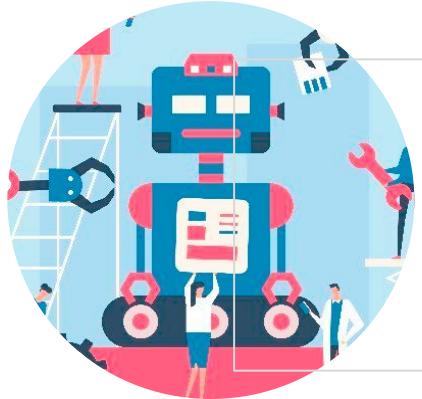




Workshop online Series

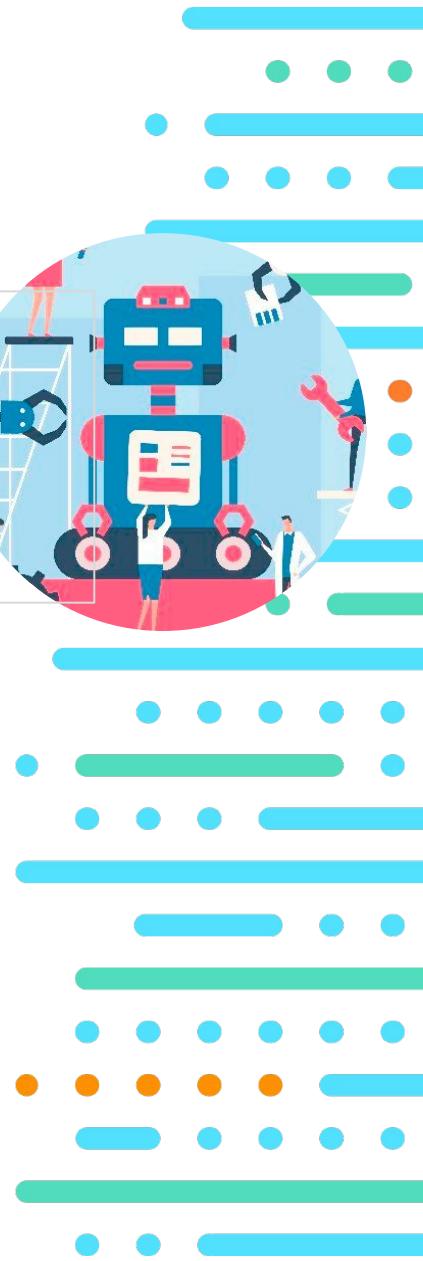
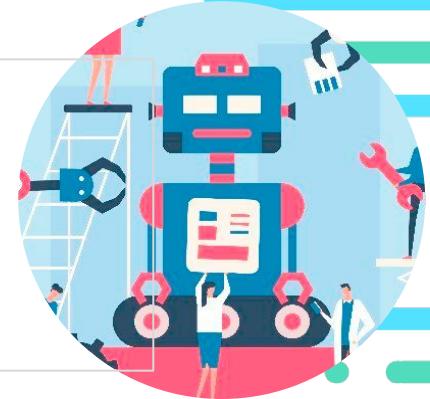


