

S|CASE

APIs built with S-CASE

S|CASE

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AUTH



S-CASE Hackathon

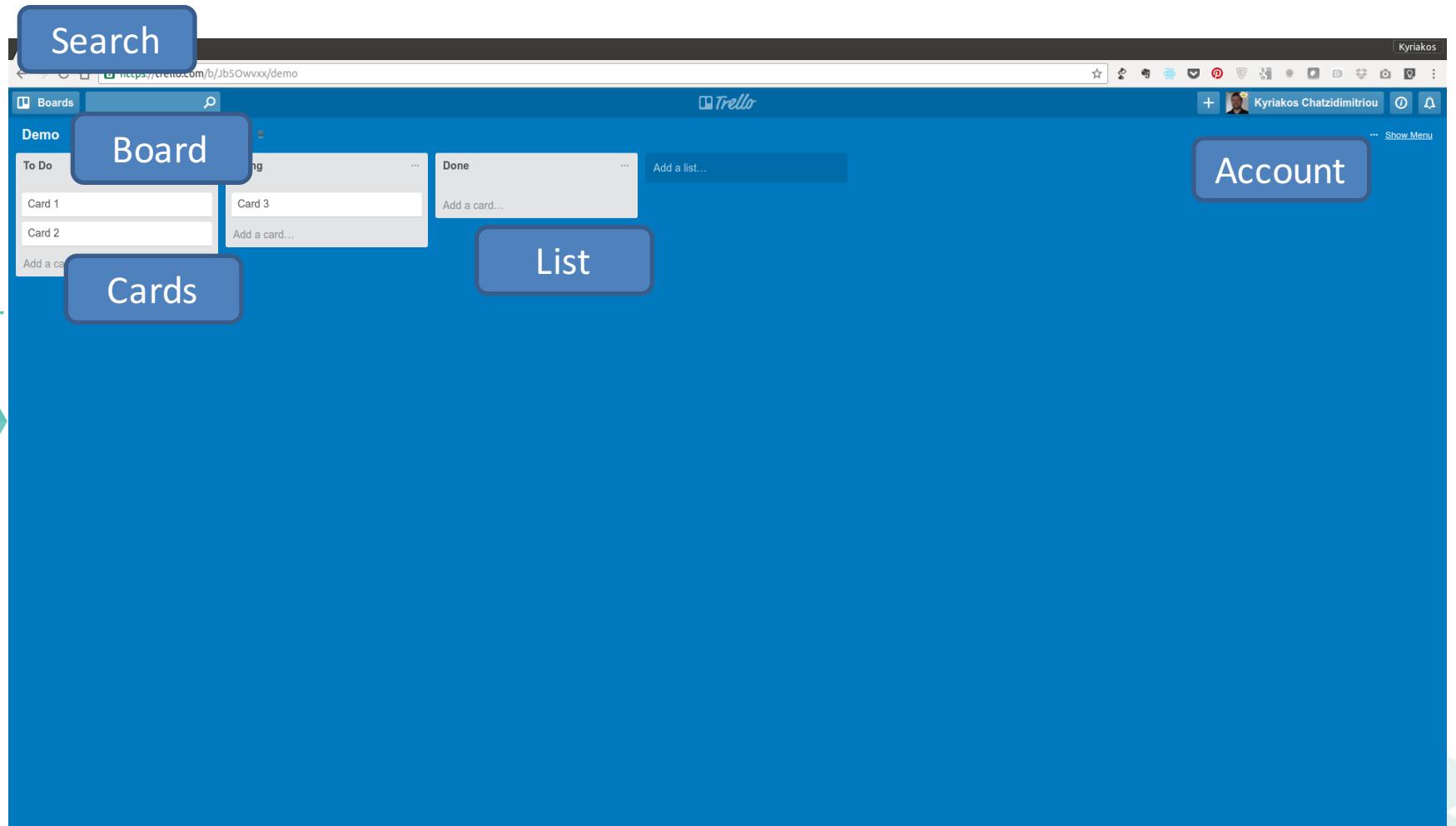
Thessaloniki, 1-2 July 2016



A simplified Trello like app

RESTBOARDS

Let's build (the API) of sth like that...



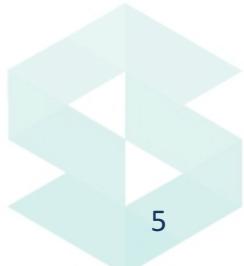
Basic Modelling

- Account
 - Boards
 - Lists
 - Cards
 - » Comments
- Account: sign up (Create) and sign in (Read)
- Boards, Lists, Cards, Comments: CRUD + Index
- Hierarchical CRUD-based API: “the bread and butter of S-CASE”



The S-CASE approach

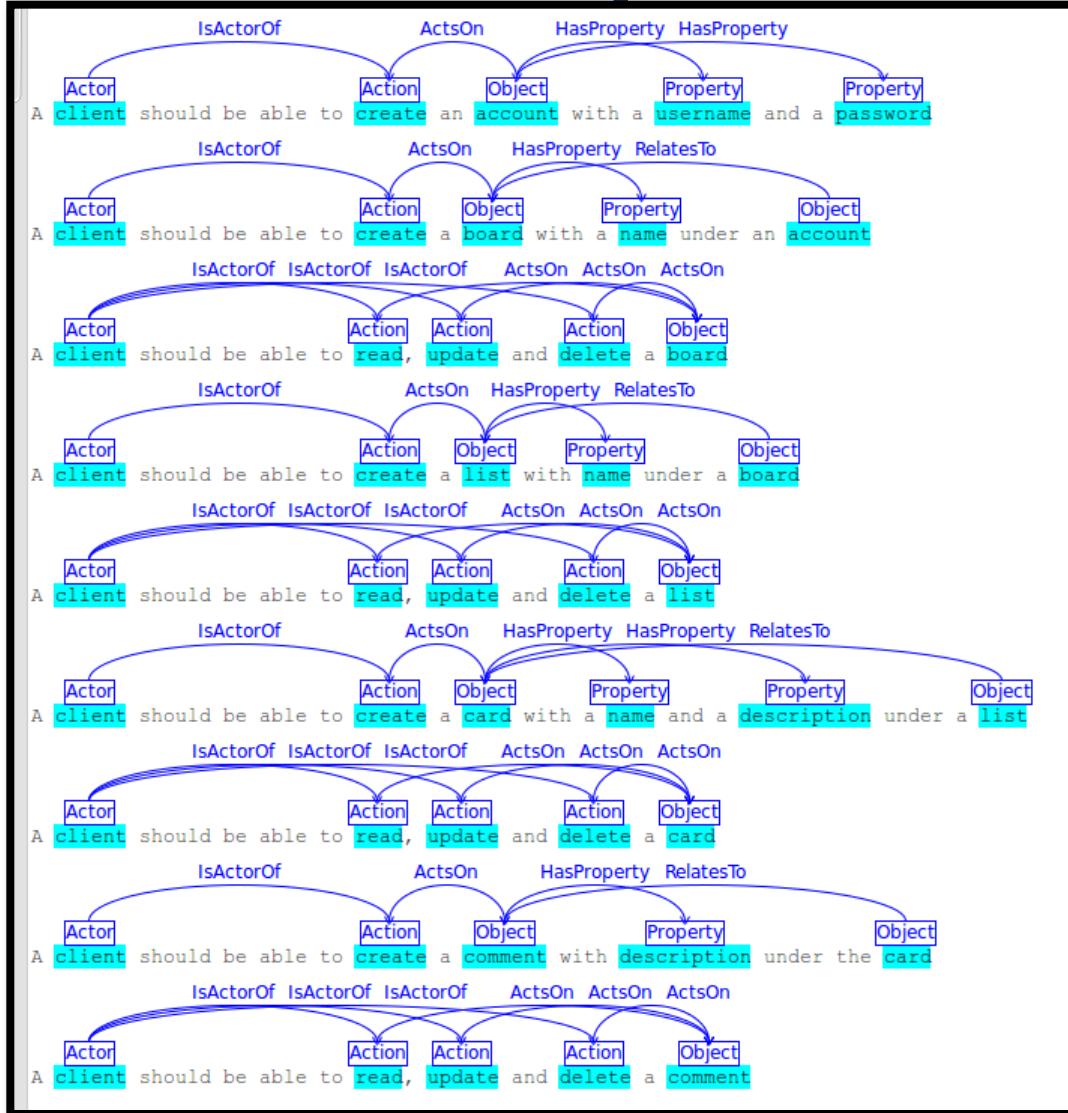
1. Create a new project
2. Write down the requirements
3. Annotate the requirements
4. Tune & configure through the code generation wizard
5. Export code
6. Install
7. Deploy
8. Test
9. Write the front-end



