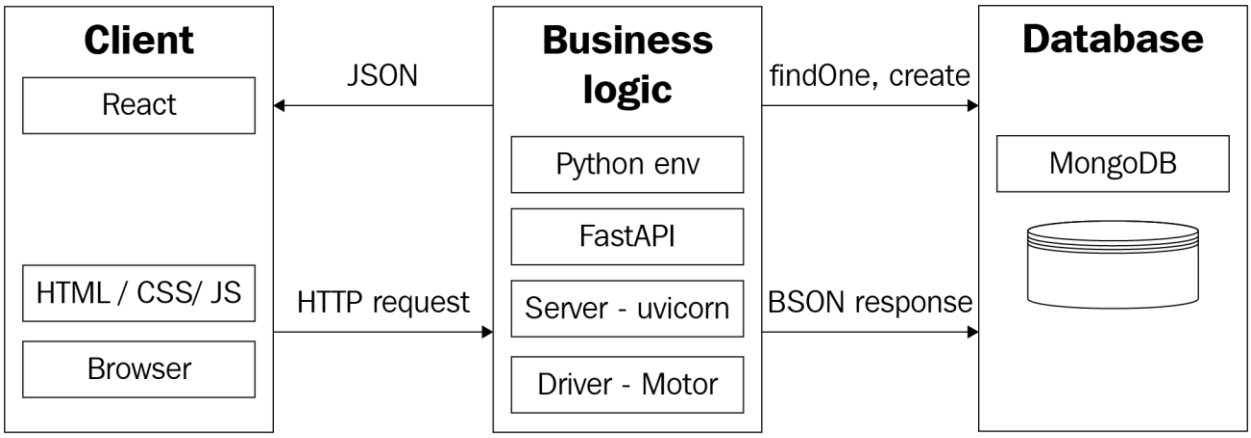
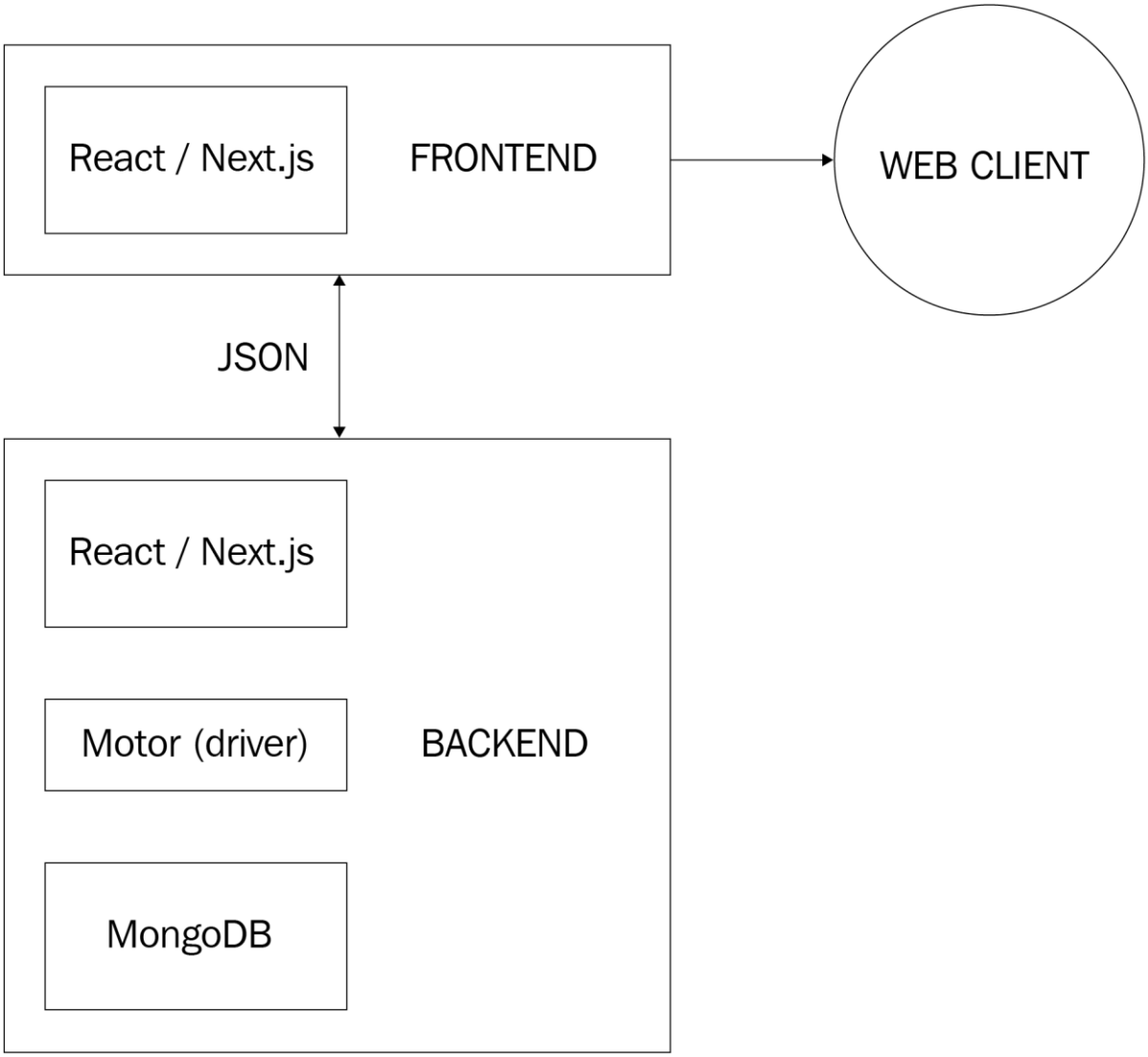
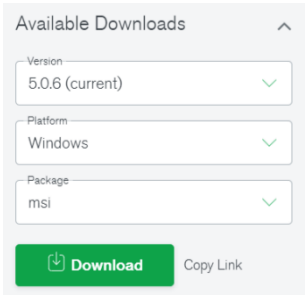
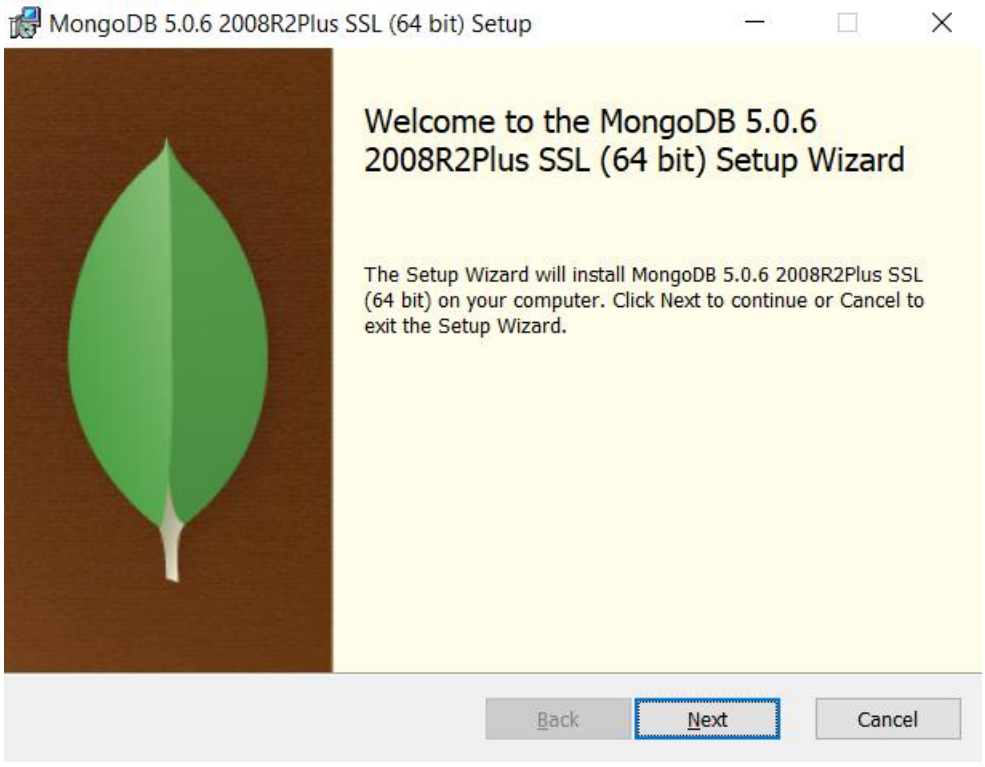
Chapter 1: Web Development and the FARM Stack