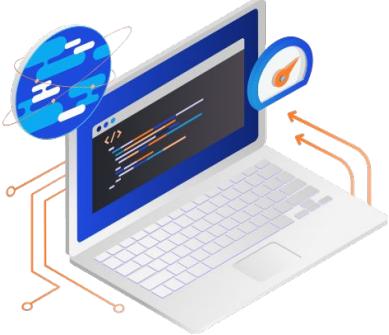
Building applications on Astra with

BETTER BOTZ



DATASTAX
ASTRA





Your hosts



Adron Hall

Cloud Architect



David Jones-Gilardi

Developer Advocate



Steve Halladay

Developer Adoption

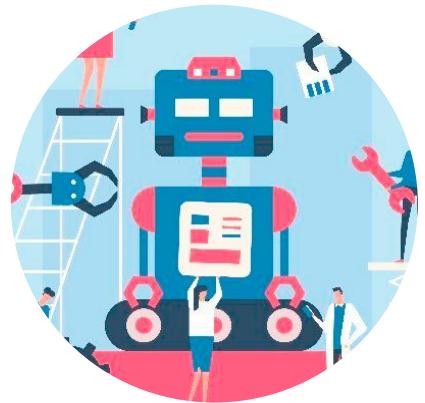


Eric Zietlow

Developer Advocate

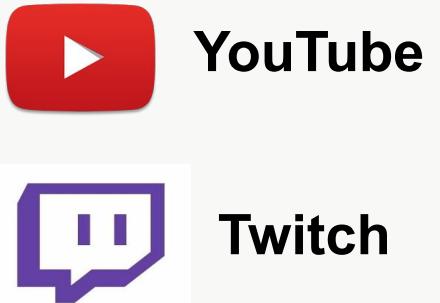
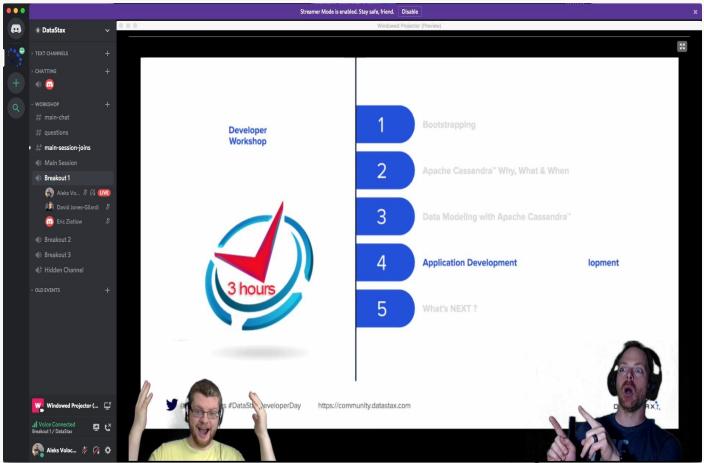


Building Applications with Better Botz



- 1 Housekeeping
- 2 Create your Astra Database
- 3 Discovering APIs
- 4 REST API Basics
- 5 GraphQL Basics
- 6 Resources for Further Reading

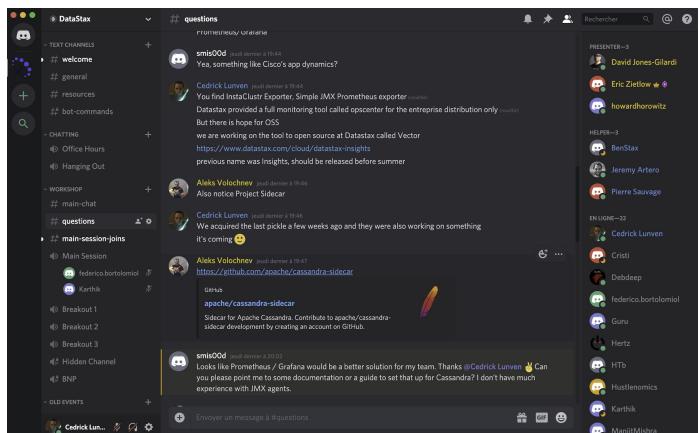
STREAMS



RUNTIME



QUESTIONS



Discord

MATERIALS

- Slides
- JavaScript
- Other files



<https://github.com/riptano/astra-graphql-rest-getting-started-workshop>

Cassandra Developer Workshop

youtube.com/watch?v=v... | 17

PERSO ff4j DATASTAX TMP Other Bookmarks

YouTube FR

Cassandra Lightweight Transactions

```
KVUser@cqlsh> SELECT * FROM killrvideo.user_credentials WHERE email = 'new_user@gmail.com';
+-----+-----+-----+
| email | password | userid |
+-----+-----+-----+
| new_user@gmail.com | password_A | 6d8d869d-6ff4-4bd8-be66-d4334f3d2e4b |
+-----+-----+-----+
(1 rows)
KVUser@cqlsh> UPDATE killrvideo.user_credentials SET password = 'password_XYZ'
... WHERE email = 'new_user@gmail.com'
... IF password = 'password_A';
```

Here's an UPDATE LWT

Operators: =, <, <=, >, >=, != and IN

1:07:47 / 2:33:37

#main-chat

discord.com/channels/685554030159593522/68556034541...

PERSO ff4j DATASTAX TMP wks-k8s Content

Fellowship of the (Cas... Apache Cassandra

main-chat

/home/ubuntu/node1/resources/cassandra/conf/cassandra-rackdc.properties , only then Start node1. Once it is up, start node2. if more explanation and create a thread to troubleshoot open a question on community.datastax.com

Jack Fryer Aujourd'hui à 12:16

@Jack Fryer Thanks for the vouchers
I was able to pass both exams Cassandra Developer and Cassandra Administrator!
@IO Epic congrats!!

Envoyer un message à #main-chat

Katacoda

Connect to Astra with CQL Shell

Step 1 of 6

Create your Astra Database

If you don't have an Astra account, set one up - it's easy.

Go to the Astra page in your browser astradb.datastax.com.

Let's create the database. In the Astra page, follow the steps outlined here. To make life easy, we have recommended the values you should use for this scenario in *Italics*.

On this dialog, click *View Database*.

ff4j-samples — bash — 91x25

~/dev/WORKSPACES/FF4J/ff4j-samples — bash

```
cedricklunven@clunhost:~/dev/WORKSPACES/FF4J/ff4j-samples> ls -l
total 40
drwxr-xr-x 10 cedricklunven staff 320 May 11 11:53 .
drwxr-xr-x 12 cedricklunven staff 384 May 5 13:13 ..
drwxr-xr-x 15 cedricklunven staff 480 May 11 02:33 .gitignore
-rw-r--r-- 1 cedricklunven staff 155 May 2 11:11 .gitignore
-rw-r--r--@ 1 cedricklunven staff 11357 Feb 18 2018 LICENSE
-rw-r--r-- 1 cedricklunven staff 55 Feb 18 2018 README.md
drwxr-xr-x 3 cedricklunven staff 96 May 2 11:14 snippets
drwxr-xr-x 14 cedricklunven staff 448 May 5 13:13 spring-boot-1x
drwxr-xr-x 7 cedricklunven staff 224 May 11 02:31 spring-boot-2x
drwxr-xr-x 8 cedricklunven staff 256 May 2 11:10 webapp-jetty
```