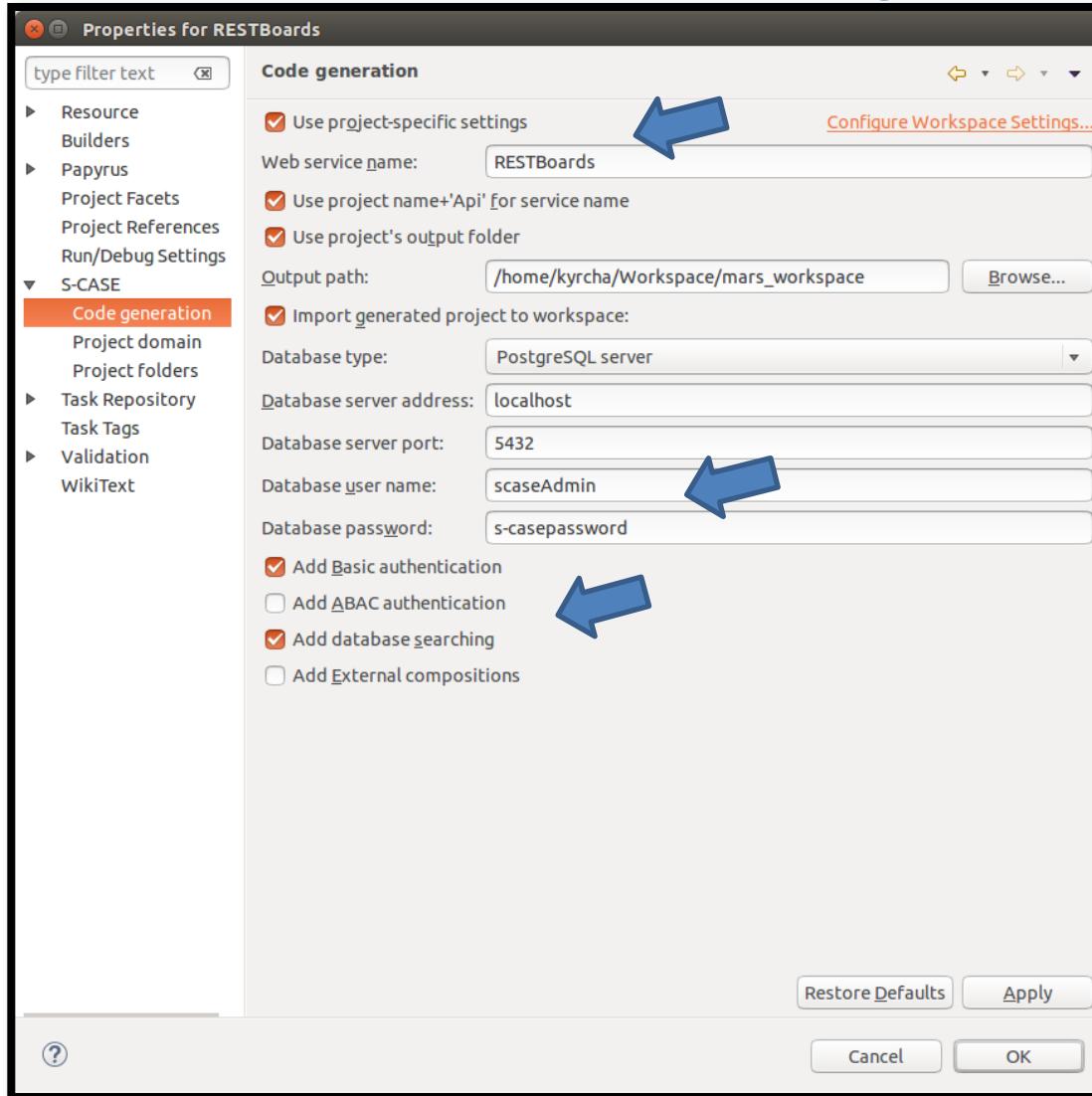
Requirements

- A client should be able to create an account with a username and a password
- A client should be able to read, update and delete an account
- A client should be able to create a board with a name under an account
- A client should be able to read, update and delete a board
- A client should be able to create a list with name under a board
- A client should be able to read, update and delete a list
- A client should be able to create a card with a name and a description under a list
- A client should be able to read, update and delete a card
- A client should be able to create a comment with description under the card
- A client should be able to read, update and delete a comment
- A client should be able to locate cards

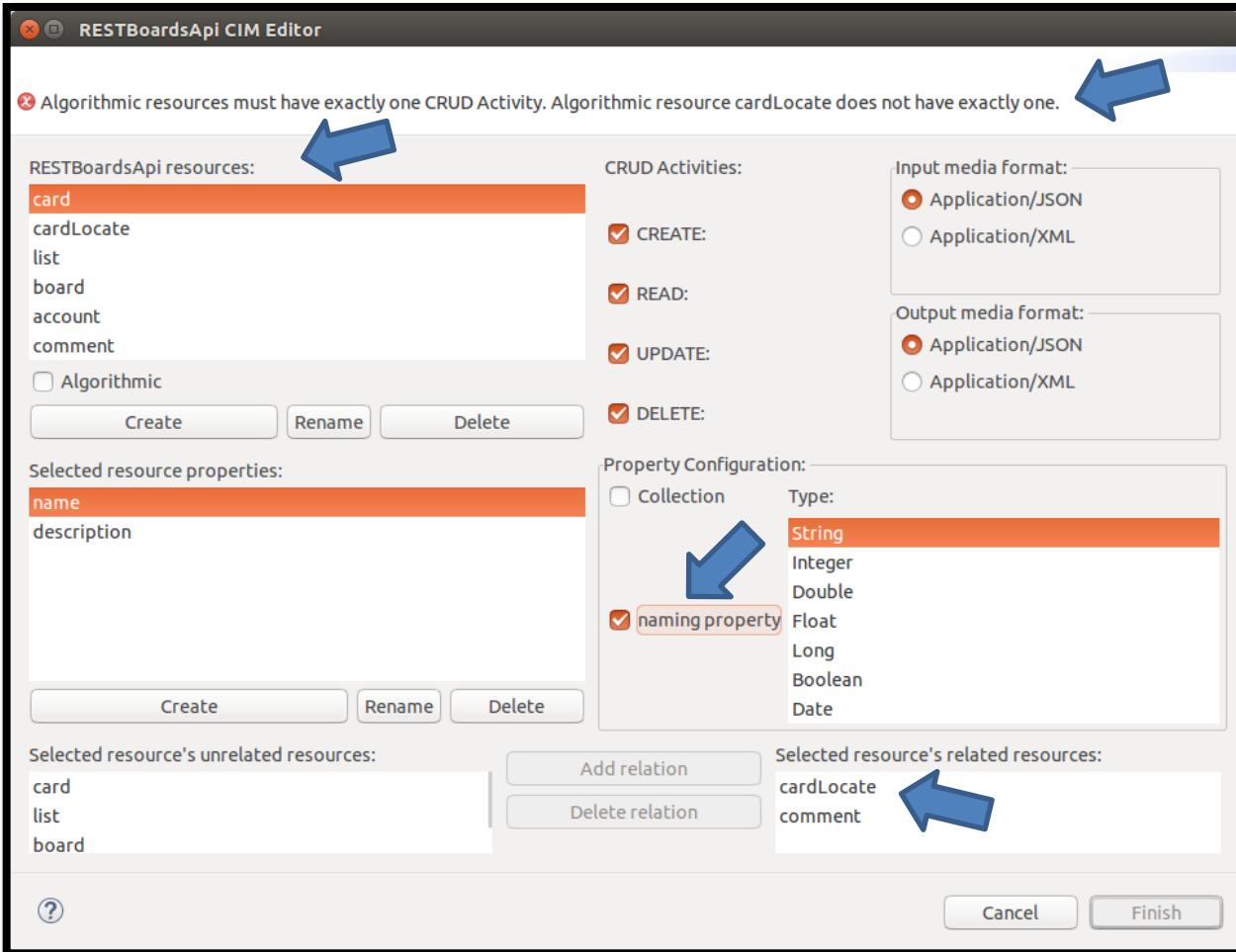
Annotated Requirements



Code Generation Properties



Code Generation Wizard



Authentication (1/2)

Authentication Wizard

Authentication Model:
Choose your web service Authentication Model from the available resources below:

card
list
board
account
comment

Username Token:
Choose the property that will be the username authentication token:

password
username

Password Token:
Choose the property that will be the password authentication token:

password

? < Back Next > Cancel Finish

Authentication (2/2)

Authentication Wizard

Web Service Resources:
Pick any resource from the list below to apply change the default authentication mode:

- card
- cardLocate
- list
- board
- account**
- comment

Select the Authentication Mode for each of the following selected resource's CRUD activities:

Create Activity: All Authenticated

Read Activity: All Authenticated

Update Activity: All Authenticated

Delete Activity: All Authenticated

Choose one authentication mode to apply to all CRUD activities:

- All
- Authenticated**

Search

Search DB Wizard

Add any of the available resources to the search resource list:

Available Resources:	Selected Search Resources:
	cardLocate

Add all the properties that must be searchable by the selected search resource

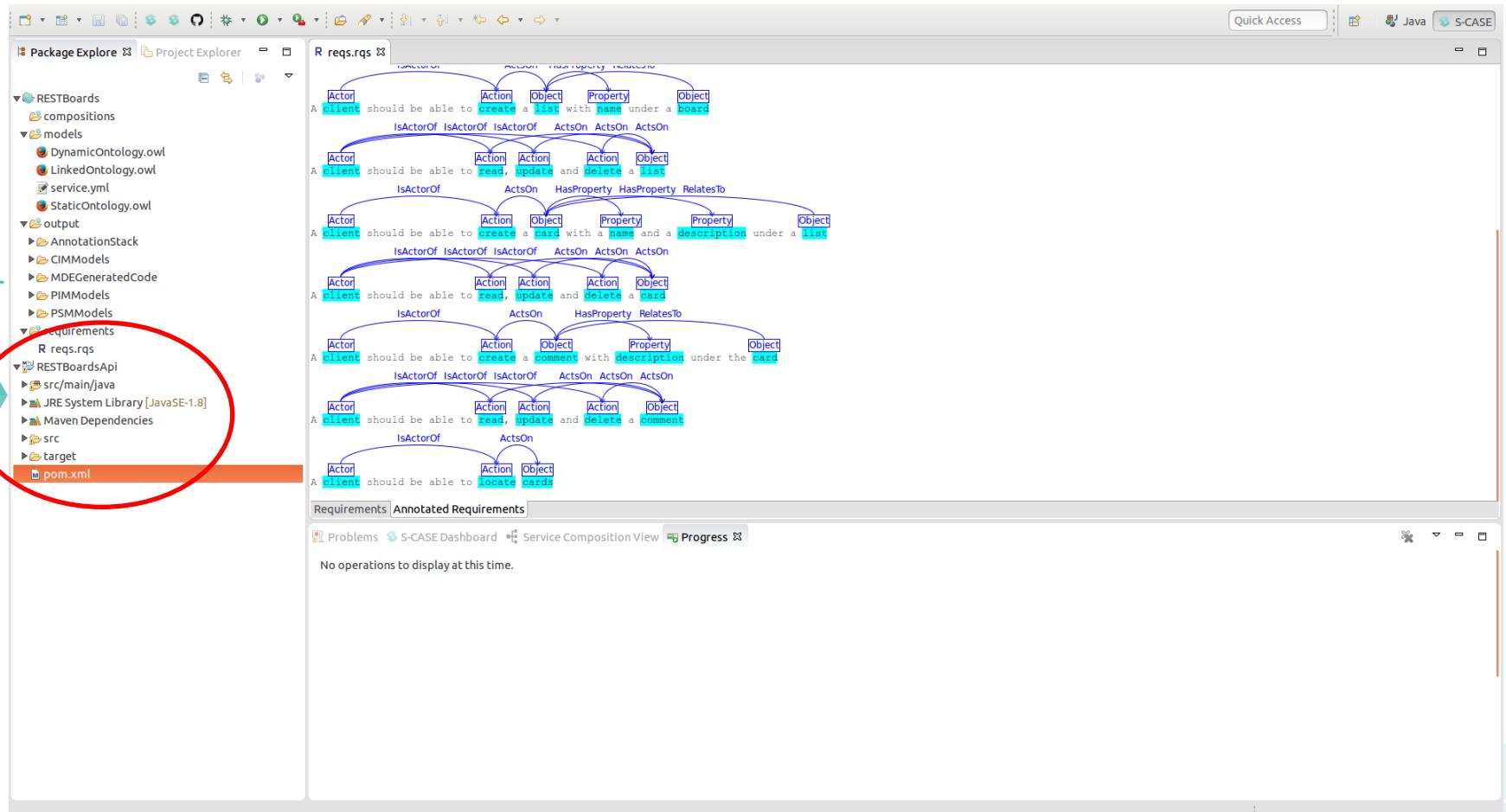
Select a Resource:	Select a Property:	Selected Properties:
list	description	card:name
board		card:description
account		comment:descript
comment		

?

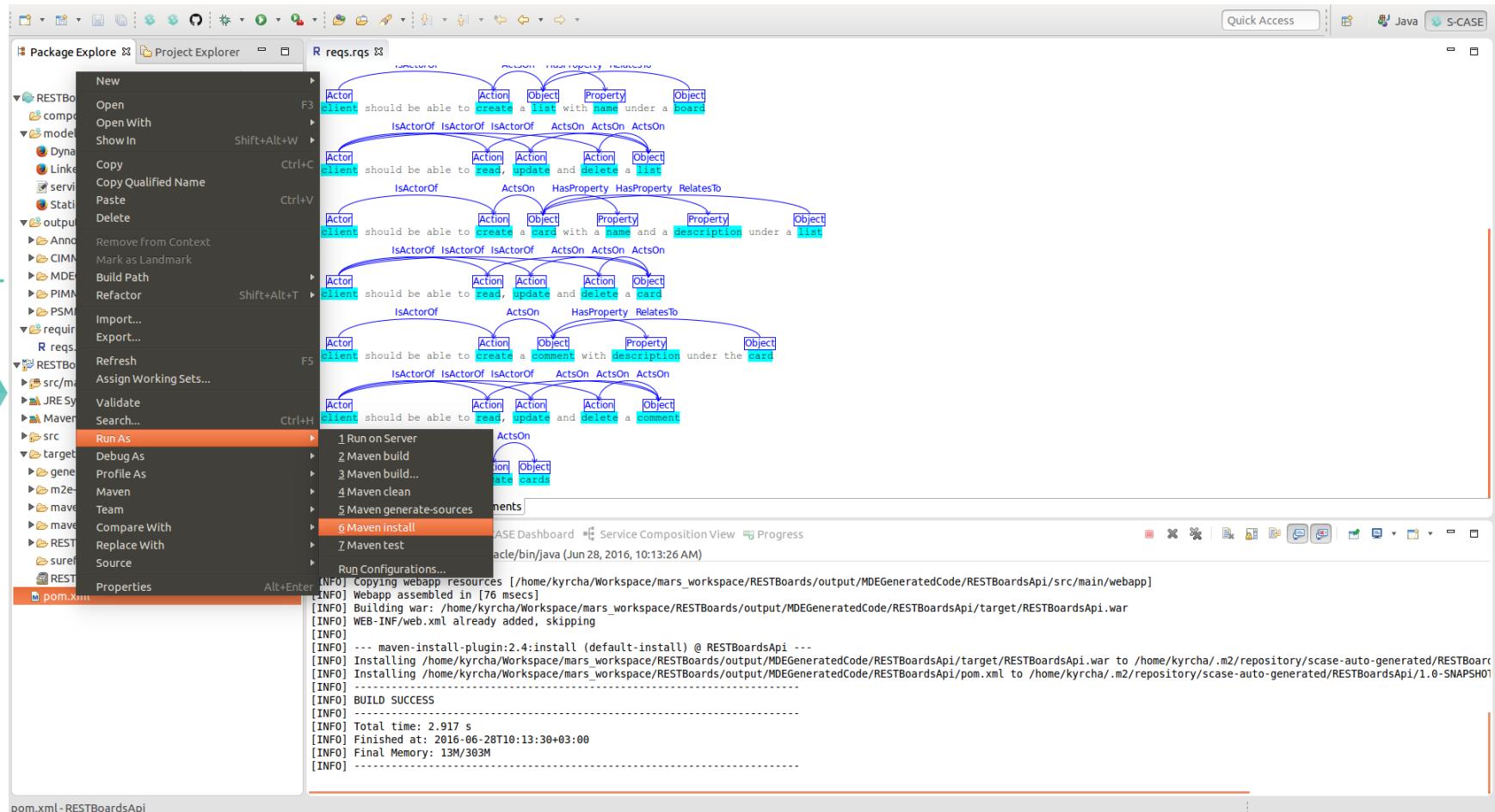
Cancel

Finish

Done



Let's built it

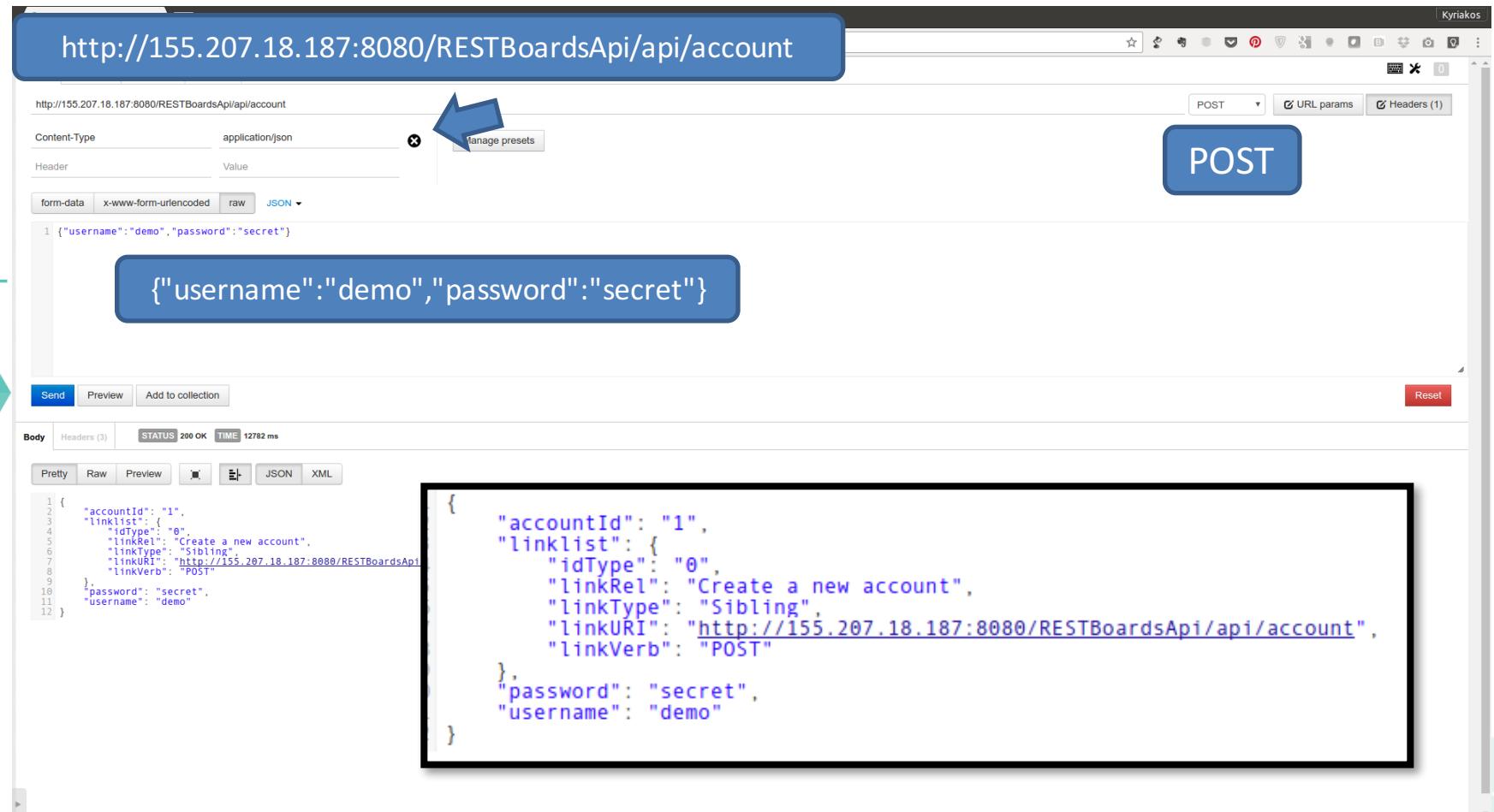


Let's deploy it

- Prepared an environment for you
- FTP
 - Host: 155.207.18.187
 - Username: scase
 - Password: scase.students.war