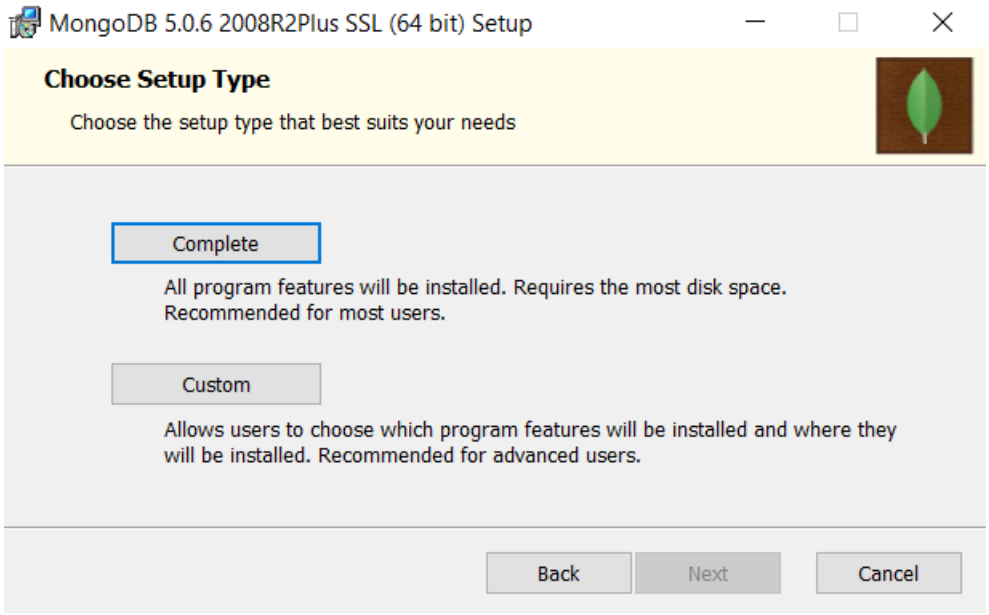


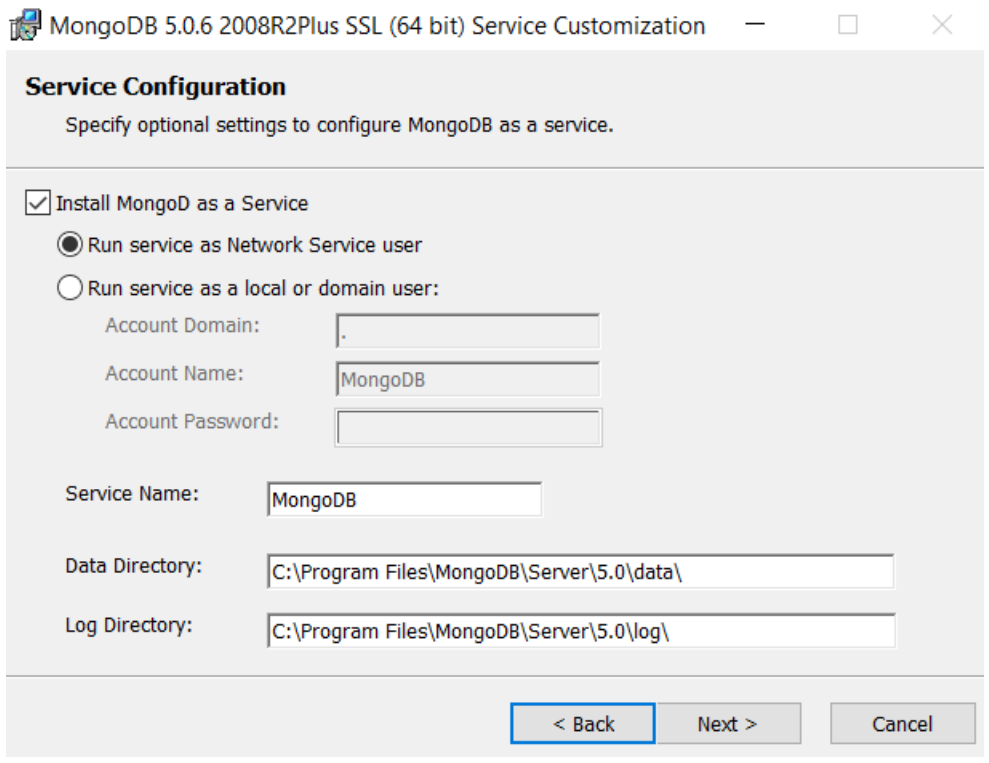

React / Next.js
FRONTEND
WEB CLIENT
JSON
React / Next.js
Motor (driver)
BACKEND
MongoDB

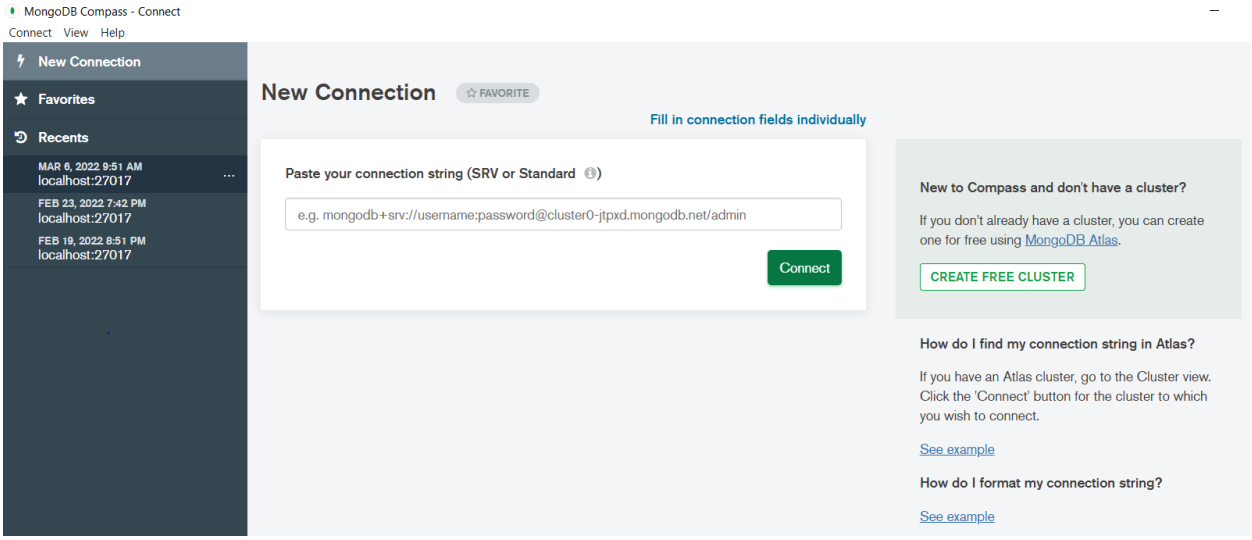
Chapter 2: Setting Up the Document Store with MongoDB

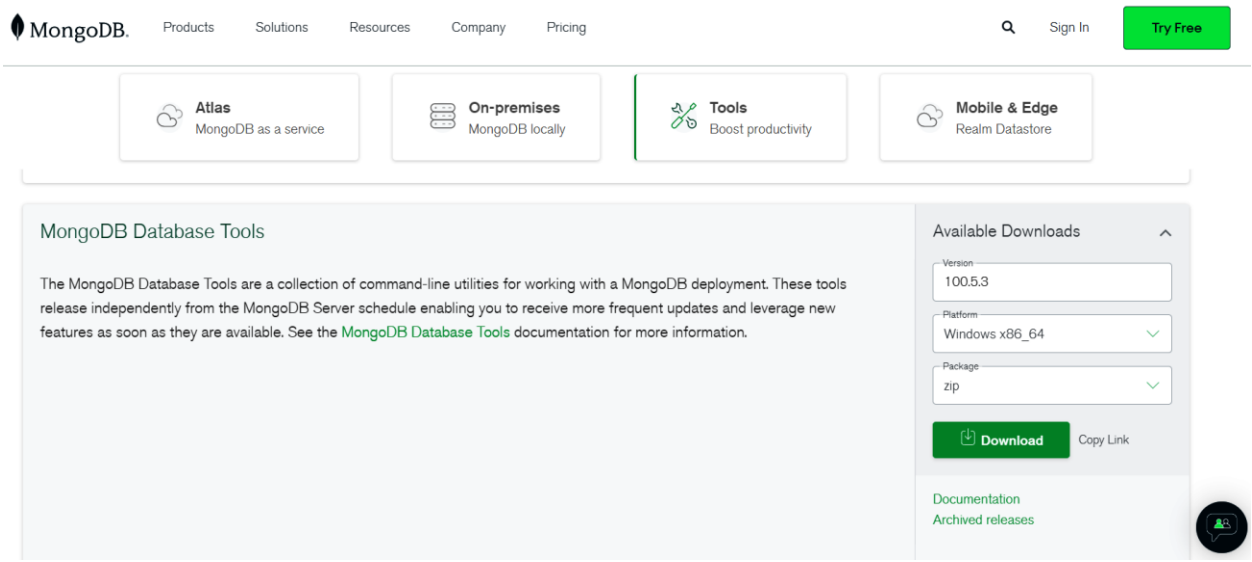





MongoDB 5.0.6 2008R2Plus SSL (64 bit) Setup
Choose Setup Type
Choose the setup type that best suits your needs
Complete
All program features will be installed. Requires the most disk space.
Recommended for most users.
Custom
Allows users to choose which program features will be installed and where they will be installed. Recommended for advanced users.
Back
Next
Cancel


MongoDB 5.0.6 2008R2Plus SSL (64 bit) Service Customization
Service Configuration
Specify optional settings to configure MongoDB as a service.
Install MongoD as a Service
Run service as Network Service user
Run service as a local or domain user:
Account Domain:
Account Name:
MongoDB
Account Password:
Service Name:
MongoDB
Data Directory:
C:\Program Files\MongoDB\Server\5.0\data\
Log Directory:
C:\Program Files\MongoDB\Server\5.0\log\
< Back
Next >
Cancel


MongoDB Compass - Connect
Connect View Help
New Connection
Favorites
Recents
MAR 6, 2022 9:51 AM
localhost:27017
FEB 23, 2022 7:42 PM
localhost:27017
FEB 19, 2022 8:51 PM
localhost:27017
New Connection
FAVORITE
Fill in connection fields individually
Paste your connection string (SRV or Standard)
e.g. mongodb+srv://username:password@cluster0-jtpxd.mongodb.net/admin
Connect
New to Compass and don't have a cluster?
If you don't already have a cluster, you can create one for free using MongoDB Atlas.
CREATE FREE CLUSTER
How do I find my connection string in Atlas?
If you have an Atlas cluster, go to the Cluster view. Click the 'Connect' button for the cluster to which you wish to connect.
See example
How do I format my connection string?
See example


MongoDB.
Products
Solutions
Resources
Company
Pricing
Sign In
Try Free
Atlas
MongoDB as a service
On-premises
MongoDB locally
Tools
Boost productivity
Mobile & Edge
Realm Datastore
MongoDB Database Tools
The MongoDB Database Tools are a collection of command-line utilities for working with a MongoDB deployment. These tools release independently from the MongoDB Server schedule enabling you to receive more frequent updates and leverage new features as soon as they are available. See the MongoDB Database Tools documentation for more information.
Available Downloads
Version
100.5.3
Platform
Windows x86_64
Package
zip
Download
Copy Link
Documentation
Archived releases