cedricklunven@clunhost:~/dev/WORKSPACES/FF4J/ff4j-samples>

<https://katacoda.com/datastax>
Getting Started with Astra

menti.com

83 44 76

5 questions



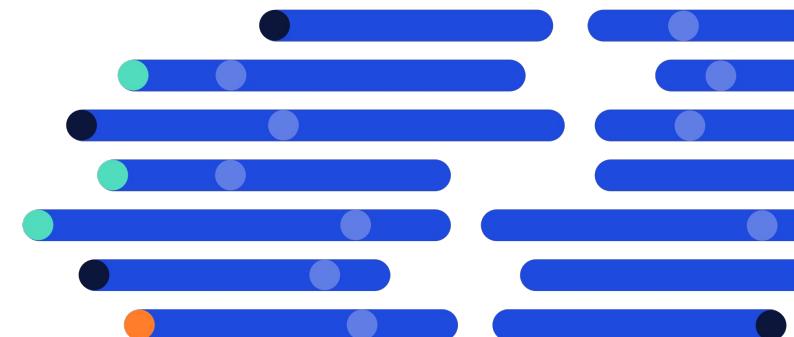
Available on the iPhone
App Store

GET IT ON
Google play

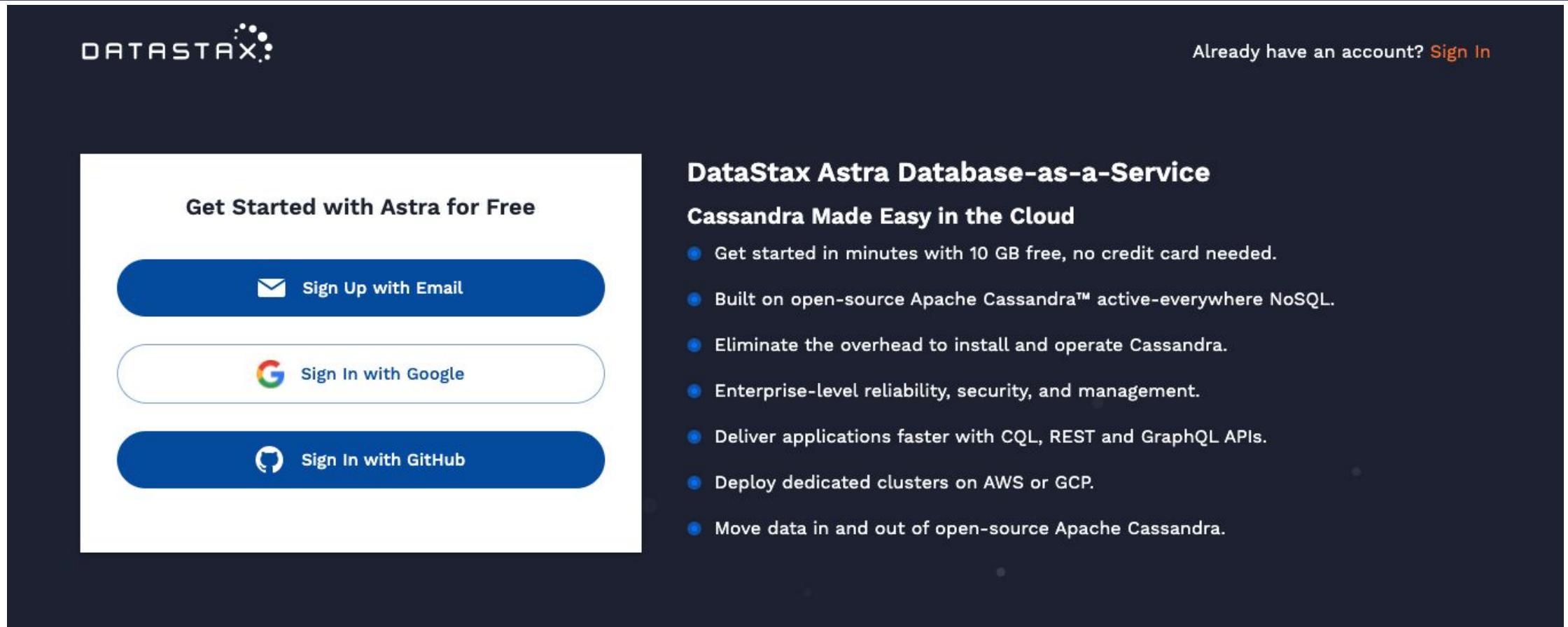
Astra



Creating a Database



<https://astra.datastax.com/register>



The screenshot shows the registration page for DataStax Astra. At the top left is the DataStax logo. At the top right, it says "Already have an account? [Sign In](#)". On the left, there's a white sidebar with a dark blue header containing the text "Get Started with Astra for Free". Below this are three blue rounded rectangular buttons: "Sign Up with Email" (with a mail icon), "Sign In with Google" (with a Google icon), and "Sign In with GitHub" (with a GitHub icon). To the right of the sidebar, the main content area has a dark background. It features the heading "DataStax Astra Database-as-a-Service" and "Cassandra Made Easy in the Cloud". Below these are eight blue circular bullet points listing benefits: 1. Get started in minutes with 10 GB free, no credit card needed. 2. Built on open-source Apache Cassandra™ active-everywhere NoSQL. 3. Eliminate the overhead to install and operate Cassandra. 4. Enterprise-level reliability, security, and management. 5. Deliver applications faster with CQL, REST and GraphQL APIs. 6. Deploy dedicated clusters on AWS or GCP. 7. Move data in and out of open-source Apache Cassandra.

