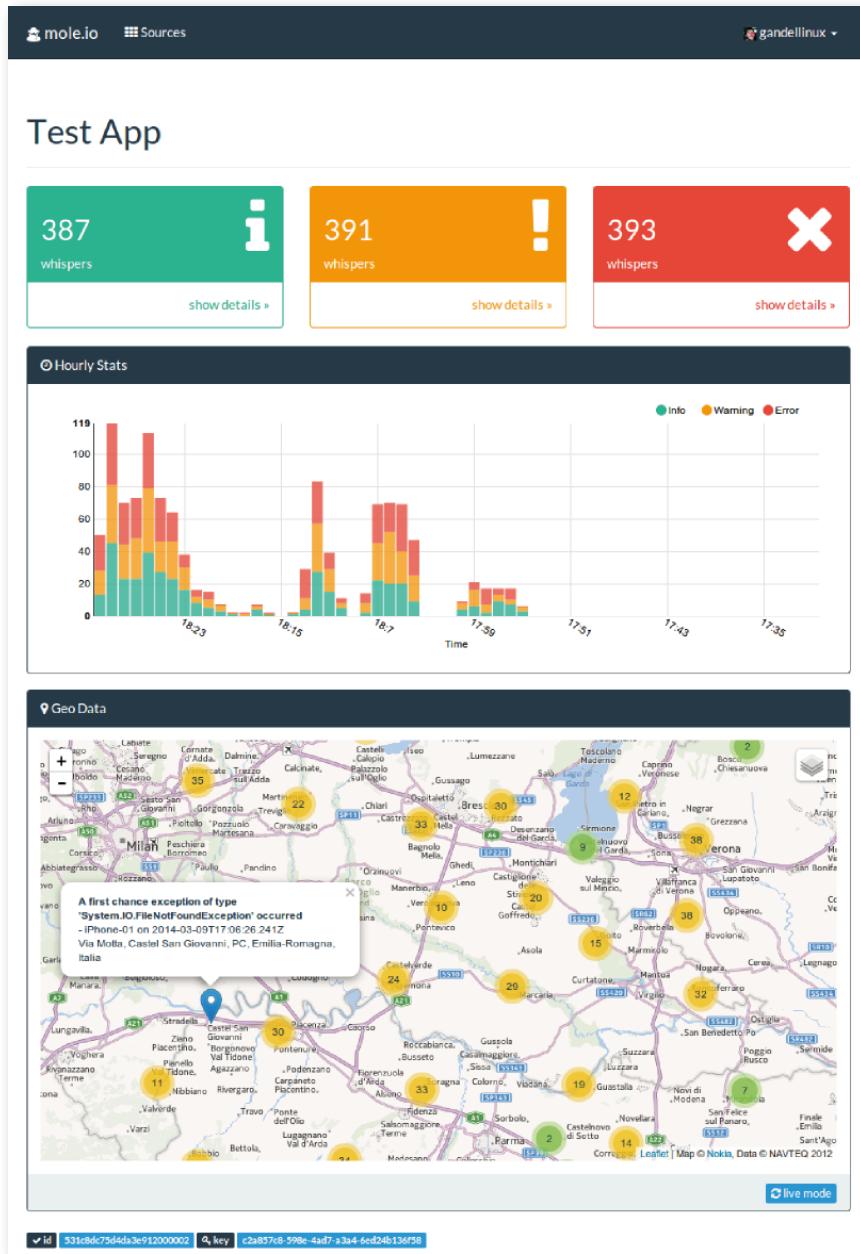
#### Test App

0 whispers

✓ 531c8dc75d4da3e912000002  
✖ c2a857c8-598e-4ad7-a3a4-6ed24b136f58



# WORKFLOW - 4/6



## SUMMARY WIDGET

## STATS WIDGET

## GEO WIDGET



# WORKFLOW - 5/6

mole.io Sources gandellinux ▾

## Clustered whispers from

Whispers	Last Received	Sender	Message
64	Sun, Mar 9 2014 18:30:24	iPhone-02	System.NullReferenceException: Object reference not set to an instance of an object. at App.Main()
64	Sun, Mar 9 2014 18:30:18	Nexus-01	System.NullReferenceException: Object reference not set to an instance of an object. at App.Main()
69	Sun, Mar 9 2014 18:30:18	Lumia-01	System.NullReferenceException: Object reference not set to an instance of an object. at App.Main()
63	Sun, Mar 9 2014 18:30:19	Lumia-02	System.NullReferenceException: Object reference not set to an instance of an object. at App.Main()
68	Sun, Mar 9 2014 18:30:23	Nexus-02	System.NullReferenceException: Object reference not set to an instance of an object. at App.Main()
65	Sun, Mar 9 2014 18:30:21	iPhone-01	System.NullReferenceException: Object reference not set to an instance of an object. at App.Main()