Available Downloads

Version

100.5.2

Platform

Windows x86_64

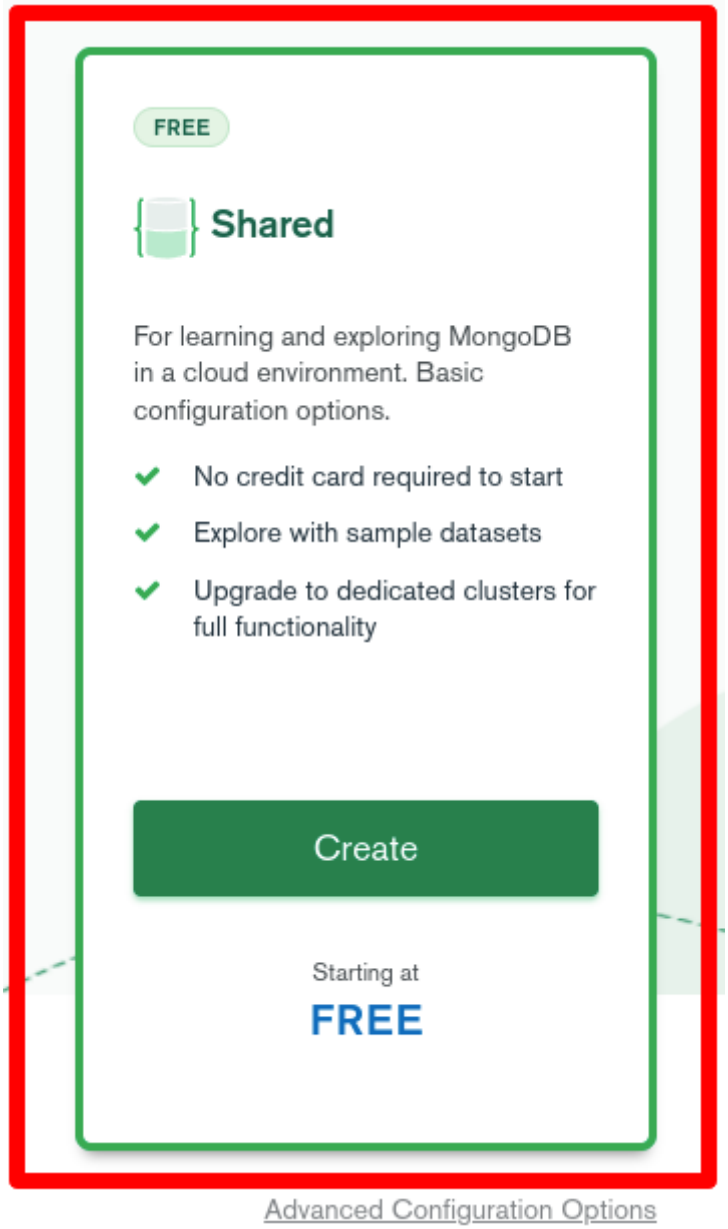
Package

msi

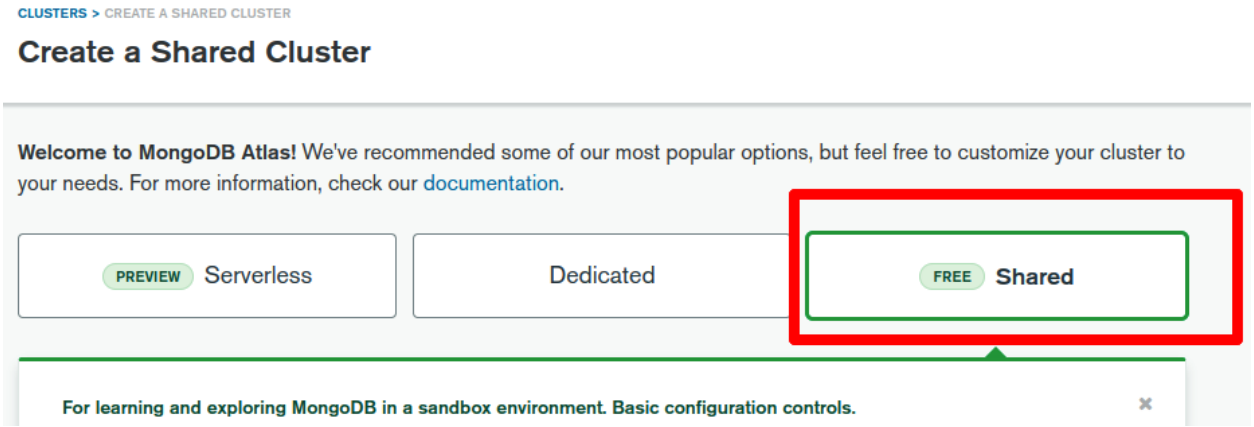
Download Copy Link

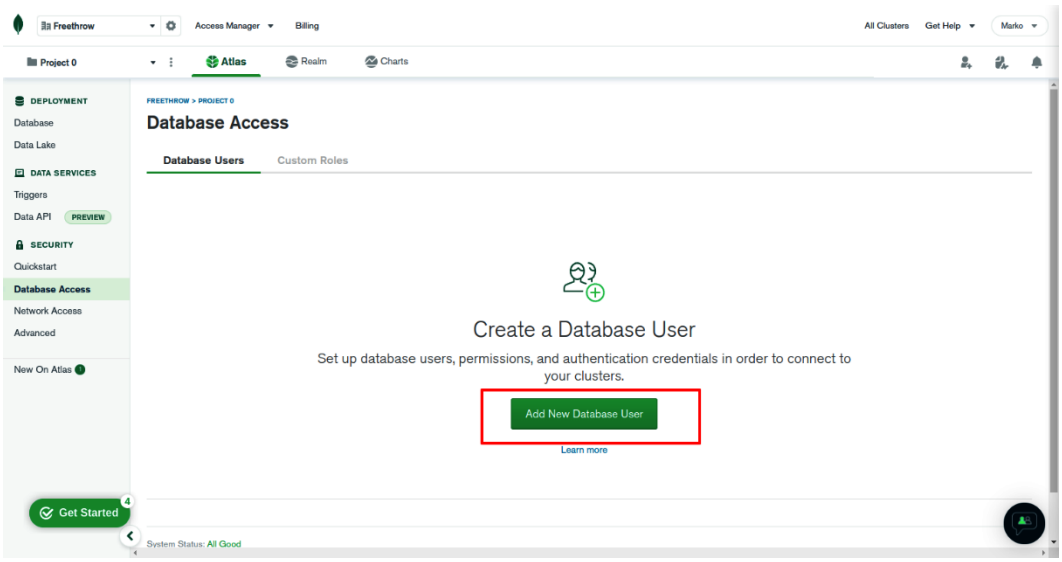
Documentation

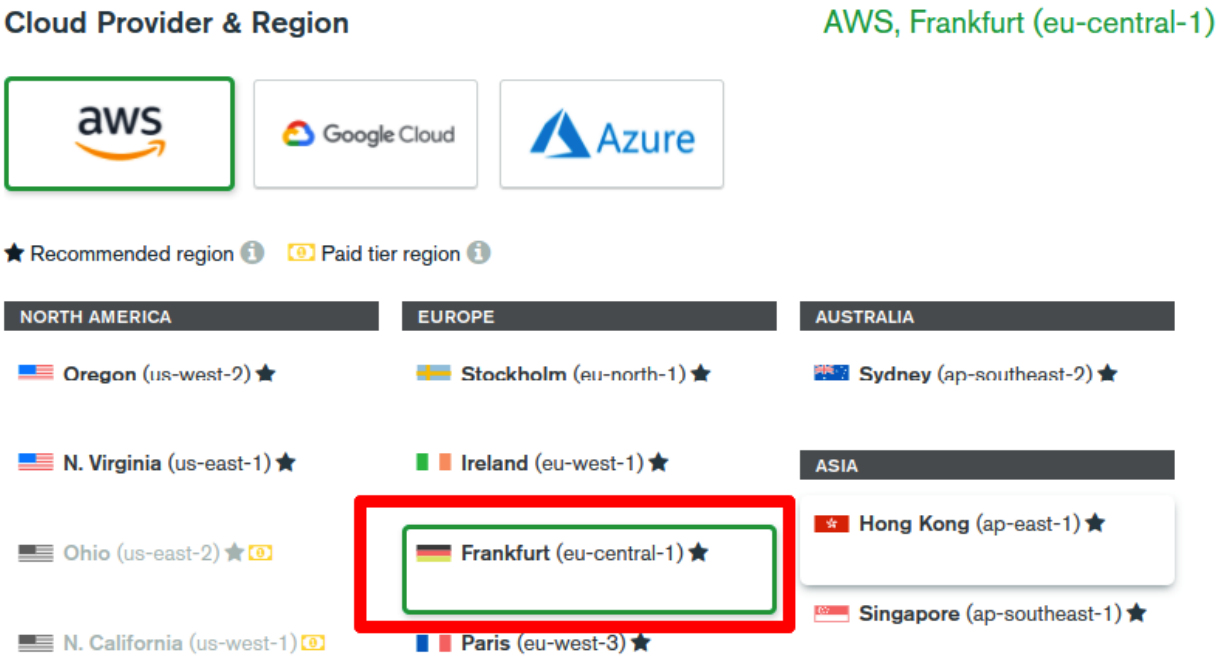
Archived releases



Advanced Configuration Options




Freethrow
Access Manager
Billing
All Clusters
Get Help
Marko
Project 0
Atlas
Realm
Charts
DEPLOYMENT
Database
Data Lake
DATA SERVICES
Triggers
Data API
PREVIEW
SECURITY
Quickstart
Database Access
Network Access
Advanced
New On Atlas
FREETHROW > PROJECT 0
Database Access
Database Users
Custom Roles
Create a Database User
Set up database users, permissions, and authentication credentials in order to connect to your clusters.
Add New Database User
Learn more
Get Started
System Status: All Good


Cloud Provider & Region
AWS, Frankfurt (eu-central-1)
aws
Google Cloud
Azure
Recommended region
Paid tier region
NORTH AMERICA
Oregon (us-west-2)
N. Virginia (us-east-1)
Ohio (us-east-2)
N. California (us-west-1)
EUROPE
Stockholm (eu-north-1)
Ireland (eu-west-1)
Frankfurt (eu-central-1)
Paris (eu-west-3)
AUSTRALIA
Sydney (ap-southeast-2)
ASIA
Hong Kong (ap-east-1)
Singapore (ap-southeast-1)

Cluster Tier

M0 Sandbox (Shared RAM, 512 MB Storage)
Encrypted

Base hourly rate is for a MongoDB replica set with **3 data bearing servers**.

Shared Clusters for development environments and low-traffic applications

Tier	RAM	Storage	vCPU	Base Price
M0 Sandbox	Shared	512 MB	Shared	Free forever
M0 clusters are best for getting started, and are not suitable for production environments.				
500 max connections | Low network performance | 100 max databases | 500 max collections				
M2	Shared	2 GB	Shared	$9 / MONTH
M5	Shared	5 GB	Shared	$25 / MONTH

Additional Settings

MongoDB 5.0, No Backup

Turn on Backup **(M2 and up)**

See Backup Solutions for Paid Clusters (M2+)

Cluster Name

farm-cluster

One time only: once your cluster is created, you won't be able to change its name.

farm-cluster

Cluster names can only contain ASCII letters, numbers, and hyphens.

FREE

Free forever! Your M0 cluster is ideal for experimenting in a limited sandbox. You can upgrade to a production cluster anytime.

Back

Create Cluster

Add New Database User

Create a database user to grant an application or user, access to databases and collections in your clusters in this Atlas project. Granular access control can be configured with default privileges or custom roles. You can grant access to an Atlas project or organization using the corresponding Access Manager

Authentication Method

Password | **Certificate** | **AWS IAM** (MongoDB 4.4 and up)

MongoDB uses SCRAM as its default authentication method.