Set Location & Database Details

The screenshot shows the Astra Database creation interface. On the left, under 'Compute Size', there are two options: 'Free tier: 10 GB of storage. Free forever, data is not deleted automatically.' (selected) and 'C10: starter configuration for development and light production workloads.'. Below this is a red circle highlighting the 'Location' section, which contains a dropdown menu with 'Select a region.' Under 'Estimated Cost', it shows 'Per Hour' (selected) and 'Per Month'. It also lists costs for 'when running' (\$0.00/hour) and 'when parked' (\$0.00/hour). At the bottom are 'Launch Database' and 'Cancel' buttons. On the right, under 'Database Details', there are five fields: 'Database name *', 'Keyspace name *', 'Database username *', 'Database user password *', and 'Confirm Password *'. A red box highlights the entire 'Database Details' section.

DATASTAX
ASTRA

Adron's Databases ▾

Provide Feedback Let's Chat Get Help adron.hall@datastax.com ▾

0 Databases

← Astra Databases > Create New Database

Compute Size

Choose the compute power of your database. Higher tiers provide higher throughput at lower latency.

Free tier: 10 GB of storage. Free forever, data is not deleted automatically.

C10: starter configuration for development and light production workloads.

Location

Select a region.

Estimated Cost

Per Hour Per Month

when running \$0.00/hour

when parked \$0.00/hour

Launch Database Cancel

Database Details

Database name *

Keyspace name *

Enter alphanumeric characters only. Use quotes to preserve case.

Database username *

Database user password *

Confirm Password *

Location & Details Set

Compute Size

Choose the compute power of your database. Higher tiers provide higher throughput at lower latency.

- Free tier: 10 GB of storage. Free forever, data is not deleted automatically.
- C10: starter configuration for development and light production workloads.

Location

us-east1

x v

Estimated Cost

- Per Hour
- Per Month

when running \$0.00/hour

when parked \$0.00/hour

Launch Database

Cancel

Database Details

Database name *

betterbotz



Keyspace name *

betterbotz



Enter alphanumeric characters only. Use quotes to preserve case.

Database username *

betterbot



Database user password *

Confirm Password *

• • •

The screenshot shows the DataStax Astra web interface. At the top, there's a green banner indicating that the database is initializing, with a message: "Database is initializing. You'll receive an email when the database is ready. While you're waiting, learn how to [get started](#) with your database. Database creation started at May 14th 2020 3:10am UTC. This can take as long as 30 minutes but is usually much quicker." Below this, the navigation bar shows "Astra Databases > betterbotz". A red arrow points from the "betterbotz" part of the path to the green banner. To the right of the path is an "Actions" dropdown menu. The main content area has two tabs: "Summary" (selected) and "CQL Console" and "Health". The "Summary" tab displays "Cluster Details" including "Size and Location" (Capacity Units: 1, Total Storage: 10 GB, Locations: us-east1), "Replication Factor": 1, and "Created": May 13, 2020. It also shows "Cost" options for "Per Hour" (selected) and "Per Month". Below these, it lists "when running" and "when parked" costs as \$0.00/hour. On the left, a section titled "Connection Details" is circled in red, with a note: "Connection details are only available for active databases that you own or have connection permissions for." The bottom right corner features the DataStax logo.

1 Database

Provide Feedback Let's Chat Get Help adron.hall@datastax.com

Astra Databases > betterbotz Actions ▾

Summary CQL Console Health

Connection Details

Connection details are only available for active databases that you own or have connection permissions for.

Cluster Details

Size and Location

- Capacity Units 1
- Total Storage 10 GB
- Storage Used
- Locations us-east1

Replication Factor 1

Created May 13, 2020

Cost

Per Hour Per Month

when running	\$0.00/hour
when parked	\$0.00/hour

DATASTAX®

Connection & Cluster Details

Astra Databases > betterbotz Actions ▾ Status: ✓ Active

Summary CQL Console Health

Connection Details		Cluster Details					
<p>Connect an Application</p> <p>Keyspace: betterbotz</p> <p>Username: betterbot</p> <p>Password: not visible reset password</p> <p>Authentication Download secure connect bundle </p> <p>(Note: Download link expires after 5 minutes)</p>		<p>Size and Location</p> <p>Capacity Units 1</p> <p>Total Storage 10 GB</p> <p>Storage Used </p> <p>Locations us-east1</p> <p>Replication Factor 1</p> <p>Created May 13, 2020</p>					
<p>API Access</p> <p>REST API: https://4b78faed-8899-4a4c-a881-19fd2db546e3-u... </p> <p>GraphQL API: https://4b78faed-8899-4a4c-a881-19fd2db546e3-u... </p>		<p>Cost</p> <p><input checked="" type="radio"/> Per Hour <input type="radio"/> Per Month</p> <table><tbody><tr><td>when running</td><td>\$0.00/hour</td></tr><tr><td>when parked</td><td>\$0.00/hour</td></tr></tbody></table>		when running	\$0.00/hour	when parked	\$0.00/hour
when running	\$0.00/hour						
when parked	\$0.00/hour						
<p>Developer Studio</p> <p>Launch Now </p>							