Let's play with it: Sign Up

http://155.207.18.187:8080/RESTBoardsApi/api/account



Content-Type: application/json

Header: Value

POST

{"username": "demo", "password": "secret"}

Send Preview Add to collection Reset

Body Headers (3) STATUS 200 OK TIME 12782 ms

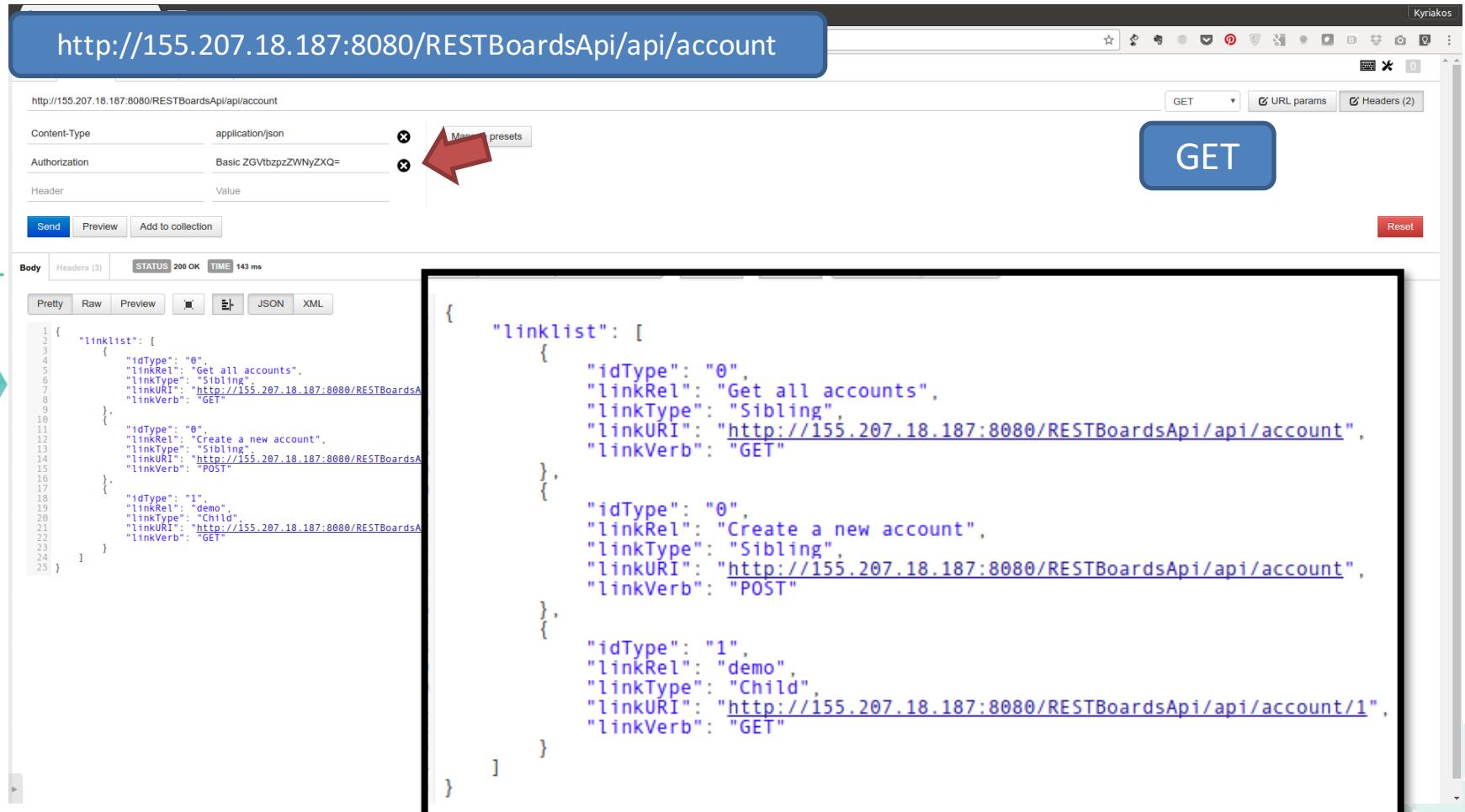
Pretty Raw Preview JSON XML

```

1 {
  "accountId": "1",
  "linklist": [
    {
      "idType": "0",
      "linkRel": "Create a new account",
      "linkType": "Sibling",
      "linkURI": "http://155.207.18.187:8080/RESTBoardsApi",
      "linkVerb": "POST"
    }
  ],
  "password": "secret",
  "username": "demo"
}
  
```

Let's play with it: Sign In

http://155.207.18.187:8080/RESTBoardsApi/api/account



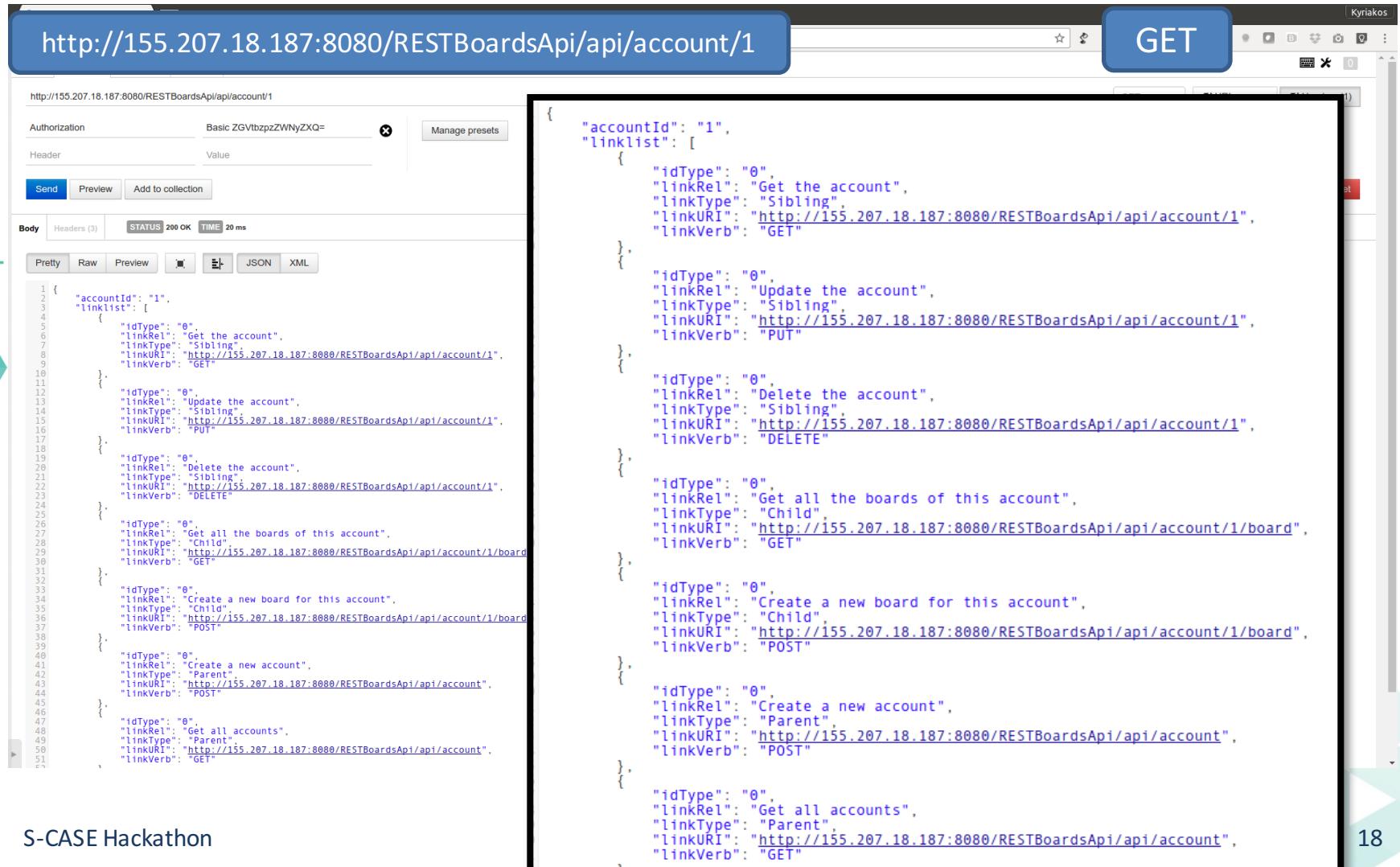
Mapper

```
{
  "linklist": [
    {
      "idType": "0",
      "linkRel": "Get all accounts",
      "linkType": "Sibling",
      "linkURI": "http://155.207.18.187:8080/RESTBoardsA",
      "linkVerb": "GET"
    },
    {
      "idType": "0",
      "linkRel": "Create a new account",
      "linkType": "Sibling",
      "linkURI": "http://155.207.18.187:8080/RESTBoardsA",
      "linkVerb": "POST"
    },
    {
      "idType": "1",
      "linkRel": "demo",
      "linkType": "Child",
      "linkURI": "http://155.207.18.187:8080/RESTBoardsA",
      "linkVerb": "GET"
    }
  ]
}
```