Password Authentication

freethrow

••••••••• SHOW

Autogenerate Secure Password | Copy

Database User Privileges

Configure role based access control by assigning database users a mix of one built-in role, multiple custom roles, and multiple specific privileges. A user will gain access to all actions within the roles assigned to them, not just the actions those roles share in common. **You must choose at least one role or privilege.** Learn more about roles.

Built-in Role

1 SELECTED

Select one built-in role for this user.

Read and write to any database

Custom Roles

Select your pre-defined custom role(s). Create a custom role in the Custom Roles tab.

Specific Privileges

Select multiple privileges and what database and collection they are associated with.
Leaving collection blank will grant this role for all collections in the database.

Restrict Access to Specific Clusters/Data Lakes

Enable to specify the resources this user can access. By default, all resources in this project are accessible.

OFF

Temporary User

This user is temporary and will be deleted after your specified duration of 6 hours, 1 day, or 1 week.

OFF

Cancel

Add User

Create Database

Database Name

carsDB

Collection Name

cars

☐ **Capped Collection**

Fixed-size collections that support high-throughput operations that insert and retrieve documents based on insertion order.

☐ **Use Custom Collation**

Collation allows users to specify language-specific rules for string comparison, such as rules for lettercase and accent marks.

☐ **Time-Series**

Time-series collections efficiently store sequences of measurements over a period of time.

Cancel | Create Database

This collection has no data

It only takes a few seconds to import data from a JSON or CSV file

Import Data

Import To Collection carsDB.cars

Select File

cars_data.csv

Select Input File Type

JSON | CSV

Options

Select delimiter COMMA

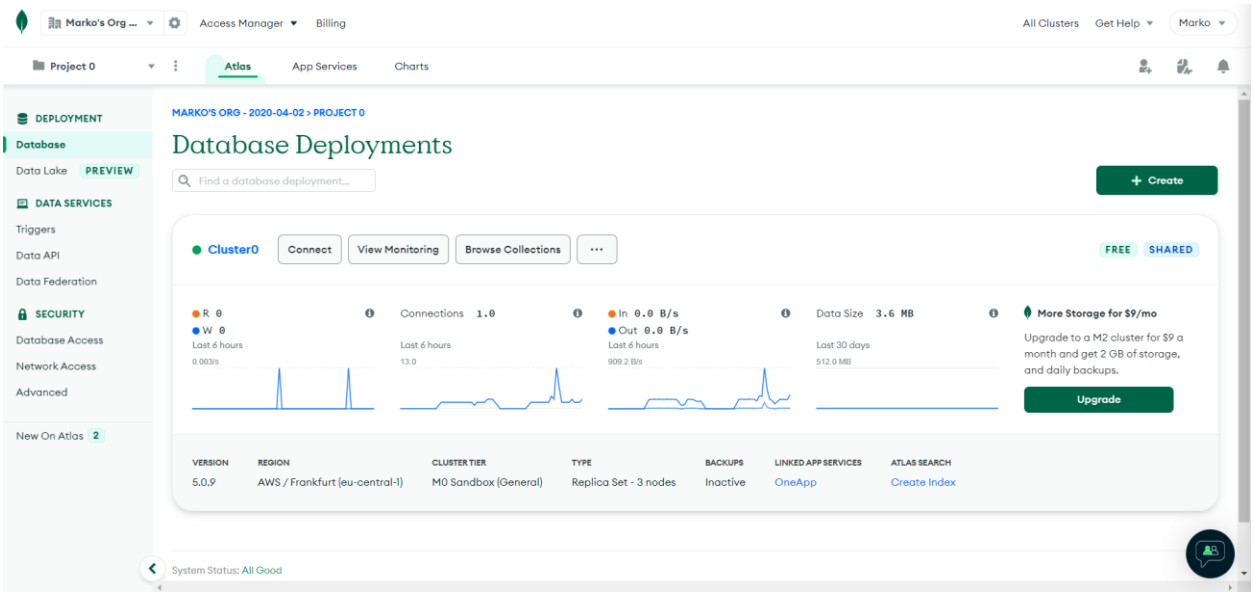
Ignore empty strings

Stop on errors

Specify Fields and Types

	brand String	make String	year String	price String	km String
1	Hyundai	ix35	2012	9000	143500
2	Citroen	C3	2004	2050	203415
3	Fiat	Doblo	2015	7300	115000
4	Citroen	C3	2003	2099	180000
5	Opel	Corsa	2007	3000	174000
6	Fiat	Doblo	2015	5990	71000
7	Fiat	Doblo	2015	8600	177000
8	Fiat	Doblo	2014	6200	208000
9	Opel	Zafira	2004	2500	183000
10	Renault	Kangoo	2015	6700	81000

CANCEL IMPORT



Connect to freethrow

✔ Setup connection security ✔ Choose a connection method Connect

I do not have MongoDB Compass | I have MongoDB Compass

1 Choose your version of Compass:

1.12 or later

See your Compass version in "About Compass"

2 Copy the connection string, then open MongoDB Compass.

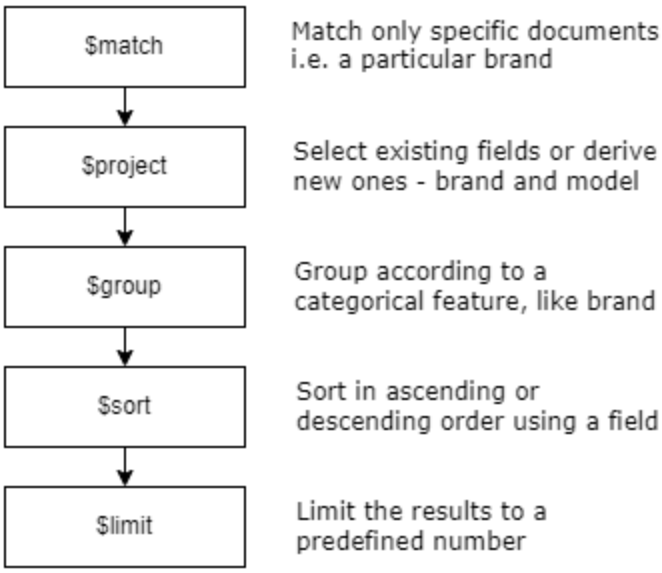
```
mongodb+srv://<username>:<password>@freethrow.o2qu3.mongodb.net/test
```

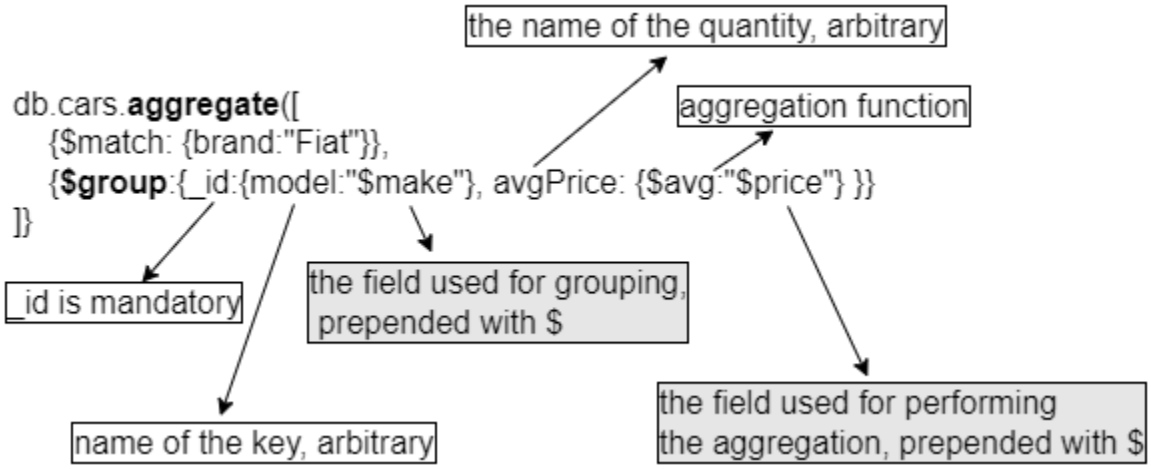
You will be prompted for the password for the **<username>** user's (Database User) username.
When entering your password, make sure that any special characters are URL encoded.

