Who am I?

- Rokas Jankauskas
- Team Lead of Coretix team
- With C# .NET background
- 8 years working at Present Connection
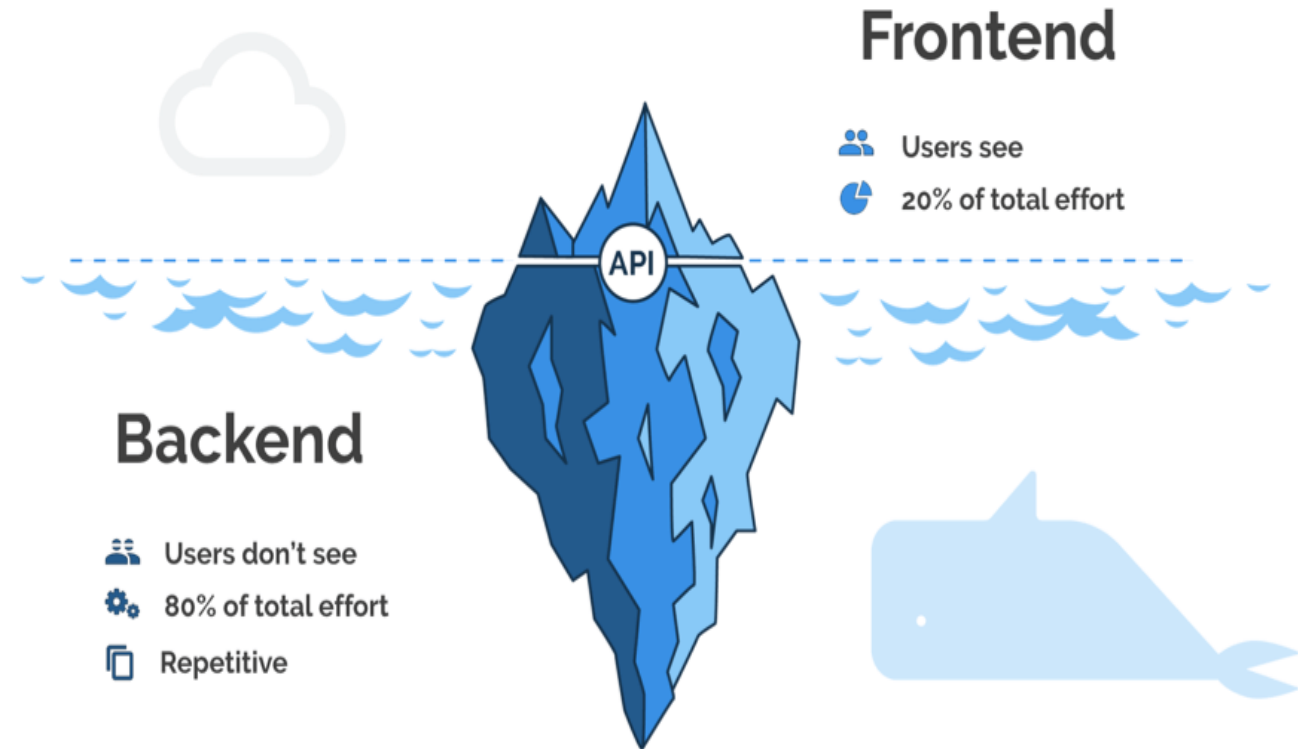
- Biggest achievement:

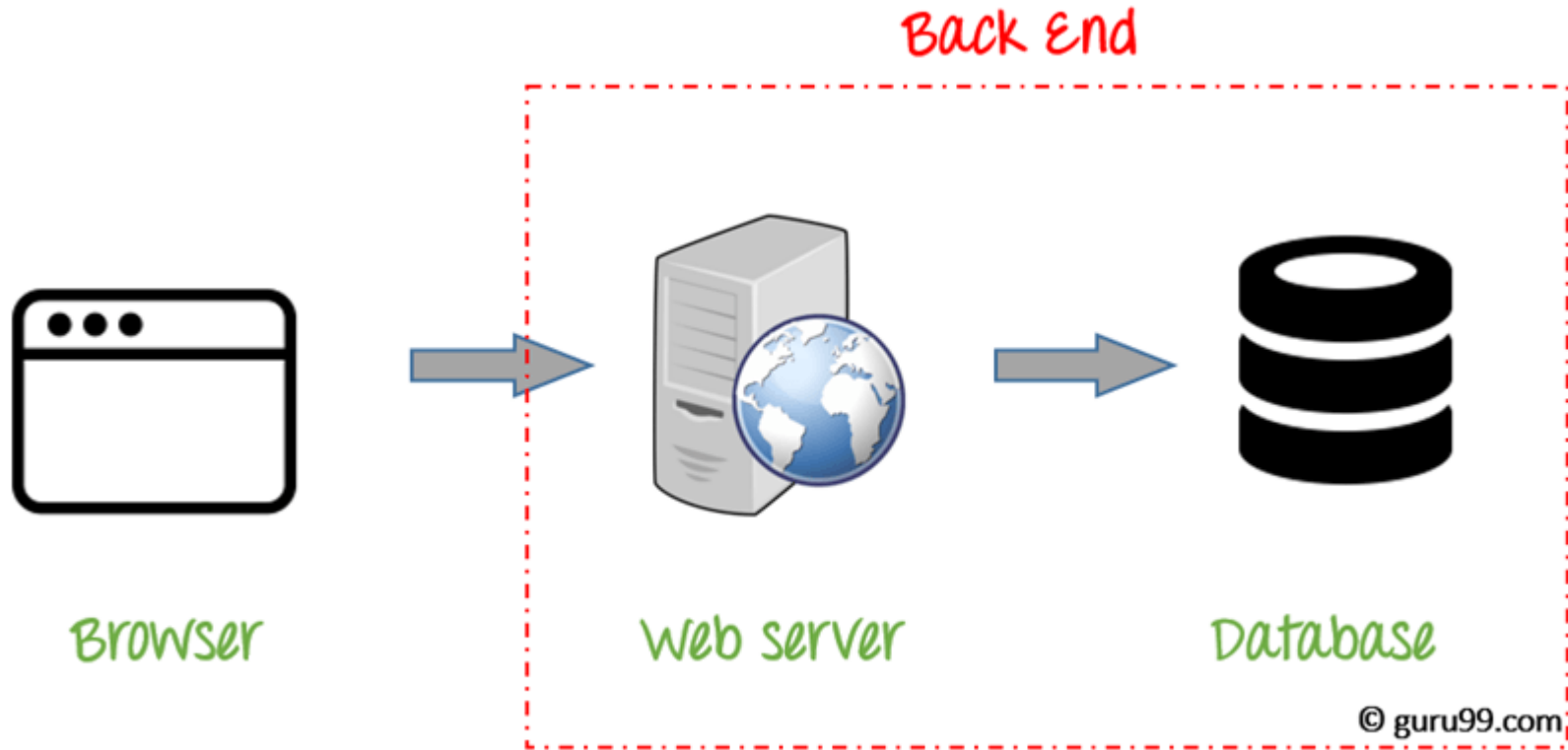
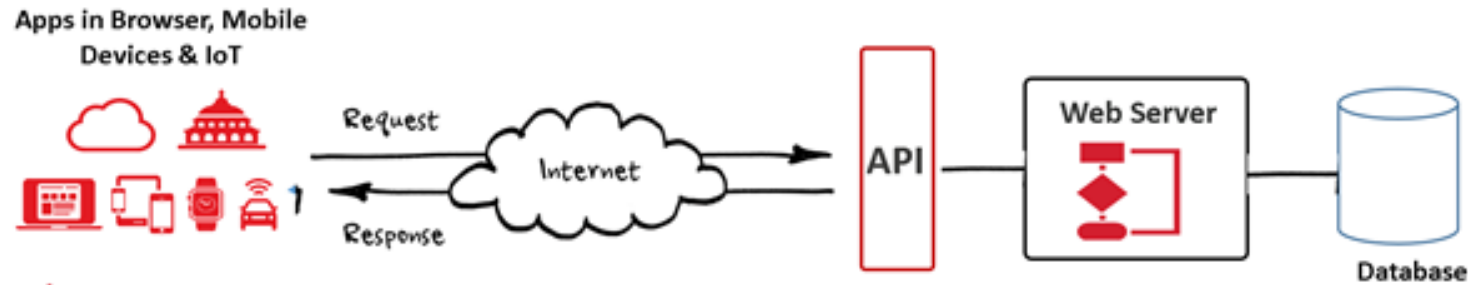