Let's play with it: HATEOAS Account

http://155.207.18.187:8080/RESTBoardsApi/api/account/1

GET



```

{
  "accountId": "1",
  "linklist": [
    {
      "idType": "0",
      "linkRel": "Get the account",
      "linkType": "Sibling",
      "linkURI": "http://155.207.18.187:8080/RESTBoardsApi/api/account/1",
      "linkVerb": "GET"
    },
    {
      "idType": "0",
      "linkRel": "Update the account",
      "linkType": "Sibling",
      "linkURI": "http://155.207.18.187:8080/RESTBoardsApi/api/account/1",
      "linkVerb": "PUT"
    },
    {
      "idType": "0",
      "linkRel": "Delete the account",
      "linkType": "Sibling",
      "linkURI": "http://155.207.18.187:8080/RESTBoardsApi/api/account/1",
      "linkVerb": "DELETE"
    },
    {
      "idType": "0",
      "linkRel": "Get all the boards of this account",
      "linkType": "Child",
      "linkURI": "http://155.207.18.187:8080/RESTBoardsApi/api/account/1/board",
      "linkVerb": "GET"
    },
    {
      "idType": "0",
      "linkRel": "Create a new board for this account",
      "linkType": "Child",
      "linkURI": "http://155.207.18.187:8080/RESTBoardsApi/api/account/1/board",
      "linkVerb": "POST"
    },
    {
      "idType": "0",
      "linkRel": "Create a new account",
      "linkType": "Parent",
      "linkURI": "http://155.207.18.187:8080/RESTBoardsApi/api/account",
      "linkVerb": "POST"
    },
    {
      "idType": "0",
      "linkRel": "Get all accounts",
      "linkType": "Parent",
      "linkURI": "http://155.207.18.187:8080/RESTBoardsApi/api/account",
      "linkVerb": "GET"
    }
  ]
}
  
```

Let's play with it: Create Board

http://155.207.18.187:8080/RESTBoardsApi/api/account/1/board

POST

Authorization: Basic ZGVtbzpzZWNyZXQ=

Content-Type: application/json

Header: Value

form-data x-www-form-urlencoded raw JSON

1 {"name": "To Do"}

{ "name": "To Do" }

Send Preview Add to collection

Body Headers (3) STATUS 200 OK TIME 37 ms

Pretty Raw Preview JSON XML

```

1 {
  "boardId": "2",
  "linklist": [
    {
      "idType": "0",
      "linkRel": "Get all boards of this account",
      "linkType": "Sibling",
      "linkURI": "http://155.207.18.187:8080/RESTBoardsApi/api/account/1/board",
      "linkVerb": "GET"
    },
    {
      "idType": "0",
      "linkRel": "Create a new board",
      "linkType": "Sibling",
      "linkURI": "http://155.207.18.187:8080/RESTBoardsApi/api/account/1/board",
      "linkVerb": "POST"
    },
    {
      "idType": "2",
      "linkRel": "To Do",
      "linkType": "Child",
      "linkURI": "http://155.207.18.187:8080/RESTBoardsApi/api/account/1/board/2",
      "linkVerb": "GET"
    },
    {
      "idType": "2",
      "linkRel": "To Do",
      "linkType": "Child",
      "linkURI": "http://155.207.18.187:8080/RESTBoardsApi/api/account/1/board/2",
      "linkVerb": "GET"
    }
  ]
}
  
```

Let's play with it: Read Board

http://155.207.18.187:8080/RESTBoardsApi/api/account/1/board/2

Authorization: Basic ZGVtbpzZWNyZXQ=

Content-Type: application/json

Header: Value

GET

Send Preview Add to collection Reset

Status: 200 OK | Time: 23 ms

Pretty Raw Preview JSON XML

```

1 {
2   "boardId": "2",
3   "linkList": [
4     {
5       "idType": "0",
6       "linkRel": "Get the board",
7       "linkType": "Sibling",
8       "linkURI": "http://155.207.18.187:8080/RESTBoardsApi/api/account/1/board/2",
9       "linkVerb": "GET"
10    },
11    {
12      "idType": "0",
13      "linkRel": "Update the board",
14      "linkType": "Sibling",
15      "linkURI": "http://155.207.18.187:8080/RESTBoardsApi/api/account/1/board/2",
16      "linkVerb": "PUT"
17    },
18    {
19      "idType": "0",
20      "linkRel": "Delete the board",
21      "linkType": "Sibling",
22      "linkURI": "http://155.207.18.187:8080/RESTBoardsApi/api/account/1/board/2",
23      "linkVerb": "DELETE"
24    },
25    {
26      "idType": "0",
27      "linkRel": "Get all the lists of this board",
28      "linkType": "Child",
29      "linkURI": "http://155.207.18.187:8088/RESTBoardsApi/api/board/2/list",
30      "linkVerb": "GET"
31    },
32    {
33      "idType": "0",
34      "linkRel": "Create a new list for this board",
35      "linkType": "Child",
36      "linkURI": "http://155.207.18.187:8088/RESTBoardsApi/api/board/2/list",
37      "linkVerb": "POST"
38    },
39    {
40      "idType": "0",
41      "linkRel": "Create a new board",
42      "linkType": "Parent",
43      "linkURI": "http://155.207.18.187:8080/RESTBoardsApi/api/account/1/board",
44      "linkVerb": "POST"
45    },
46    {
47      "idType": "0",
48      "linkRel": "Get all boards of this account",
49      "linkType": "Parent"
50    }
  ]
}

```

Let's play with it: Create List

http://155.207.18.187:8080/RESTBoardsApi/api/board/2/list

POST

Authorization: Basic ZGVtbzpzZWNyZXQ=

Content-Type: application/json

Header: Value

form-data x-www-form-urlencoded raw JSON

1 {"name": "To Do"}

{ "name": "To Do" }

Send Preview

Body Headers (3) STATUS 200 OK TIME 33 ms

Pretty Raw Preview JSON XML

```

1 {
  "linklist": [
    {
      "idType": "0",
      "linkRel": "Get all lists of this board",
      "linkType": "Sibling",
      "linkURI": "http://155.207.18.187:8080/RESTBoardsApi/api/board/2/list",
      "linkVerb": "GET"
    },
    {
      "idType": "0",
      "linkRel": "Create a new list",
      "linkType": "Sibling",
      "linkURI": "http://155.207.18.187:8080/RESTBoardsApi/api/board/2/list",
      "linkVerb": "POST"
    },
    {
      "idType": "3",
      "linkRel": "To Do",
      "linkType": "Child",
      "linkURI": "http://155.207.18.187:8080/RESTBoardsApi/api/board/2/list/3",
      "linkVerb": "GET"
    },
    {
      "idType": "3",
      "linkRel": "To Do",
      "linkType": "Child",
      "linkURI": "http://155.207.18.187:8080/RESTBoardsApi/api/board/2/list/3",
      "linkVerb": "PUT"
    },
    {
      "idType": "3",
      "linkRel": "To Do",
      "linkType": "Child",
      "linkURI": "http://155.207.18.187:8080/RESTBoardsApi/api/board/2/list/3",
      "linkVerb": "PUT"
    }
  ]
}

```

Let's play with it: Read List

http://155.207.18.187:8080/RESTBoardsApi/api/board/2/list/3

Authorization: Basic ZGVtbzpzZWNyZXQ=

Content-Type: application/json

Header: Value

GET

Send Preview Add to collection Reset

Body Headers (3) STATUS 200 OK TIME 21 ms

Pretty Raw Preview JSON XML

```

1  {
2    "linklist": [
3      {
4        "idType": "0",
5        "linkRel": "Get the list",
6        "linkType": "Sibling",
7        "linkURI": "http://155.207.18.187:8080/RESTBoardsApi/api/board/2/list/3",
8        "linkVerb": "GET"
9      },
10     {
11       "idType": "0",
12       "linkRel": "Update the list",
13       "linkType": "Sibling",
14       "linkURI": "http://155.207.18.187:8080/RESTBoardsApi/api/board/2/list/3",
15       "linkVerb": "PUT"
16     },
17     {
18       "idType": "0",
19       "linkRel": "Delete the list",
20       "linkType": "Sibling",
21       "linkURI": "http://155.207.18.187:8080/RESTBoardsApi/api/board/2/list/3",
22       "linkVerb": "DELETE"
23     },
24     {
25       "idType": "0",
26       "linkRel": "Get all the cards of this list",
27       "linkType": "Child",
28       "linkURI": "http://155.207.18.187:8080/RESTBoardsApi/api/list/3/card",
29       "linkVerb": "GET"
30     },
31     {
32       "idType": "0",
33       "linkRel": "Create a new card for this list",
34       "linkType": "Child",
35       "linkURI": "http://155.207.18.187:8080/RESTBoardsApi/api/list/3/card",
36       "linkVerb": "POST"
37     },
38     {
39       "idType": "0",
40       "linkRel": "Create a new list",
41       "linkType": "Parent",
42       "linkURI": "http://155.207.18.187:8080/RESTBoardsApi/api/board/2/list",
43       "linkVerb": "POST"
44     },
45     {
46       "idType": "0",
47       "linkRel": "Get all lists of this board",
48       "linkType": "Parent",
49       "linkURI": "http://155.207.18.187:8080/RESTBoardsApi/api/board/2/list"
50     }
  