Having trouble connecting? View our troubleshooting documentation

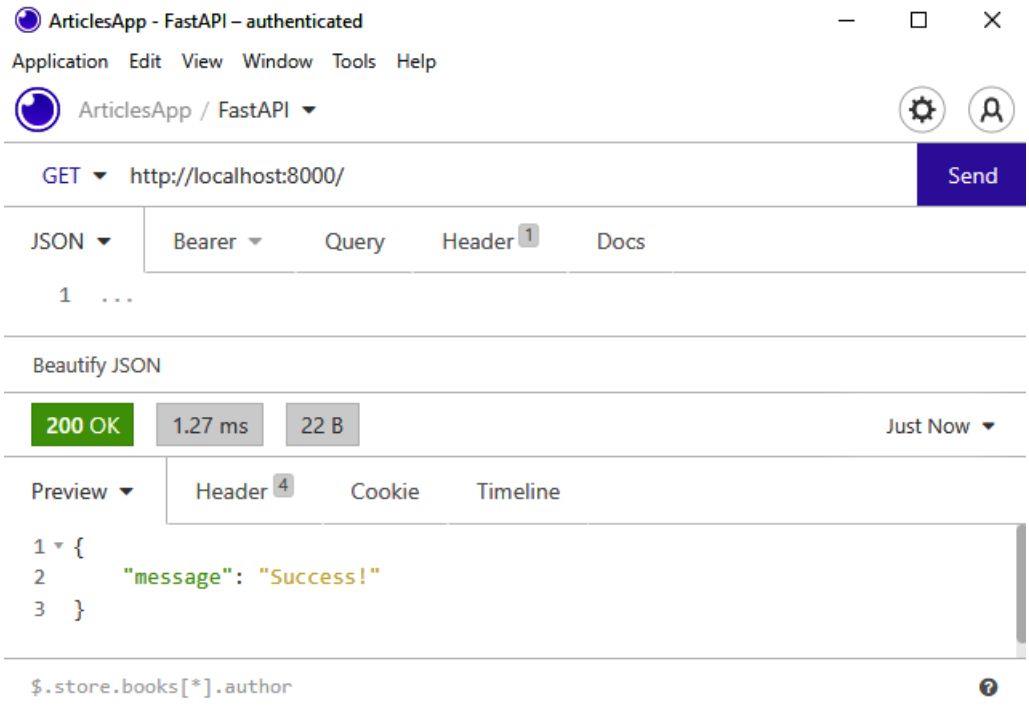
Go Back

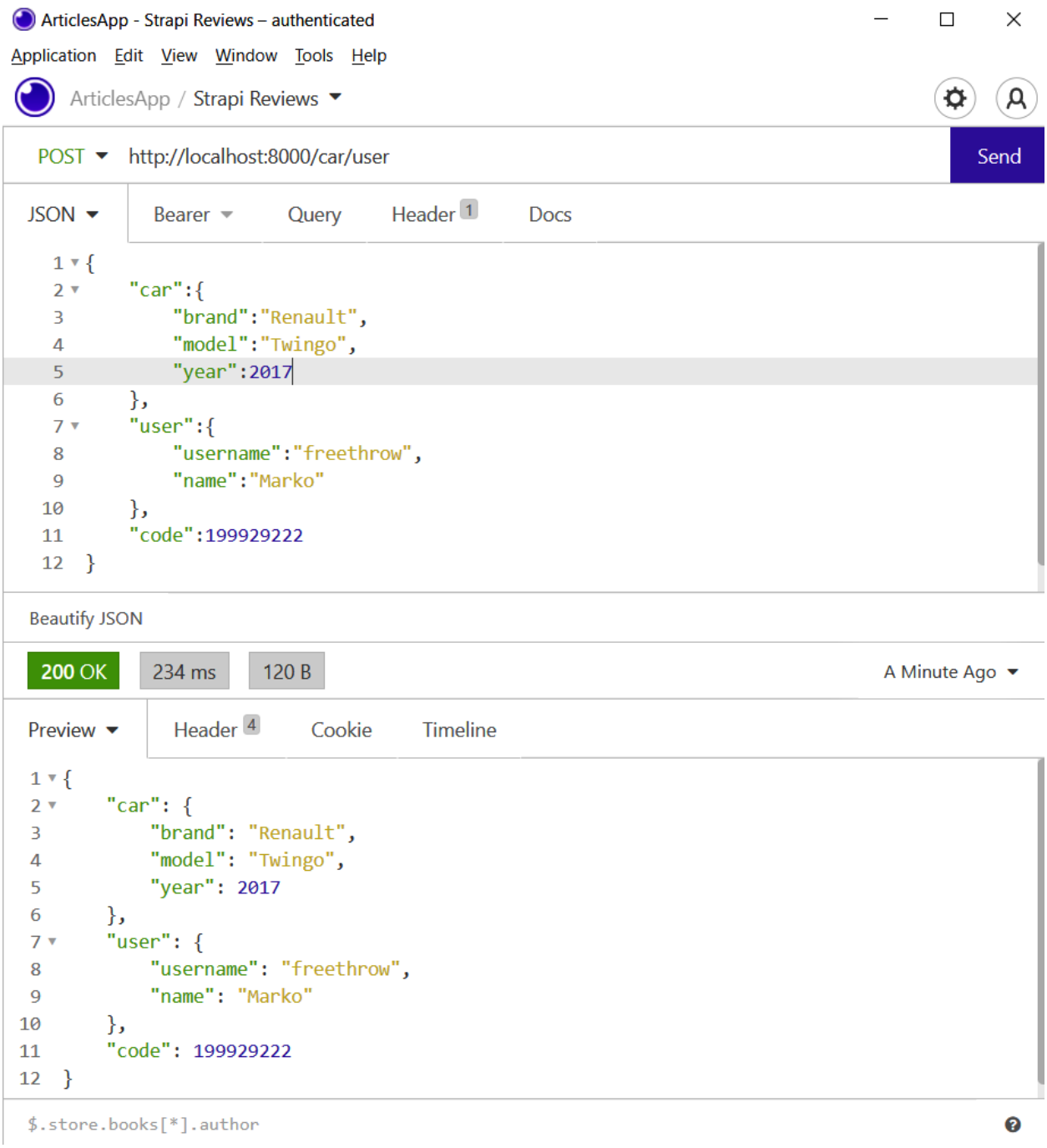
Close

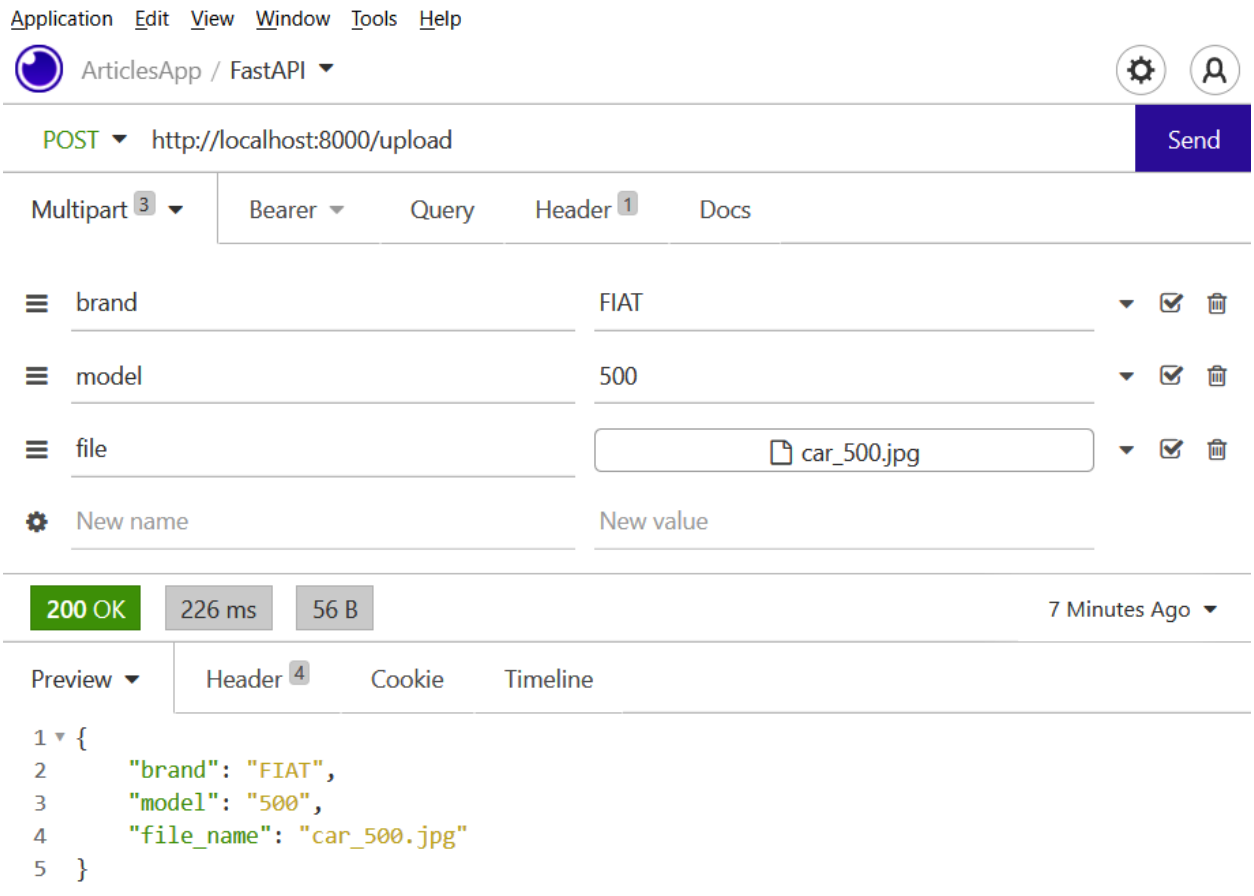

$match
Match only specific documents i.e. a particular brand
$project
Select existing fields or derive new ones - brand and model
$group
Group according to a categorical feature, like brand
$sort
Sort in ascending or descending order using a field
$limit
Limit the results to a predefined number


the name of the quantity, arbitrary
aggregation function
db.cars.aggregate([
{$match: {brand:"Fiat"}},
{$group:{_id:{model:"$make"}, avgPrice: {$avg:"$price"} }}
]}
_id is mandatory
the field used for grouping, prepended with $
name of the key, arbitrary
the field used for performing the aggregation, prepended with $

Chapter 3: Getting Started with FastAPI



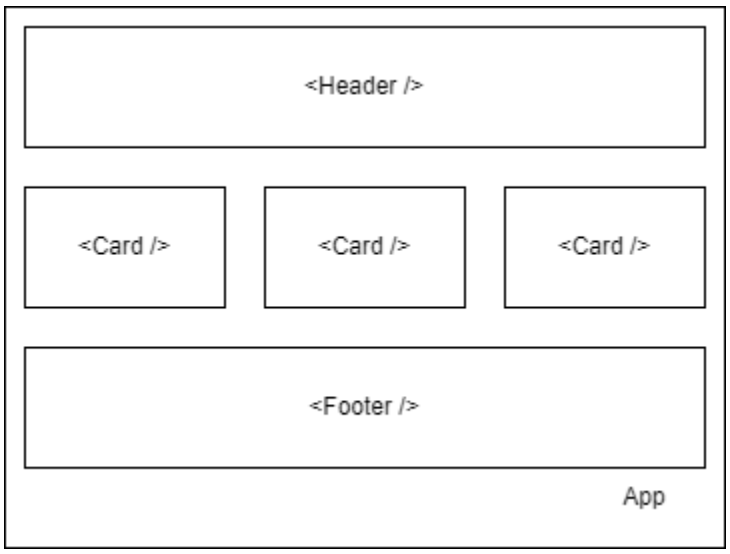

ArticlesApp - Strapi Reviews – authenticated
Application Edit View Window Tools Help
ArticlesApp / Strapi Reviews
POST http://localhost:8000/car/user
Send
JSON Bearer Query Header 1 Docs
{
"car":{
"brand":"Renault",
"model":"Twingo",
"year":2017
},
"user":{
"username":"freethrow",
"name":"Marko"
},
"code":199929222
}
Beautify JSON
200 OK
234 ms
120 B
A Minute Ago
Preview Header 4 Cookie Timeline
{
"car": {
"brand": "Renault",
"model": "Twingo",
"year": 2017
},
"user": {
"username": "freethrow",
"name": "Marko"
},
"code": 199929222
}
$.store.books[*].author


Application Edit View Window Tools Help
ArticlesApp / FastAPI
POST http://localhost:8000/upload
Send
Multipart 3
Bearer
Query
Header 1
Docs
brand
FIAT
model
500
file
car_500.jpg
New name
New value
200 OK
226 ms
56 B
7 Minutes Ago
Preview
Header 4
Cookie
Timeline
{
"brand": "FIAT",
"model": "500",
"file_name": "car_500.jpg"
}

Chapter 4: Setting Up a React Workflow

This is a Tailwind styled site!