Connection Details

Astra Databases > betterbotz Actions ▾ Status:  Active

Connection Details

Connect an Application [Learn How](#) ↗

Keyspace: **betterbotz**
Username: **betterbot**
Password: *not visible* [reset password](#)
Authentication [Download secure connect bundle](#) ↗
(Note: Download link expires after 5 minutes)

API Access [API Documentation](#) ↗

REST API: <https://4b78faed-8899-4a4c-a881-19fd2db546e3-u...> ↗
GraphQL API: <https://4b78faed-8899-4a4c-a881-19fd2db546e3-u...> ↗

Developer Studio [Launch Now](#) ↗

Cluster Details

Summary CQL Console Health

Cluster Details

Size and Location

Capacity Units **1**

Total Storage **10 GB**

Storage Used 

Locations **us-east1**

Replication Factor **1**

Created **May 13, 2020**

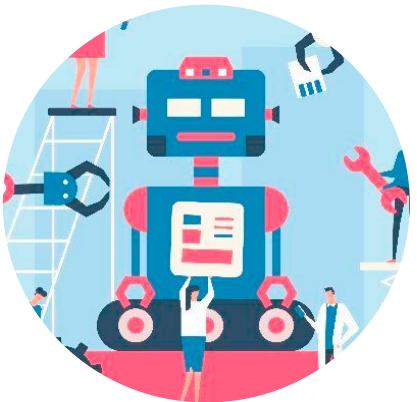
Cost

Per Hour Per Month

when running	\$0.00/hour
when parked	\$0.00/hour

...a moment...

Building Applications with Better Botz



- 1 Housekeeping
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- 5 GraphQL Basics
- 6 Other Resources

REST API w/ Katacoda



ASTRA CORE COURSE

<https://katacoda/datastax>

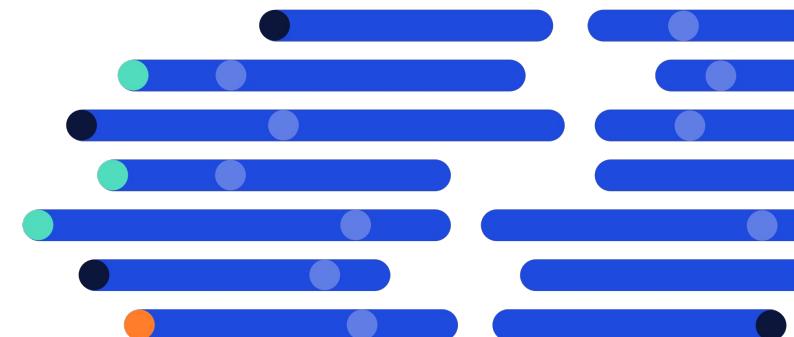


What is...



REST

REpresentational State Transfer



REST - REpresentational State Transfer

Architectural Style

- URI Structure /object/objectname/id
- JSON Payload
- Stateless
- Maps to keyspace/tables/rows

{REST}

REST cURL Call

1

Build a URI

Base URI



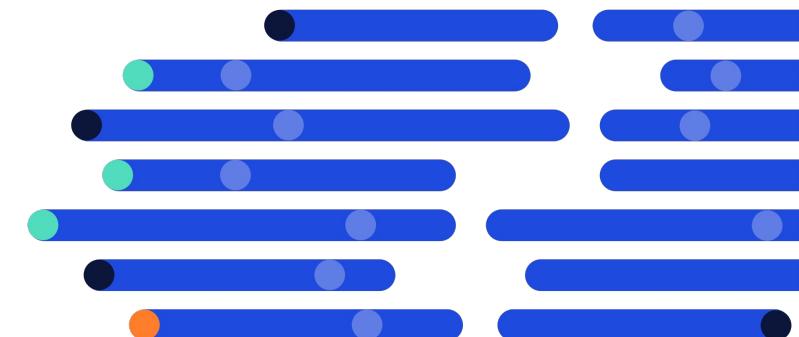
https://{databaseid}-{region}.apps.astra-dev.datastax.com/api/rest

Example:

https://65964a7d-29c2-4fd9-8b72-3424d100aa19-us-east1.apps.astra.datastax.com/api/rest