```

Let's play with it: Create Card

http://155.207.18.187:8080/RESTBoardsApi/api/list/3/card

POST URL params Headers (2)

Authorization: Basic ZGVtbzpZWNyZXQ=

Content-Type: application/json

Header Value

form-data x-www-form-urlencoded raw JSON

```
1 {"name": "Buy Groceries", "description": "Bananas, Bread, Milk"}
```

Send Preview Reset

{“name”:“Buy Groceries”, “description”: “Bananas, Bread, Milk”}

Body Headers (3) STATUS 200 OK TIME 310 ms

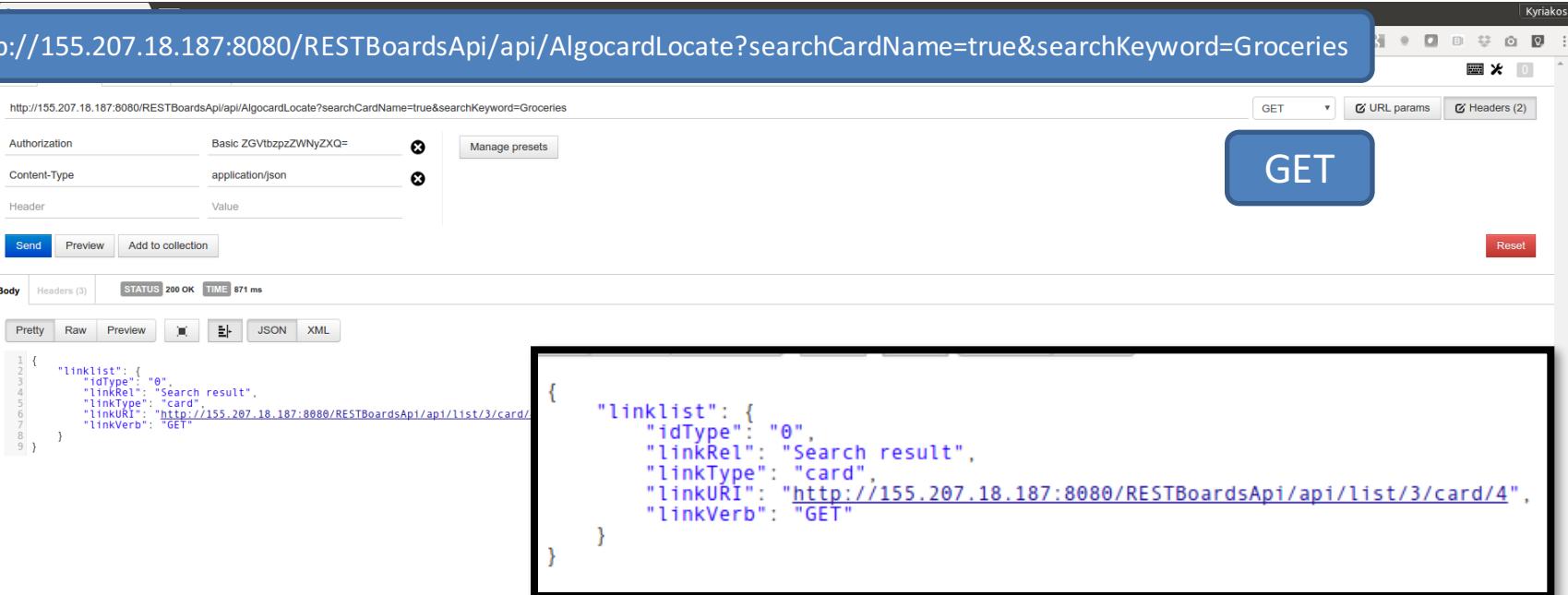
Pretty Raw Preview  JSON XML

```
1 {
  "cardId": "4",
  "description": "Bananas, Bread, Milk",
  "linkList": [
    {
      "idType": "0",
      "linkRel": "Get all cards of this list",
      "linkType": "Sibling",
      "linkURI": "http://155.207.18.187:8080/RESTBoardsApi/api/list/3/card",
      "linkVerb": "GET"
    },
    {
      "idType": "0",
      "linkRel": "Create a new card",
      "linkType": "Sibling",
      "linkURI": "http://155.207.18.187:8080/RESTBoardsApi/api/list/3/card",
      "linkVerb": "POST"
    },
    {
      "idType": "4",
      "linkRel": "Buy Groceries",
      "linkType": "Child",
      "linkURI": "http://155.207.18.187:8080/RESTBoardsApi/api/list/3/card/4",
      "linkVerb": "GET"
    },
    {
      "idType": "4",
      "linkRel": "Buy Groceries",
      "linkType": "Child",
      "linkURI": "http://155.207.18.187:8080/RESTBoardsApi/api/list/3/card/4",
      "linkVerb": "PUT"
    },
    {
      "idType": "4",
      "linkRel": "Buy Groceries",
      "linkType": "Child",
      "linkURI": "http://155.207.18.187:8080/RESTBoardsApi/api/list/3/card/4",
      "linkVerb": "DELETE"
    }
  ]
}
```

Let's play with it: Search Card

<http://155.207.18.187:8080/RESTBoardsApi/api/AlgocardLocate?searchCardName=true&searchKeyword=Groceries>

S-CASE

The screenshot shows a REST client interface with the following details:

- URL:** http://155.207.18.187:8080/RESTBoardsApi/api/AlgocardLocate?searchCardName=true&searchKeyword=Groceries
- Method:** GET
- Headers:**
 - Authorization: Basic ZGVtbzpzZWNyZXQ=
 - Content-Type: application/json
- Body:**

```

1 {
2   "linklist": {
3     "idType": "0",
4     "linkRel": "Search result",
5     "linkType": "card",
6     "linkURI": "http://155.207.18.187:8080/RESTBoardsApi/api/list/3/card/",
7     "linkVerb": "GET"
8   }
9 }
```
- Status:** 200 OK
- Time:** 871 ms