# WORKFLOW - 6/6

mole.io Sources gandellinux

← Older 64 / 64 Newer →

**Main Data**

**X**

Sent from Nexus-01  
Sent on Sun, Mar 9 2014 18:30:18

System.NullReferenceException: Object reference not set to an instance of an object. at App.Main()

**Geo Data**

lat 45.23175787973783 lon 9.940515441447415

**Additional Data**

ip 222.132.235.92  
email Eleanore@rosella.name  
os android

**Raw Data**

```
{
  "time": "2014-03-09T17:30:18.244Z",
  "sender": "Nexus-01",
  "severity": 2,
  "message": "System.NullReferenceException: Object reference not set to an instance of an object. at App.Main()",
  "ip": "222.132.235.92",
  "email": "Eleanore@rosella.name",
  "os": "android",
  "geo": {
    "lat": 45.23175787973783,
    "lon": 9.940515441447415
  },
  "_id": "531ca52aa683a2f82b00093c"
}
```

mole.io Sources gandellinux

← Older 64 / 64 Newer →

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  "geo": {
    "lat": 45.23175787973783,
    "lon": 9.940515441447415
  },
  "_id": "531ca52aa683a2f82b00093c"
}
```



## BENCHMARK

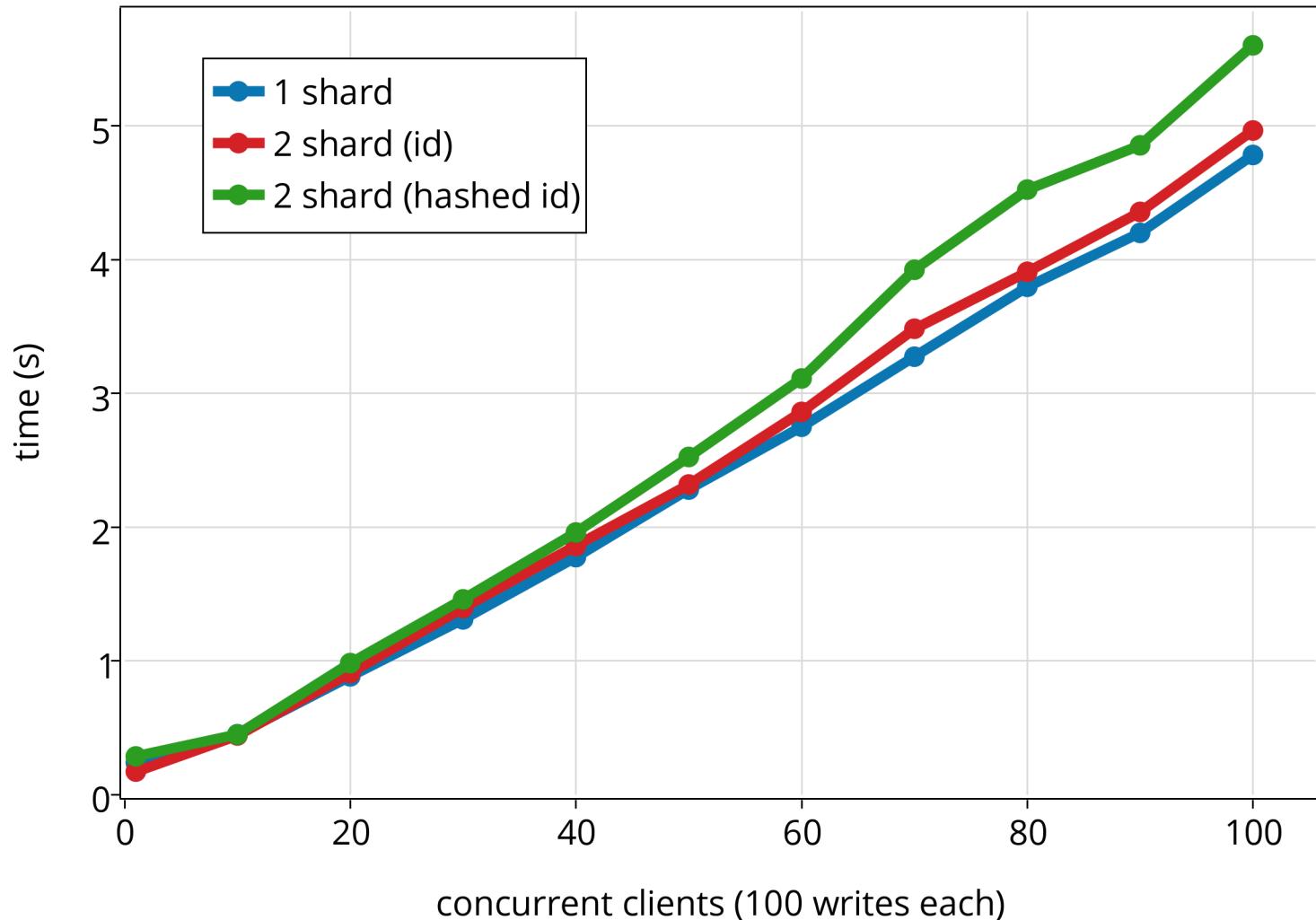
TESTED MongoDB  
INSERTION

**1** TO **100** CLIENTS  
*SMALL AND BIG*  
DOCS

**3** VM  
**3** SHARDING  
POLICIES  
AVERAGE  
OVER **3** RUNS



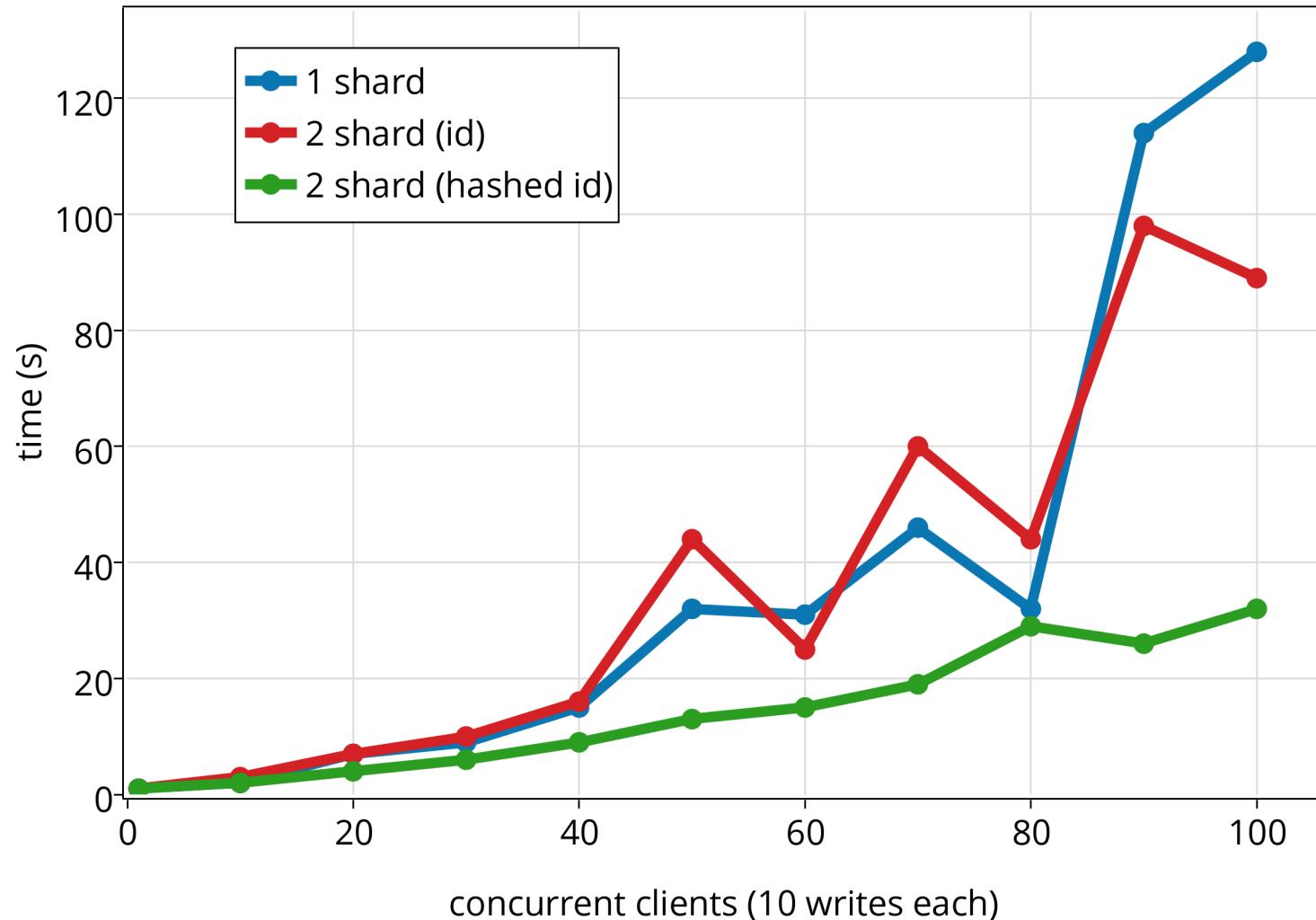
# BENCHMARK



**SMALL**  
DOCS



# BENCHMARK



**BIG**  
DOCS



## RECAP & FURTHER DEVELOPMENTS

BETTER CLIENTS  
SUPPORT AND INCREASE  
OF PRODUCT VALUE

IMPROVED  
PERSONAL SKILLS

GREAT TOOLS

MORE TEST

MORE MOLE-CONTACT

MORE DENORMALIZER

QUERY LANGUAGE

MOBILE APP

PUSH NOTIFICATION



# Questions?



# Thanks!