Database ID: UUID like 4b78faed-8899-4a4c-a881-19fd2db546e3

Region: us-east1



Version and Objects



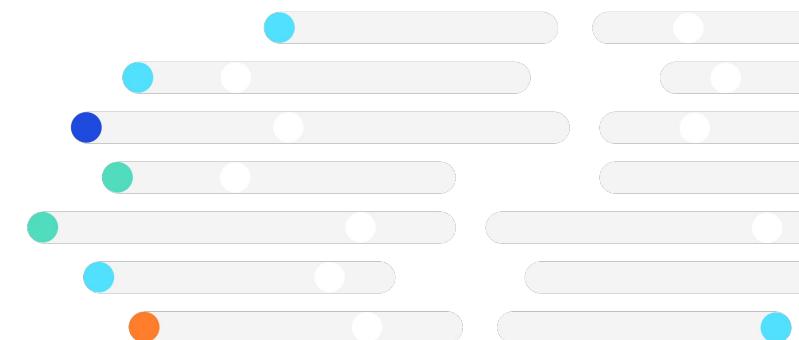
{base URI}/v1/keyspaces/{keyspace}/tables/{table}/rows

Example:

<https://4b78faed-8899-4a4c-a881-19fd2db546e3-us-east1.apps.astradblessed.astra.datastax.com/api/rest/v1/keyspaces/betterbotz/table/products/rows>

Keyspace: Name of keyspace, like “betterbotz”

Table: Name of table, like “products”



REST cURL Call

1

Built a URI

2

Add Header Details & Auth Token

Header & Token



```
--header 'Content-Type: application/json'  
--header 'X-Cassandra-Token: {token}'
```

REST cURL Call

1

Built a URI

2

Header & Authorization Data Added

3

Build message body contents

HTTP Body



body={REST JSON}

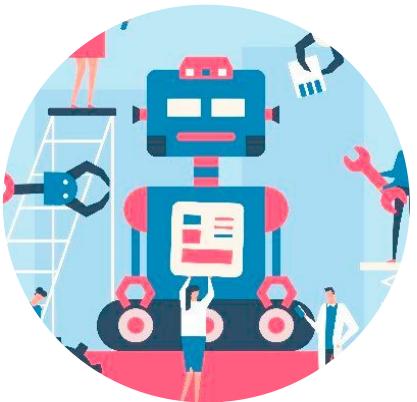
Example:

--data

```
{"ifNotExists":true,"columnDefinitions":[{"static":false,"name":"id","typeDefinition":"uuid"}, {"static":false,"name":"name","typeDefinition":"text"}, {"static":false,"name":"description","typeDefinition":"text"}, {"static":false,"name":"created","typeDefinition":"timestamp"}, {"static":false,"name":"price","typeDefinition":"decimal"}], "primaryKey":{"partitionKey":["id"]}, "tableOptions":{"defaultTimeToLive":0}, "name":"products"}
```



Building Applications with Better Botz



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- 6 Other Resources

Katacoda!

GraphQL API w/ Katacoda



ASTRA CORE COURSE

<https://katacoda/datastax>



GraphQL Request

1

Build a URI

Base URI



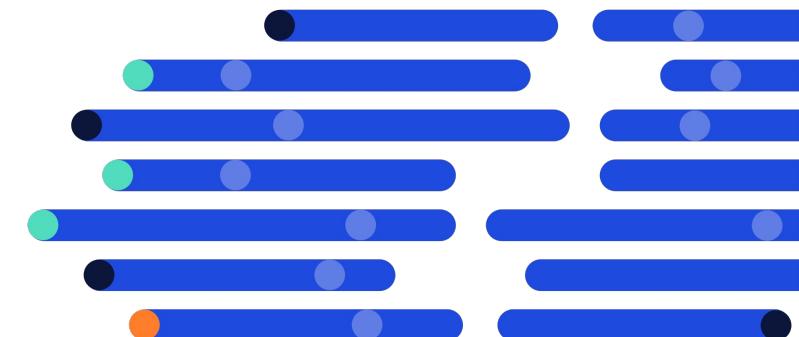
<https://{{databaseid}}-{{region}}.apps.astra-dev.datastax.com/api/graphql>

Example:

<https://65964a7d-29c2-4fd9-8b72-3424d100aa19-us-east1.apps.astra.datastax.com/api/graphql>

Database ID: UUID like 4b78faed-8899-4a4c-a881-19fd2db546e3

Region: us-east1



GraphQL Request

1

Built a URI

2

Add Header Details & Auth Token

Header & Token



```
--header 'Content-Type: application/json'  
--header 'X-Cassandra-Token: {token}'
```

REST cURL Call

1

Built a URI

2

Header & Authorization Data Added

3

Build message body contents

HTTP Body



body={REST JSON}

Example:

```
--data=raw '{"query":"query{products{values{id name description created}}}"'}
```



Katacoda!

menti.com

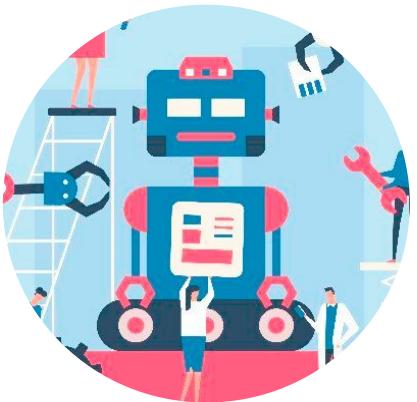
83 44 76



Available on the iPhone
App Store

GET IT ON
Google play

Building Applications with Better Botz



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- 6 Other Resources



The screenshot shows the DataStax Studio interface. On the left, there are two code editor panes. The top pane contains the CQL command `DROP TABLE betterbotz.products;`, which has been run successfully. The bottom pane contains the CQL command `SELECT * FROM betterbotz.products;`, which also runs successfully, displaying a single row of data from the products table. On the right, a schema browser pane shows the structure of the `betterbotz` keyspace, including the `products` table with its columns, partitioning key, clustering keys, secondary indexes, search indexes, and materialized views. The background features a decorative pattern of colored bars and dots.