Cars listed as **Fiat**
Cars listed as **Peugeot**
Cars listed as **Ford**
Cars listed as **Renault**
Cars listed as **Citroen**



Cars Sales App

Your current budget is: 8000

Fiat 500L	Kia Ceed	Fiat Ritmo
Year: 2020	Year: 2010	Year: 1990
Price: 7000	Price: 6000	Price: 300
Color: green	Color: black	Color: gray

Budget: 8000

Cars Sales App

Toggle users

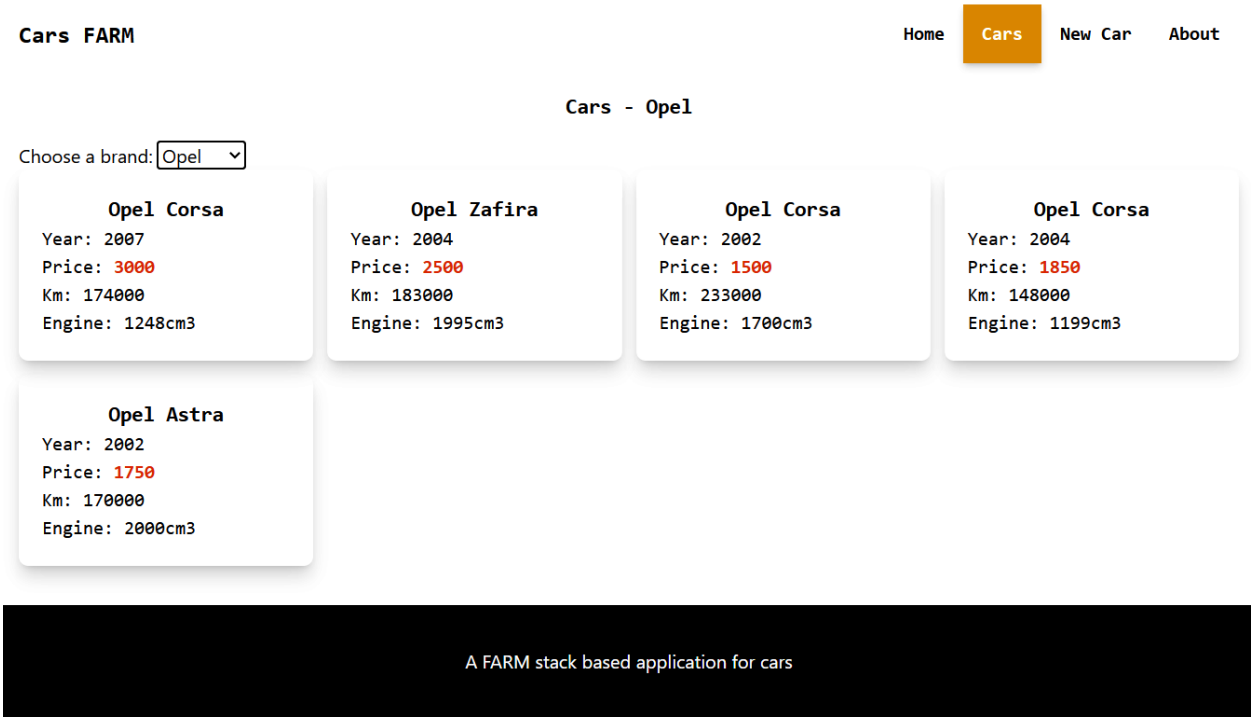
Current page: 2

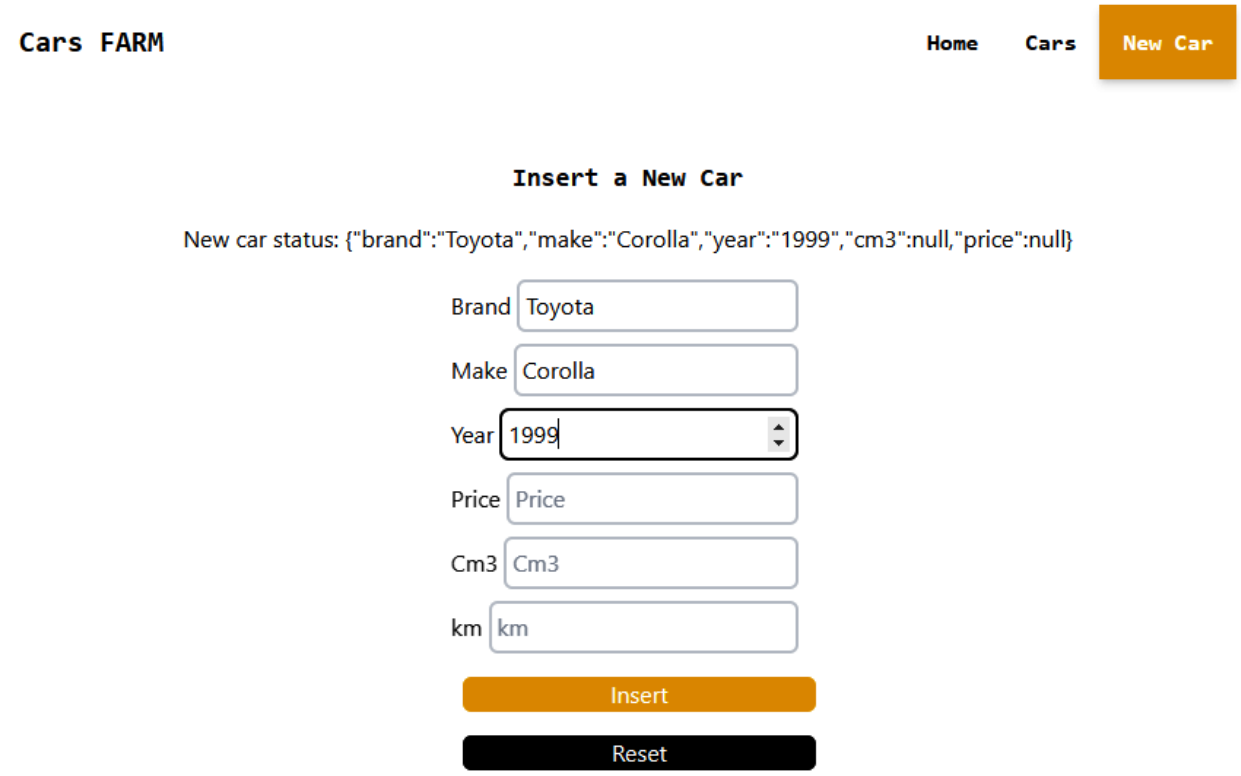
1. Michael Lawson (michael.lawson@reqres.in)
2. Lindsay Ferguson (lindsay.ferguson@reqres.in)
3. Tobias Funke (tobias.funke@reqres.in)
4. Byron Fields (byron.fields@reqres.in)
5. George Edwards (george.edwards@reqres.in)
6. Rachel Howell (rachel.howell@reqres.in)

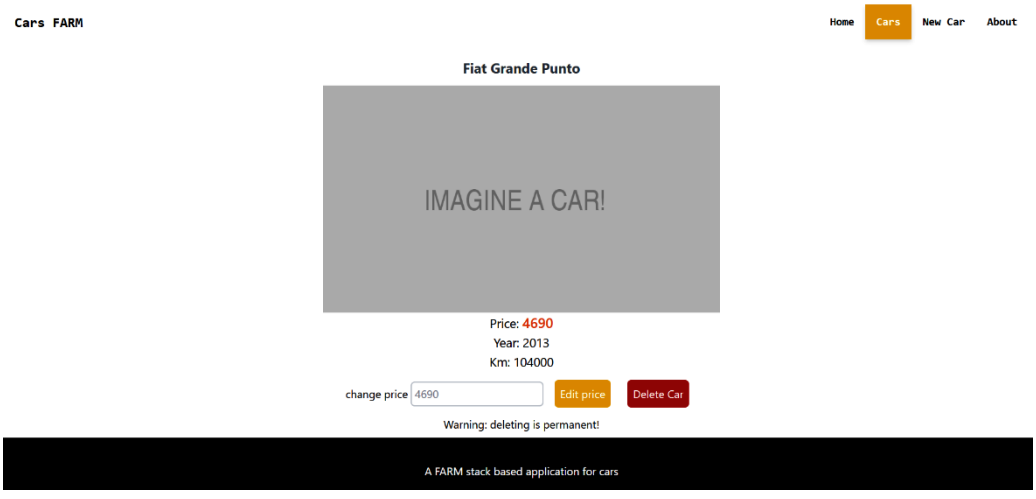
Chapter 5: Building the Backend for Our Application

//no images

Chapter 6: Building the Frontend of the Application



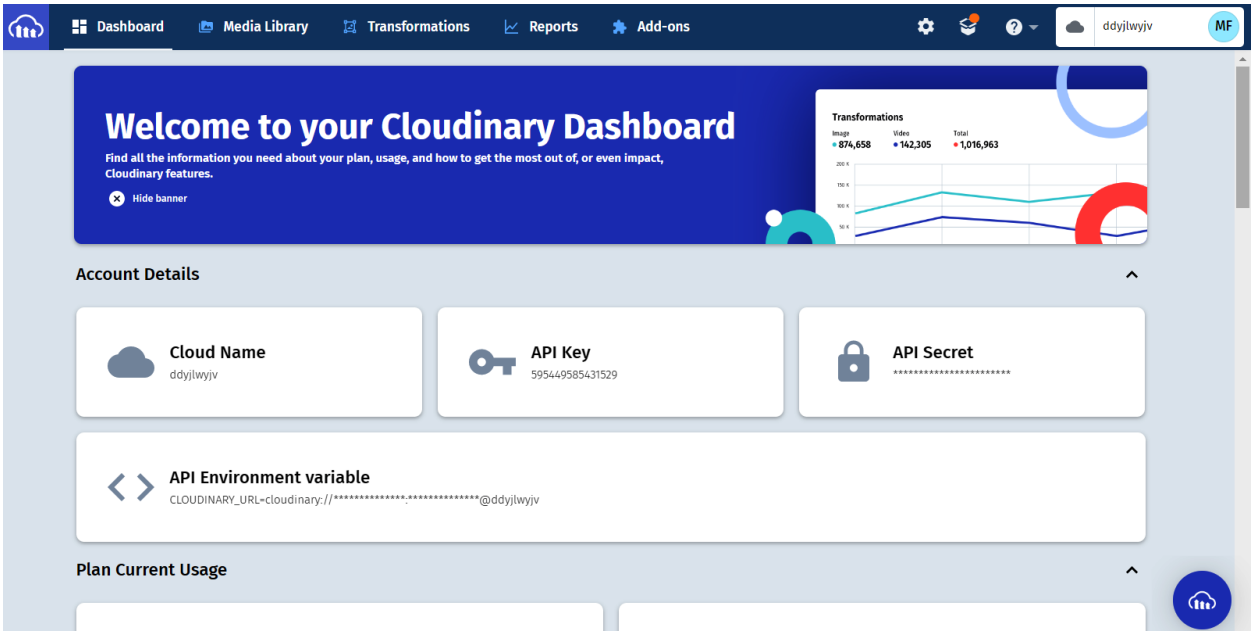

Cars FARM
Home
Cars
New Car
Insert a New Car
New car status: {"brand":"Toyota","make":"Corolla","year":"1999","cm3":null,"price":null}
Brand
Toyota
Make
Corolla
Year
1999
Price
Price
Cm3
Cm3
km
km
Insert
Reset
A FARM stack based application for cars