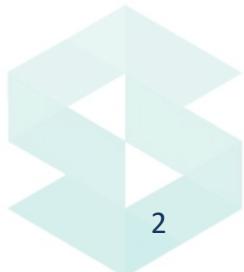
Social reviewing application

RESTREVIEWS



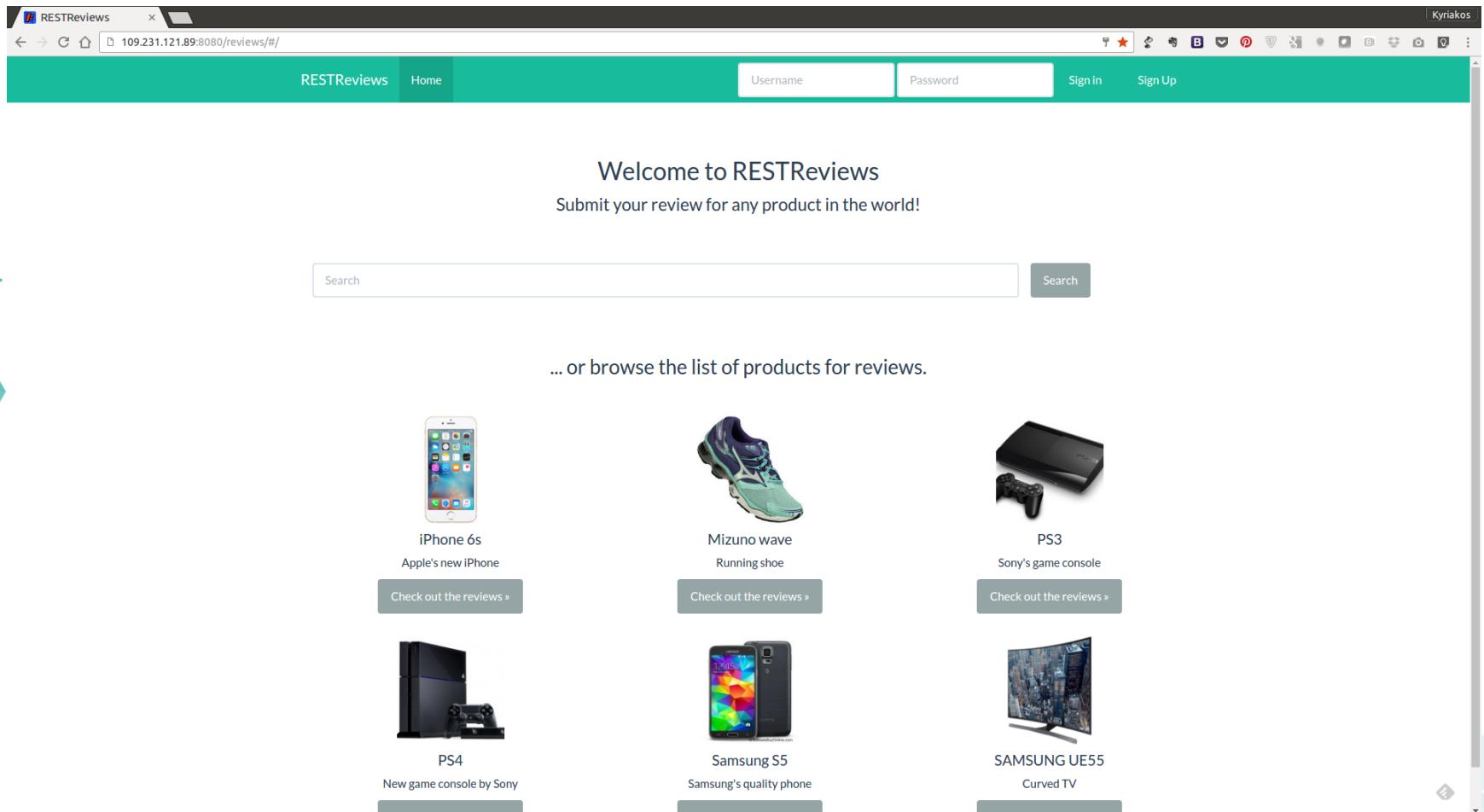
Kick-off Meeting

Thessaloniki, 1-2 July 2016



Live App

<http://109.231.121.89:8080/reviews/#/>



The screenshot shows a web browser window for the RESTReviews application. The title bar reads "RESTReviews" and the address bar shows the URL "109.231.121.89:8080/reviews/#/". The page has a green header with "RESTReviews" and "Home" buttons, and "Sign in" and "Sign Up" links. A search bar with a placeholder "Search" and a "Search" button is present. The main content area displays a welcome message "Welcome to RESTReviews" and a sub-instruction "Submit your review for any product in the world!". Below this is a search bar with placeholder "Search" and a "Search" button. The page then shows a grid of six product reviews:

- iPhone 6s**
Apple's new iPhone

[Check out the reviews »](#)
- Mizuno wave**
Running shoe

[Check out the reviews »](#)
- PS3**
Sony's game console

[Check out the reviews »](#)
- PS4**
New game console by Sony

[Check out the reviews »](#)
- Samsung S5**
Samsung's quality phone

[Check out the reviews »](#)
- SAMSUNG UE55**
Curved TV

[Check out the reviews »](#)

Requirements

- A client should be able to create an account with email, username, password, card_number, exp_month and exp_year
- A client should be able to read, update and delete an account
- A client should be able to add a product given title, description, category and image_url
- A client should be able to read, update and delete a product
- A client should be able to create a review for a product given a title, a review text and a rating
- A client should be able to read, update and delete a review
- A client should be able to search for products
- A client should be able to perform sentiment analysis given a text

Technologies

- Source: <https://github.com/s-case/RESTreviews>
- Stack
 - S-CASE (Java, Jetty, Postgres)
 - AngularJS for front-end
- Playing with HATEOAS requires a different front-end AJAX mindset



Home Page (1/2)

RESTReviews x Kyriakos

109.231.121.89:8080/reviews/#/

RESTReviews Home Username Password Sign in Sign Up

Welcome to RESTReviews

Submit your review for any product in the world!

Search Search

... or browse the list of products for reviews.

 iPhone 6s
Apple's new iPhone
[Check out the reviews »](#)

 Mizuno wave
Running shoe
[Check out the reviews »](#)

 PS3
Sony's game console
[Check out the reviews »](#)

 PS4
New game console by Sony
[Check out the reviews »](#)

 Samsung S5
Samsung's quality phone
[Check out the reviews »](#)

 SAMSUNG UE55
Curved TV
[Check out the reviews »](#)

Network Timeline Profiles > 0 1 x
Elements Console Sources Network Timeline Profiles > 0 1 x
View: Preserve log Disable cache No throttling
Filter Regex Hide data URLs
All XHR JS CSS Img Media Font Doc WS Manifest Other
Name Headers Preview Response Timing
topFrame.js
Clipper.js
ContentPreview.js
Coordinator.js
GlobalUtils.js
Promotion.js
CustomTooltipEligibility.js
checkSimSearch.js
pageVisible.js
PageInfo.js
isTest.js
domReady.js
main.html
product
9
10
12
2
4
8

20 / 44 requests | 9.5 KB / 10.1 KB transfer...

Page (2/2)

SUCASE

Kyriakos

View: Preserve log Disable cache No throttling

Filter Regex Hide data URLs

All | XHR JS CSS Img Media Font Doc WS Manifest Other

Name		Headers	Preview	Response	Timing
topFrame.js					
Clipper.js					
ContentPreview.js					
Coordinator.js					
GlobalUtils.js					
Promotion.js					
CustomTooltipEligibility.js					
checkSimSearch.js					
pageVisible.js					
PageInfo.js					
isTest.js					
domReady.js					
main.html					
product					
9					
10					
12					
2					
4					
8					

20 / 44 requests | 9.5 KB / 10.1 KB transfer...

Sign in Sign Up

Search

PS3

Sony's game console

Check out the reviews »

SAMSUNG UE55

Curved TV

Check out the reviews »

20 / 44 requests | 9.5 KB / 10.1 KB transfer...

Search (1/2)

S-CASE

RESTReviews

109.231.121.89:8080/reviews/#/search?text=iphone

RESTReviews Home Username Password Sign in Sign Up

Search results:

- iPhone 6s

Return

Network Timeline Profiles

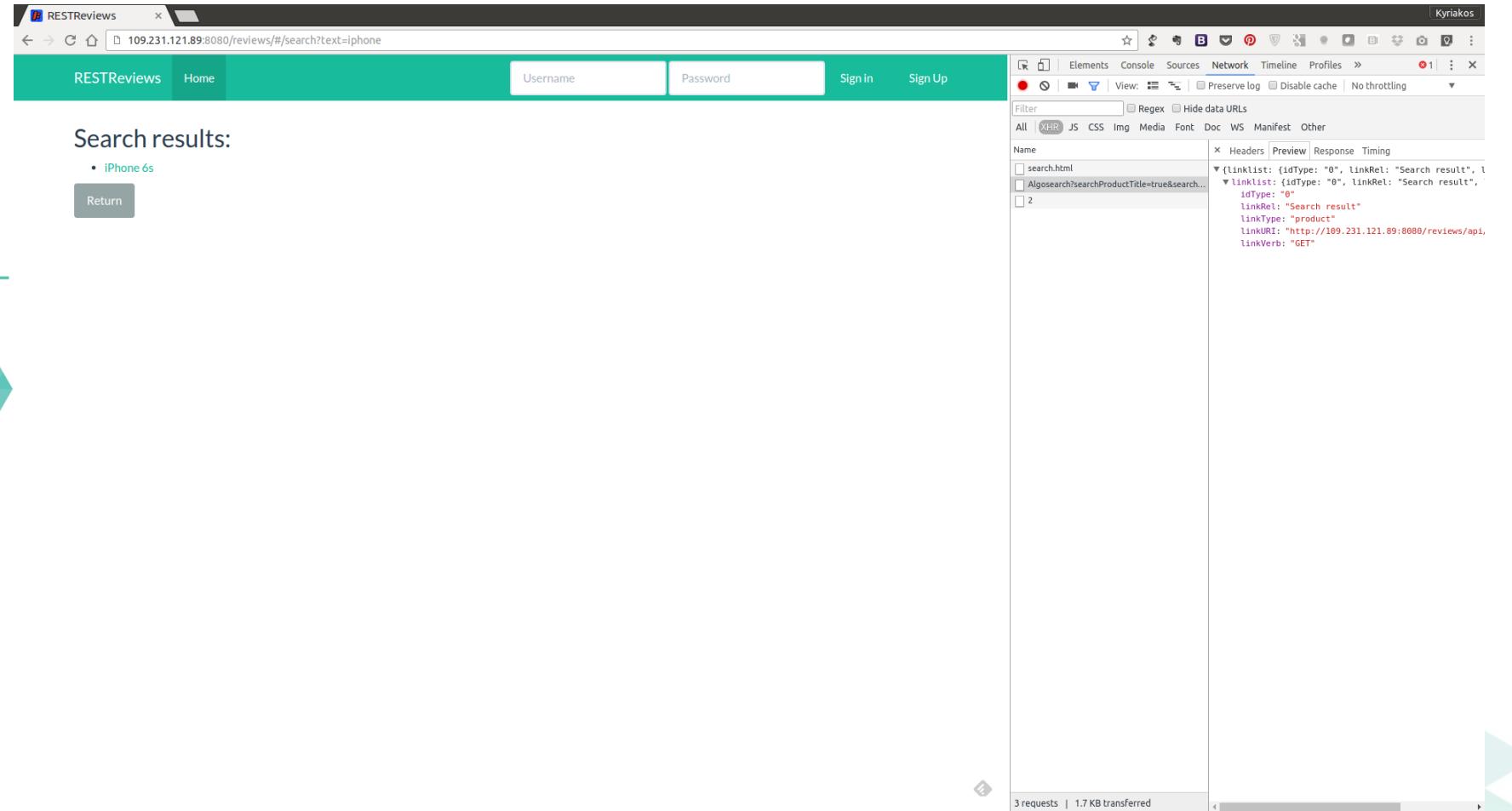
All XHR JS CSS Img Media Font Doc WS Manifest Other