Language: CQL Keyspace: betterbotz

```
DROP TABLE betterbotz.products;
```

No Data Returned

Success!

0 elements returned. Duration: 0.457 s.

Language: CQL Keyspace: betterbotz

```
SELECT * FROM betterbotz.products;
```

index	id	created	description	name	price
0	c00f47b6-3036-4226-9840-f57d790583fb		Super robot arms, the top tier of the top tier!	Super Robot Arms	9999.950000

Displaying 1 - 1 of 1 results for the last statement

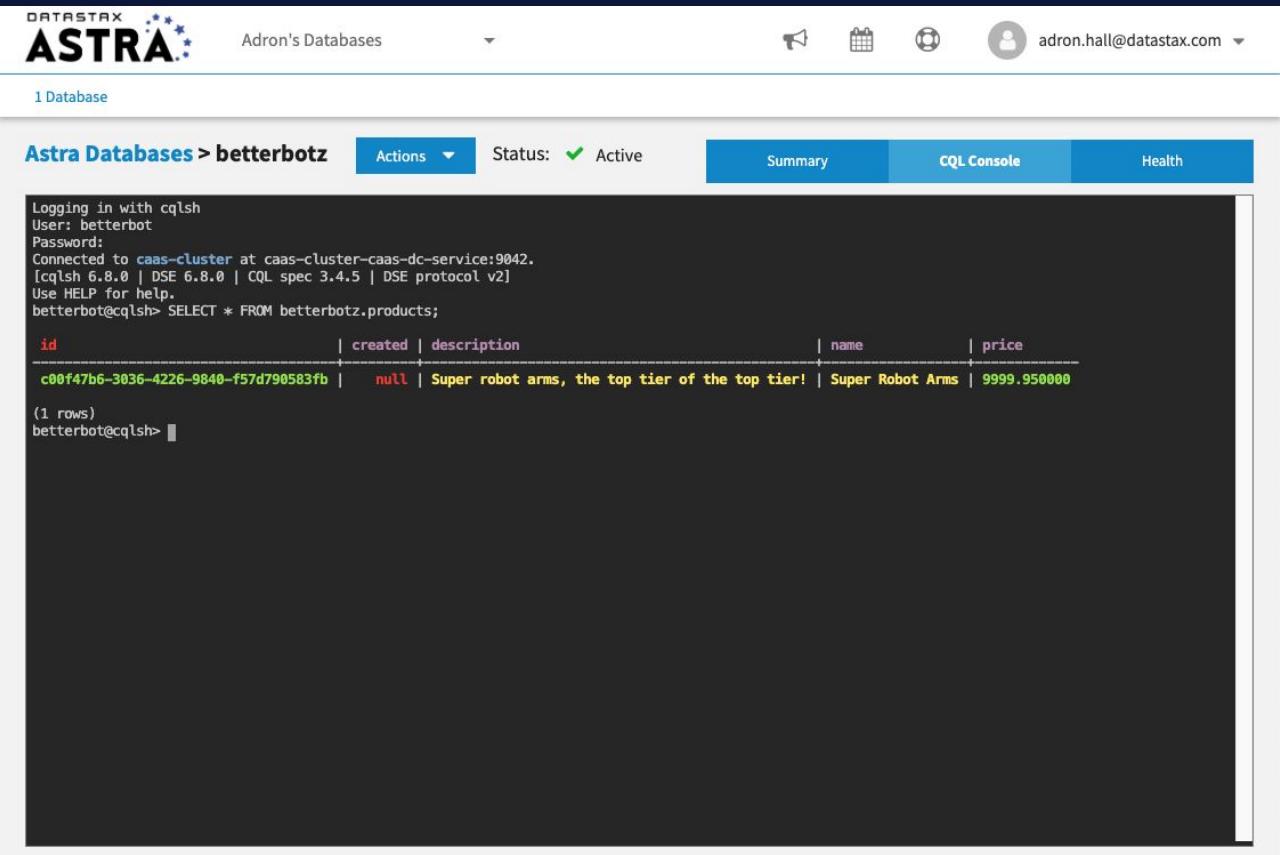
Success!

1 element returned. Duration: 0.011 s.