PRESENT CONNECTION
STYLE
of the 2020
ROKAS

What is backend?

The back end refers to parts of a computer application or a program's code that allow it to operate and that cannot be accessed by a user

Frontend
- Users see
- 20% of total effort

API

Backend
- Users don't see
- 80% of total effort
- Repetitive

Backend infrastructure

Back End

Browser   Web server   Database

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What is API?

◆ API is the acronym for Application Programming Interface, which is a software intermediary that allows two applications to talk to each other

◆ Each time you use an app like Facebook, send an instant message, or check the weather on your phone, you're using an API

How to use an API?

Communication between client and server is dictated by the rules of HTTP protocol

The four most basic request methods to a server are:

- GET: To retrieve a resource
- POST: To create a new resource
- PUT: To edit or update an existing resource
- DELETE: To delete a resource

Things each API must have

API Consumer perspective:

- Documentation/How to

API Provider perspective:

- Business Logic
- Authentication
- Authorization
- Limits

Documentation

API documentation is **a technical content deliverable, containing instructions about how to effectively use and integrate with an API**

API description formats like the OpenAPI/Swagger Specification have automated the documentation process
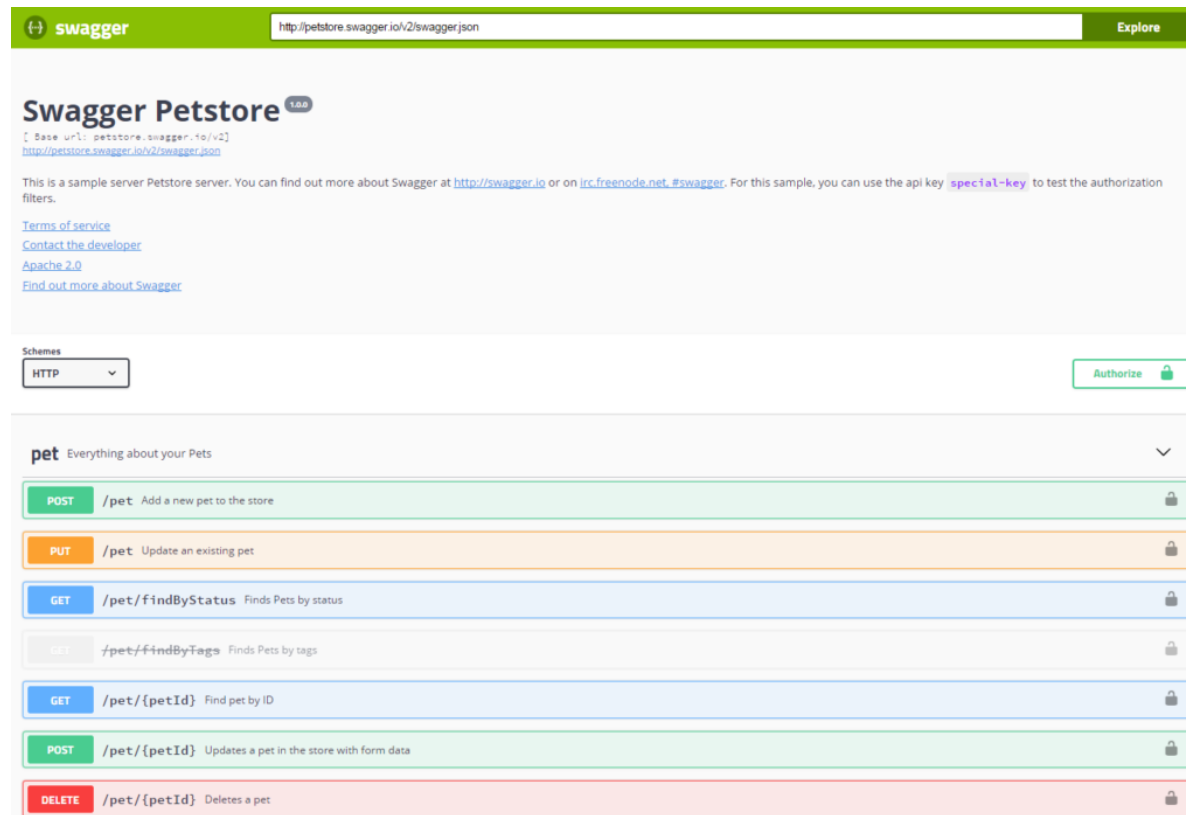
Authentication