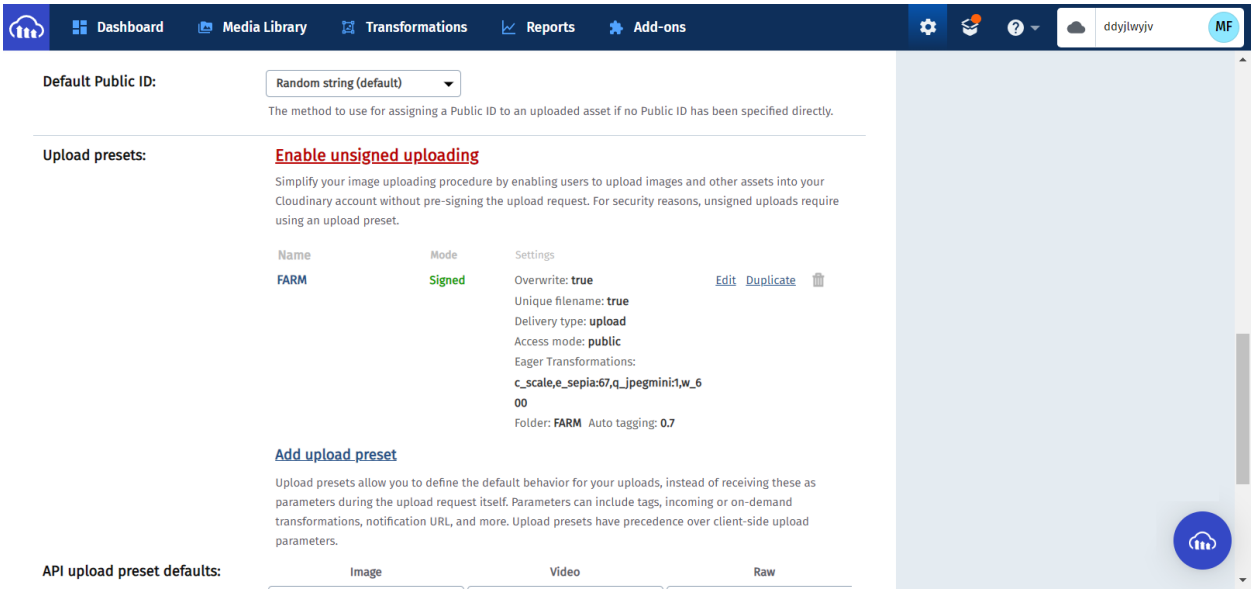

Cars FARM
Home
Cars
New Car
About
Fiat Grande Punto
IMAGINE A CAR!
Price: 4690
Year: 2013
Km: 104000
change price
4690
Edit price
Delete Car
Warning: deleting is permanent!
A FARM stack based application for cars

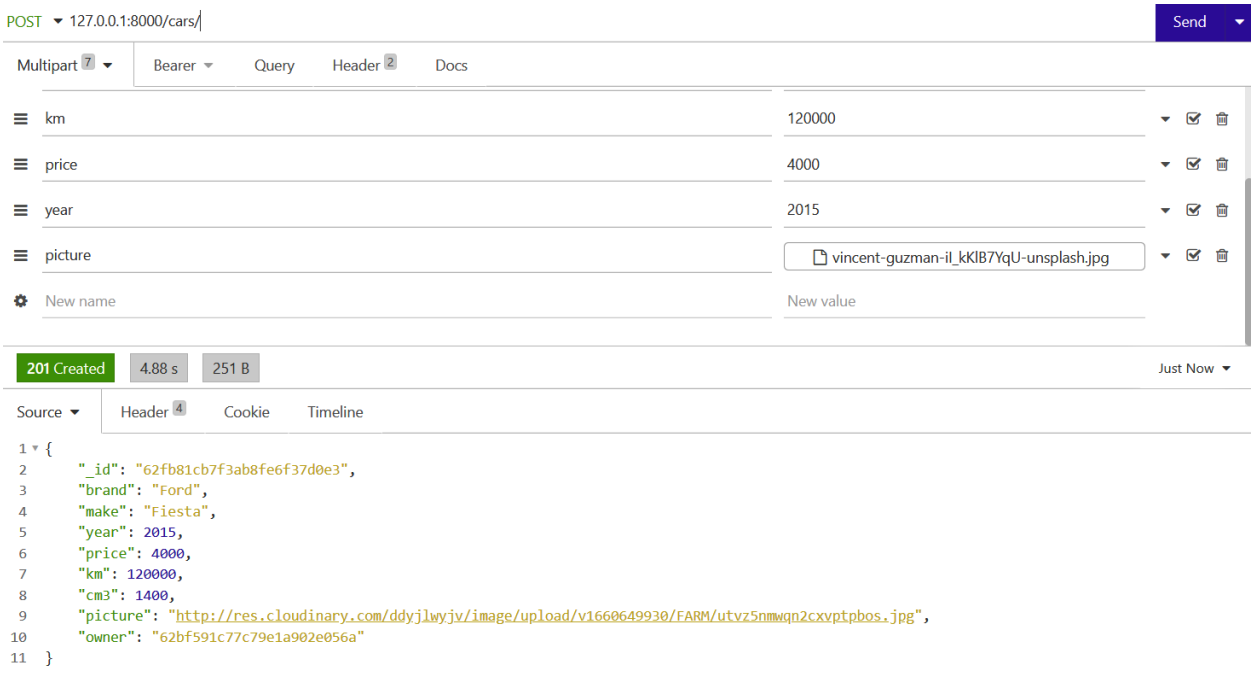
Chapter 7: Authentication and Authorization

//no Images

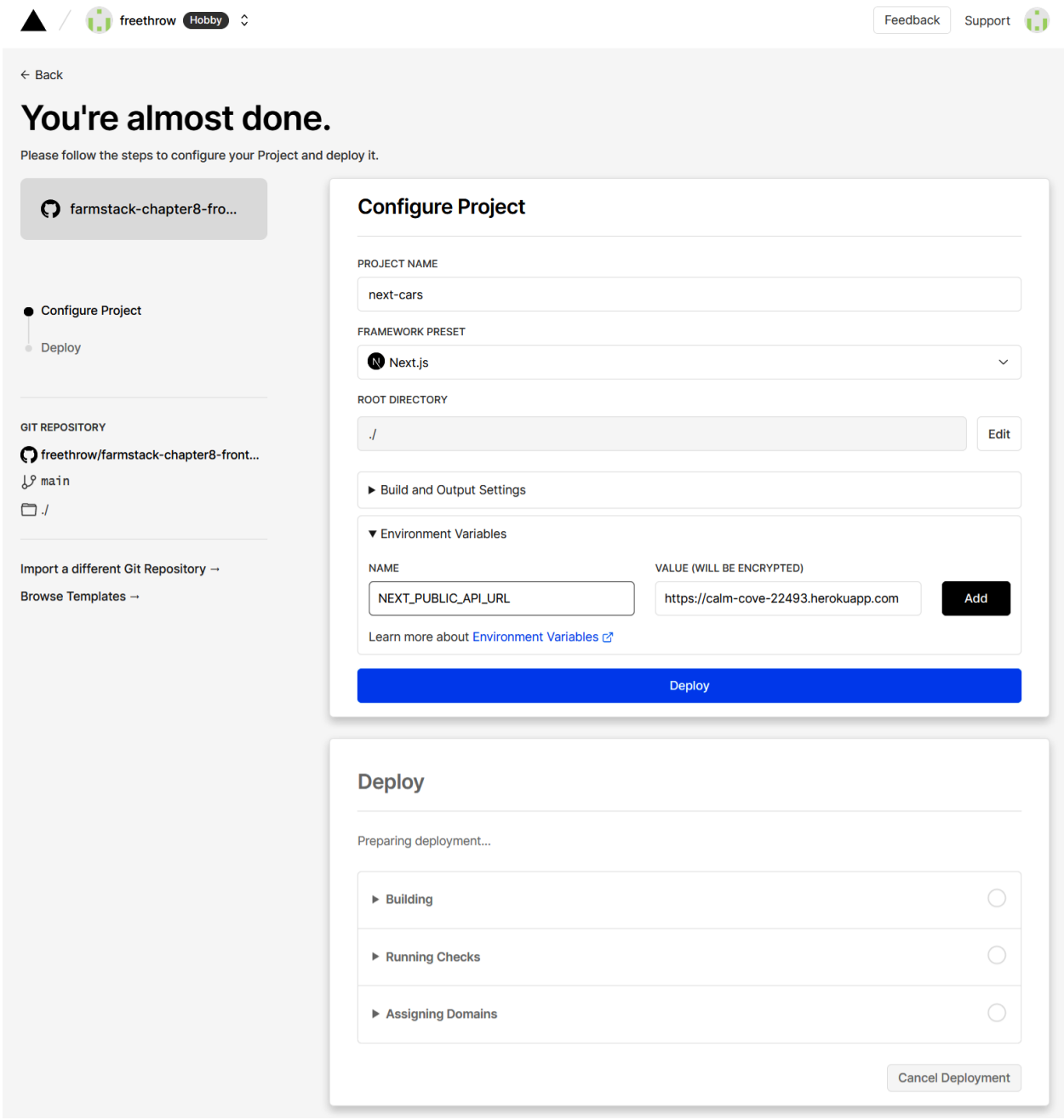
Chapter 8: Server-Side Rendering and Image Processing with FastAPI and Next.js