Schema
betterbotz

- betterbotz CQL Keyspace
 - Tables
 - products
 - Columns
 - Partitioning Key
 - Clustering Keys
 - Secondary Indexes
 - Search Indexes
 - Materialized Views
 - User Defined Types
 - User Defined Functions
 - User Defined Aggregates
 - Materialized Views

DataStax Studio



Astra cqlsh

Connect with Adron

Blog/Social

Twitter <https://twitter.com/Adron>

Blog <https://compositecode.blog/>

Github <https://github.com/Adron>

Media

Twitch <https://twitch.tv/adronhall/>

YouTube <https://youtube.com/c/ThrashingCode>



Cassandra The Definitive Guide

<https://www.datastax.com/resources/ebook/oreilly-cassandra-definitive-guide>

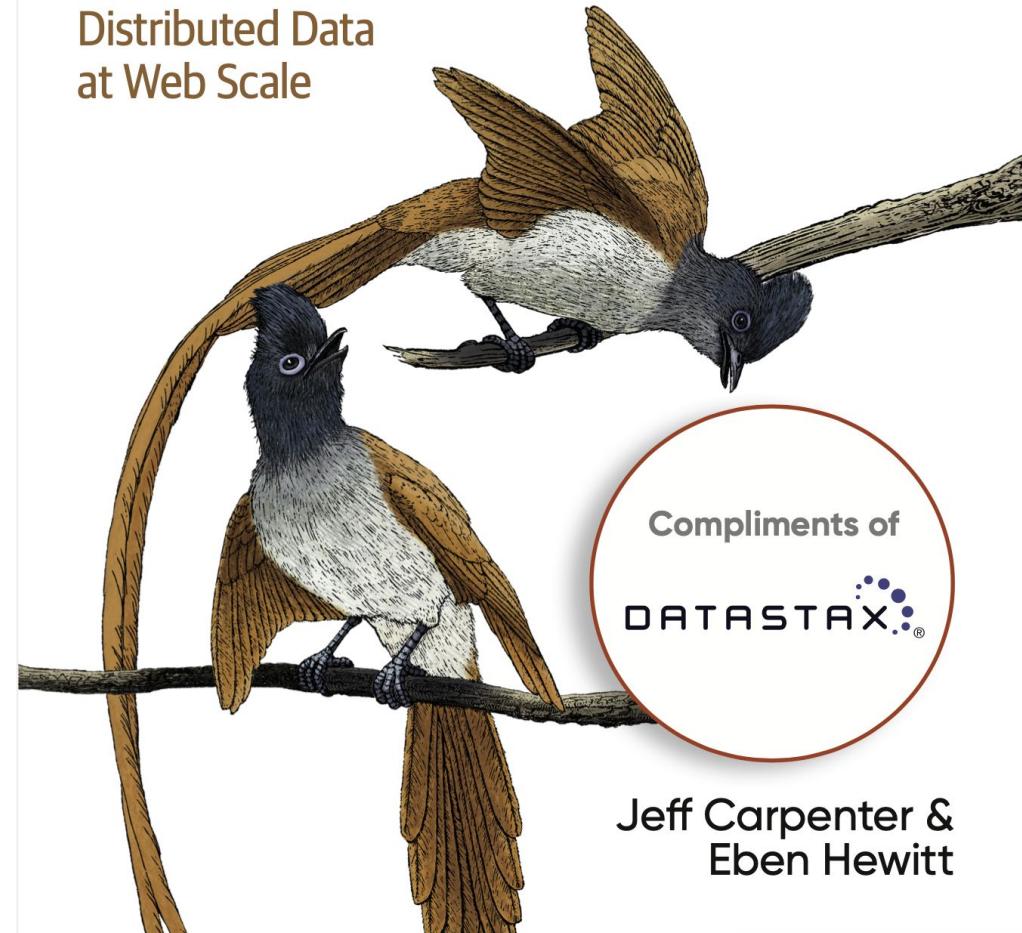
O'REILLY®

Third
Edition

Cassandra

The Definitive Guide

Distributed Data
at Web Scale



Jeff Carpenter &
Eben Hewitt

Developer Resources

LEARN

Join academy.datastax.com

<https://academy.datastax.com/resources/cassandra-developer-workshop>

Free online courses - Cassandra certifications

ASK/SERVE

Join community.datastax.com

Ask/answer community user questions - share your expertise

CONNECT

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We are on Twitter - Twitch!

REVIEW

Slides and code for this course are available at

<https://github.com/DataStax-Academy/online-Cassandra-workshop>

www.datastax.com/keepcalm

SRE office hours for Apache Cassandra

Cassandra cluster health checks

@ no charge

Send an email to keepcalm@dastastax.com



menti.com

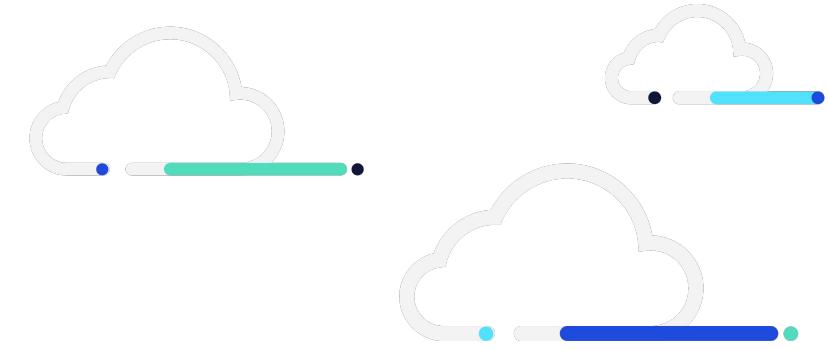
83 44 76

TAKE THE SURVEY



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Thank you