The processes of certifying the identity of users trying to access resources on the server and this is what is known as API authentication.

Most popular authentication methods at the moment:

- Bearer
- OAuth
- Basic
- Digest

Authorization

Authorization refers to **the process of verifying what a user has access to**

Rate limits / Throttling

API throttling is the process of limiting the number of API requests a user can make in a certain period.

GETTING STARTED

API DOCUMENTATION ⌄

Transitioning From Google's URL Shortener

Authentication

Request / Response Formats

CORS (Cross Origin Resource Sharing)

Rate Limiting

Data APIs

Links

Link Metrics

User Info/History

User Metrics

Deeplink Metrics

Organization Metrics

Domains

Campaigns

Data Streams

Spreadsheet Support

Deprecated

API Console

BEST PRACTICES

Rate Limiting

Bitly institutes per-month, per-hour, per-minute, per-user, and per-IP rate limits for each API method.

Here are the rate limits for our most popular API method, /v3/shorten:

- 10,000 new Bitlinks created per month
- 1,000 calls per hour
- 100 calls per minute

Other API methods have different rate limits for calls per minute and hour.

While rate limits exist, default limits are more than sufficient for most API usage. To increase your rate limit, please contact sales at volume@bitly.com.

Please note that some API rate limits reset once each hour. If you are experiencing rate limiting errors, please wait 60 minutes to resume making API calls.

To avoid common causes of rate limiting issues, please read our Best Practices.

Business logic

- is essentially the part of a computer program that contains the information (in the form of business rules) that defines or constrains how a business operates