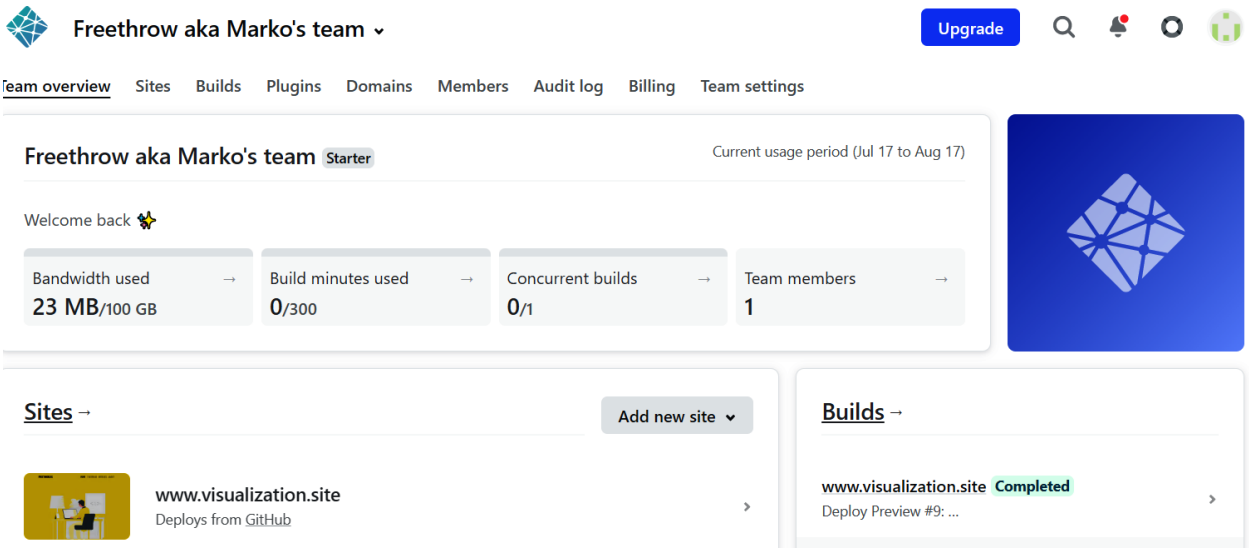

```
{
    "_id": "62fb81cb7f3ab8fe6f37d0e3",
    "brand": "Ford",
    "make": "Fiesta",
    "year": 2015,
    "price": 4000,
    "km": 120000,
    "cm3": 1400,
    "picture": "http://res.cloudinary.com/ddyjlwyjv/image/upload/v1660649930/FARM/utvz5nmwqn2cxvptpbos.jpg",
    "owner": "62bf591c77c79e1a902e056a"
}
```

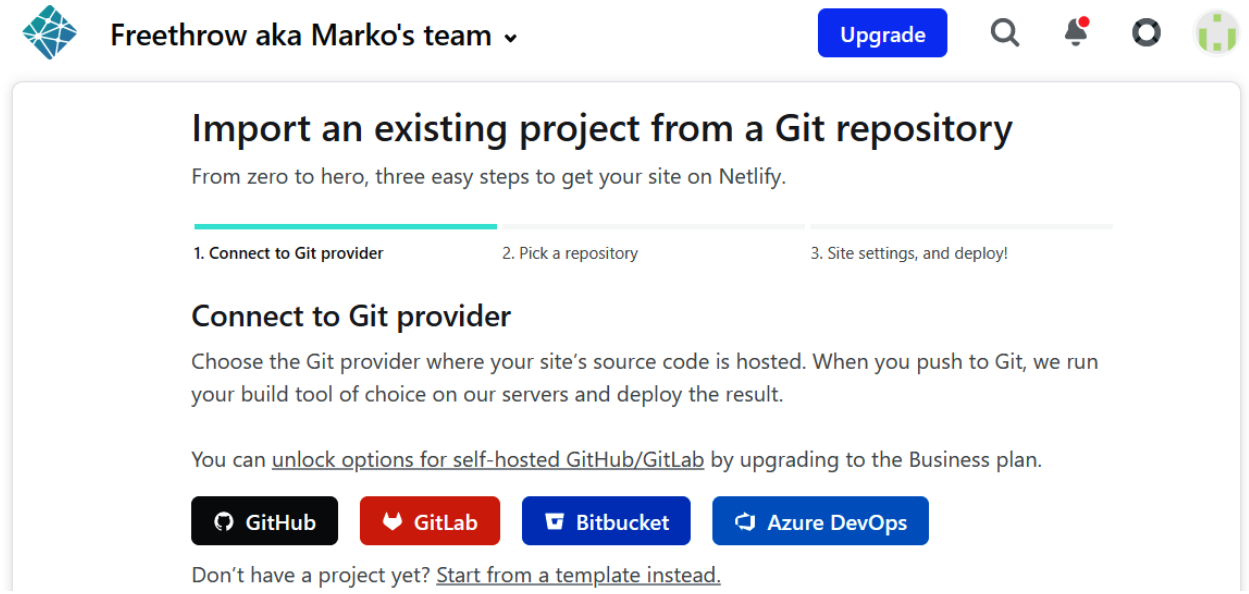

freethrow Hobby
Feedback
Support
Back
You're almost done.
Please follow the steps to configure your Project and deploy it.
farmstack-chapter8-fro...
Configure Project
Deploy
GIT REPOSITORY
freethrow/farmstack-chapter8-front...
main
./
Import a different Git Repository →
Browse Templates →
Configure Project
PROJECT NAME
next-cars
FRAMEWORK PRESET
Next.js
ROOT DIRECTORY
./
Edit
Build and Output Settings
Environment Variables
NAME
VALUE (WILL BE ENCRYPTED)
NEXT_PUBLIC_API_URL
https://calm-cove-22493.herokuapp.com
Add
Learn more about Environment Variables
Deploy
Deploy
Preparing deployment...
Building
Running Checks
Assigning Domains
Cancel Deployment

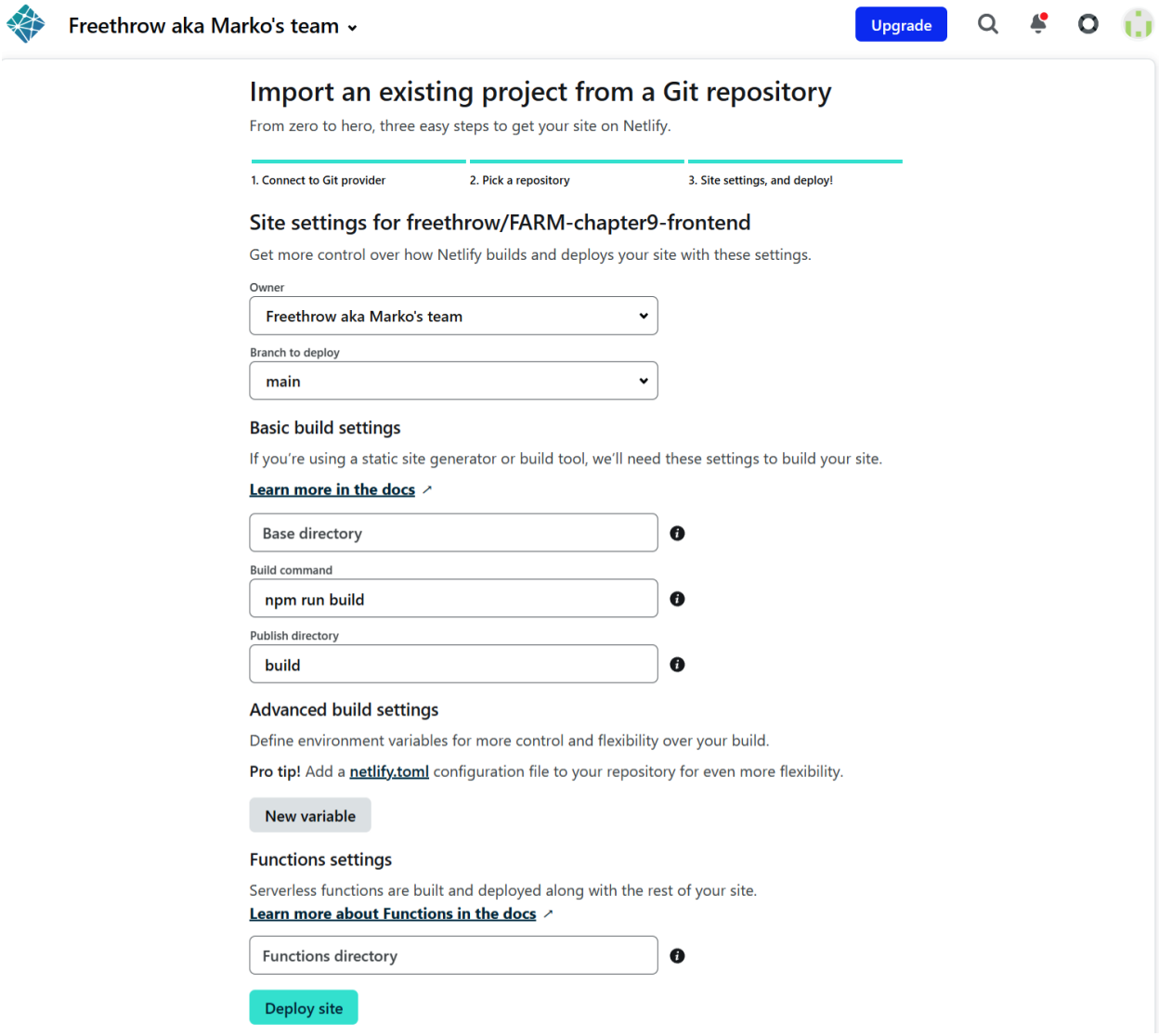
Chapter 9: Building a Data Visualization App with the FARM Stack

//No images

Chapter 10: Caching with Redis and Deployment on Ubuntu (DigitalOcean) and Netlify






Freethrow aka Marko's team
Upgrade
Import an existing project from a Git repository
From zero to hero, three easy steps to get your site on Netlify.
1. Connect to Git provider
2. Pick a repository
3. Site settings, and deploy!
Site settings for freethrow/FARM-chapter9-frontend
Get more control over how Netlify builds and deploys your site with these settings.
Owner
Freethrow aka Marko's team
Branch to deploy
main
Basic build settings
If you're using a static site generator or build tool, we'll need these settings to build your site.
Learn more in the docs
Base directory
Build command
npm run build
Publish directory
build
Advanced build settings
Define environment variables for more control and flexibility over your build.
Pro tip! Add a netlify.toml configuration file to your repository for even more flexibility.
New variable
Functions settings
Serverless functions are built and deployed along with the rest of your site.
Learn more about Functions in the docs
Functions directory
Deploy site

Basic build settings

If you're using a static site generator or build tool, we'll need these settings to build your site.

Learn more in the docs ↗

Base directory

Build command

npm run build

Publish directory

build

Advanced build settings

Define environment variables for more control and flexibility over your build.

Pro tip! Add a **netlify.toml** configuration file to your repository for even more flexibility.

Key	Value
REACT_APP_API_URL	http://207.154.254.1

Chapter 11: Useful Resources and Project Ideas

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