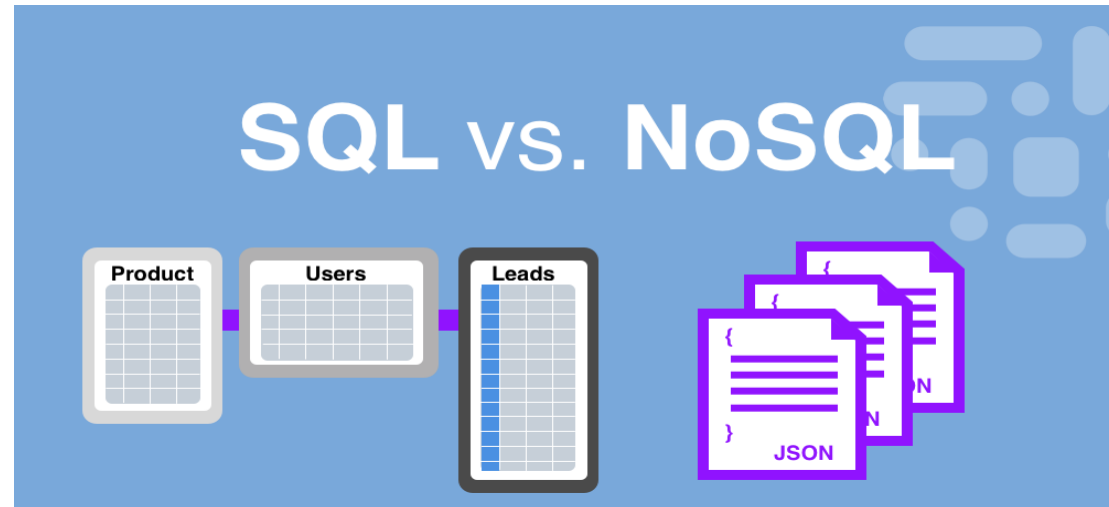- is a set of **custom rules or algorithms**
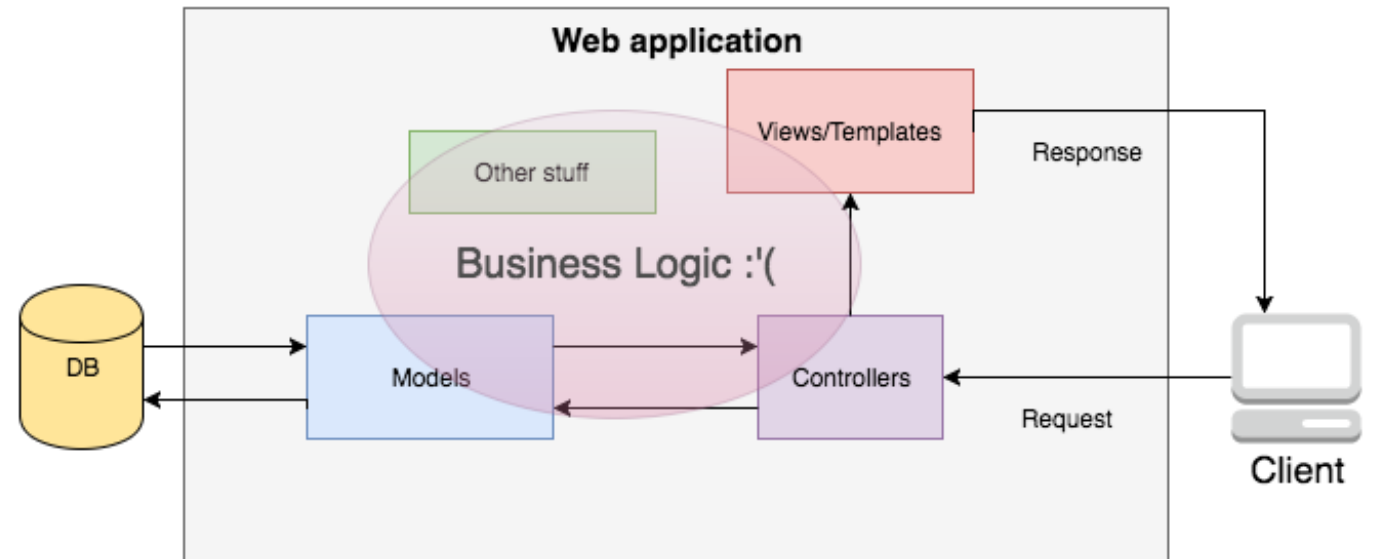
Database

A **database** is an organized collection of structured information, or data, typically stored electronically in a computer system

Main database types:

- **SQL (Relational) databases**
- **NoSQL databases**

Testing

Software Testing is a method to check whether the actual software product matches expected requirements and to ensure that software product is defect free

Workshop

We will build an API in .NET Core with C# which:

- Implements CRUD
- Has unit tests
- Has business logic

- Group1: Personal code validation (length + birth month and day)
- Group2: Email validation (must contain @ and .)
- Group3: Phone number validation (length + can start with + or 8)
- Group4: Social network URL: (must start with http and end with .com)

Home Work

◆ Sugalvoti projekto temą (pavadinimas, aprašymas, funkcionalumas (MVP)) ir pateikti dokumentą