Name Headers Preview Response Timing

```

  ▾ (linklist: {idType: "0", linkRel: "Search result", 
    ▾ linklist: {idType: "0", linkRel: "Search result", 
      idType: "0"
      linkRel: "Search result"
      linkType: "product"
      linkURI: "http://109.231.121.89:8080/reviews/api,
      linkVerb: "GET"
    }
  }
)
  
```

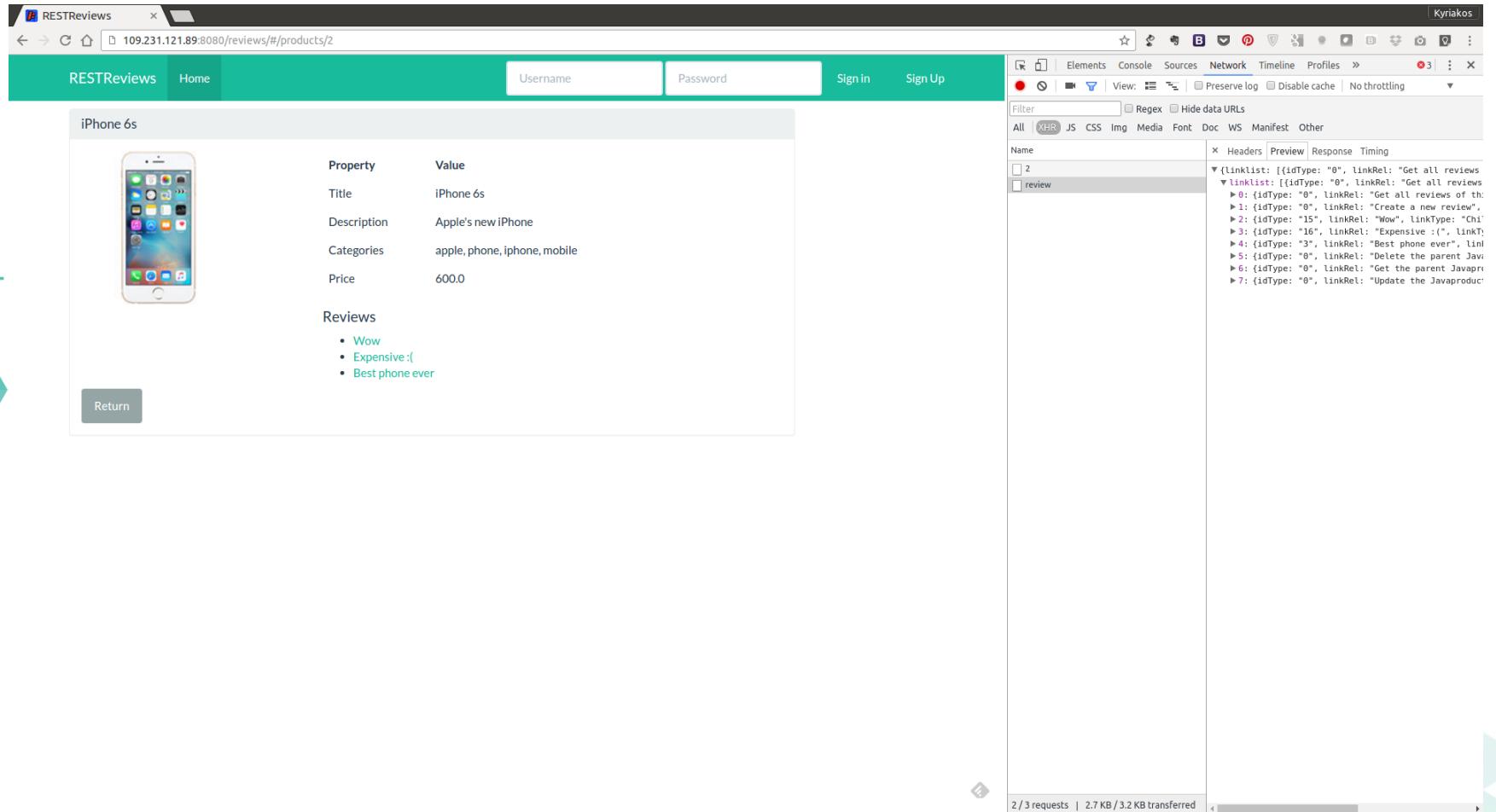
3 requests | 1.7 KB transferred



Search (2/2)

Read Product (1/2)

S-CASE



The screenshot shows a web browser window with the URL 109.231.121.89:8080/reviews/#/products/2. The page displays a product detail for an iPhone 6s, including its image, title, description, categories, and price. Below the product details is a section titled "Reviews" with three items: "Wow", "Expensive :(", and "Best phone ever". The browser's developer tools Network tab is open, showing the XHR requests for the page. One request, named "review", is selected, revealing its response content, which includes a list of links for managing reviews.

Property	Value
Title	iPhone 6s
Description	Apple's new iPhone
Categories	apple, phone, iphone, mobile
Price	600.0

Reviews

- Wow
- Expensive :(
- Best phone ever

Return

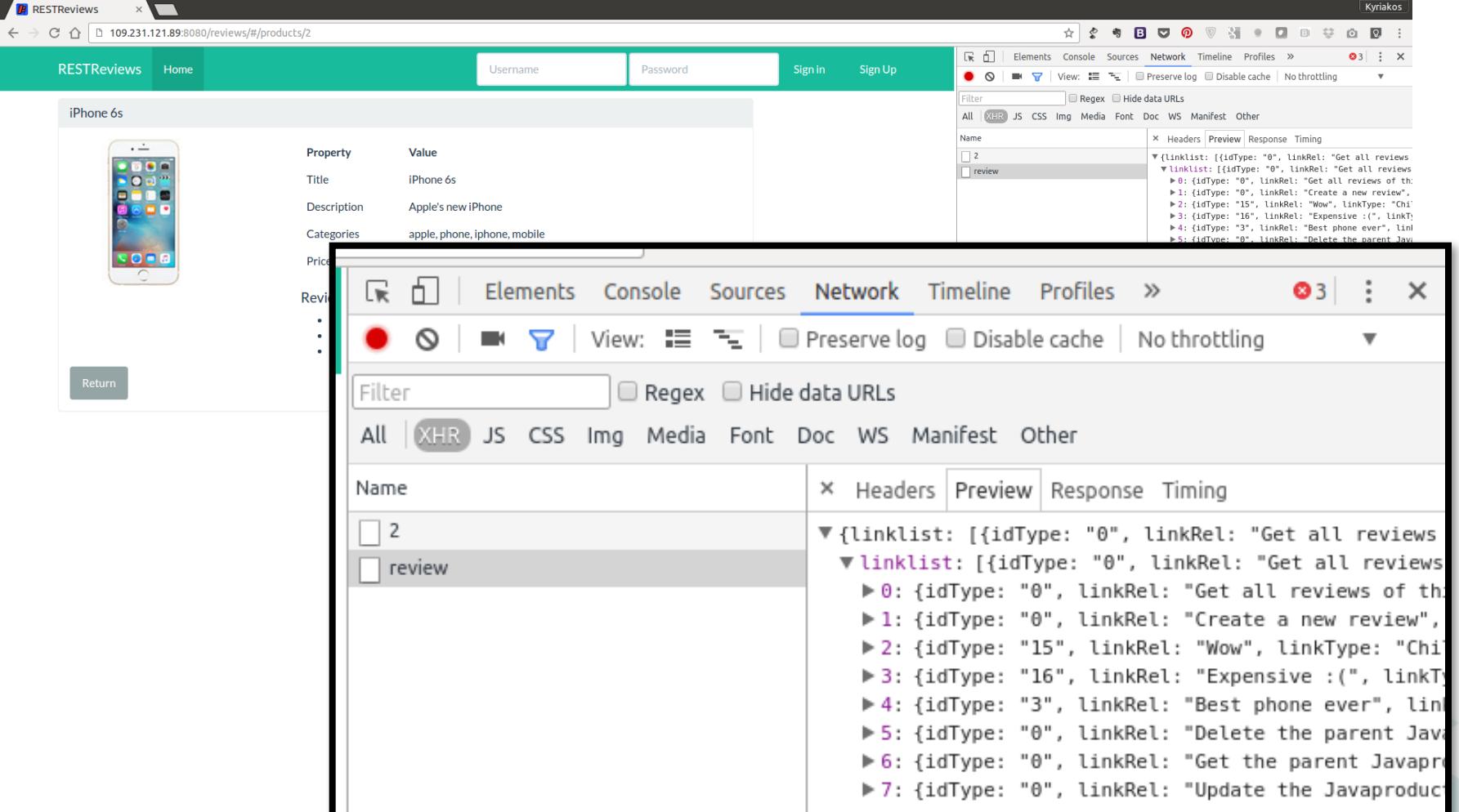
Network Tab Response:

```

  (linklist: [{idType: "0", linkRel: "Get all reviews"}, {idType: "0", linkRel: "Get all reviews of th: 0: {idType: "0", linkRel: "Get all reviews of th: 1: {idType: "0", linkRel: "Create a new review", linkType: "POST"}, 2: {idType: "15", linkRel: "Wow", linkType: "Chi: 3: {idType: "16", linkRel: "Expensive :(", linkType: "GET"}, 4: {idType: "3", linkRel: "Best phone ever", linkType: "GET"}, 5: {idType: "0", linkRel: "Delete the parent Java: 6: {idType: "0", linkRel: "Get the parent Java: 7: {idType: "0", linkRel: "Update the JavaProduct"
  
```

Read Product (2/2)

S-CASE

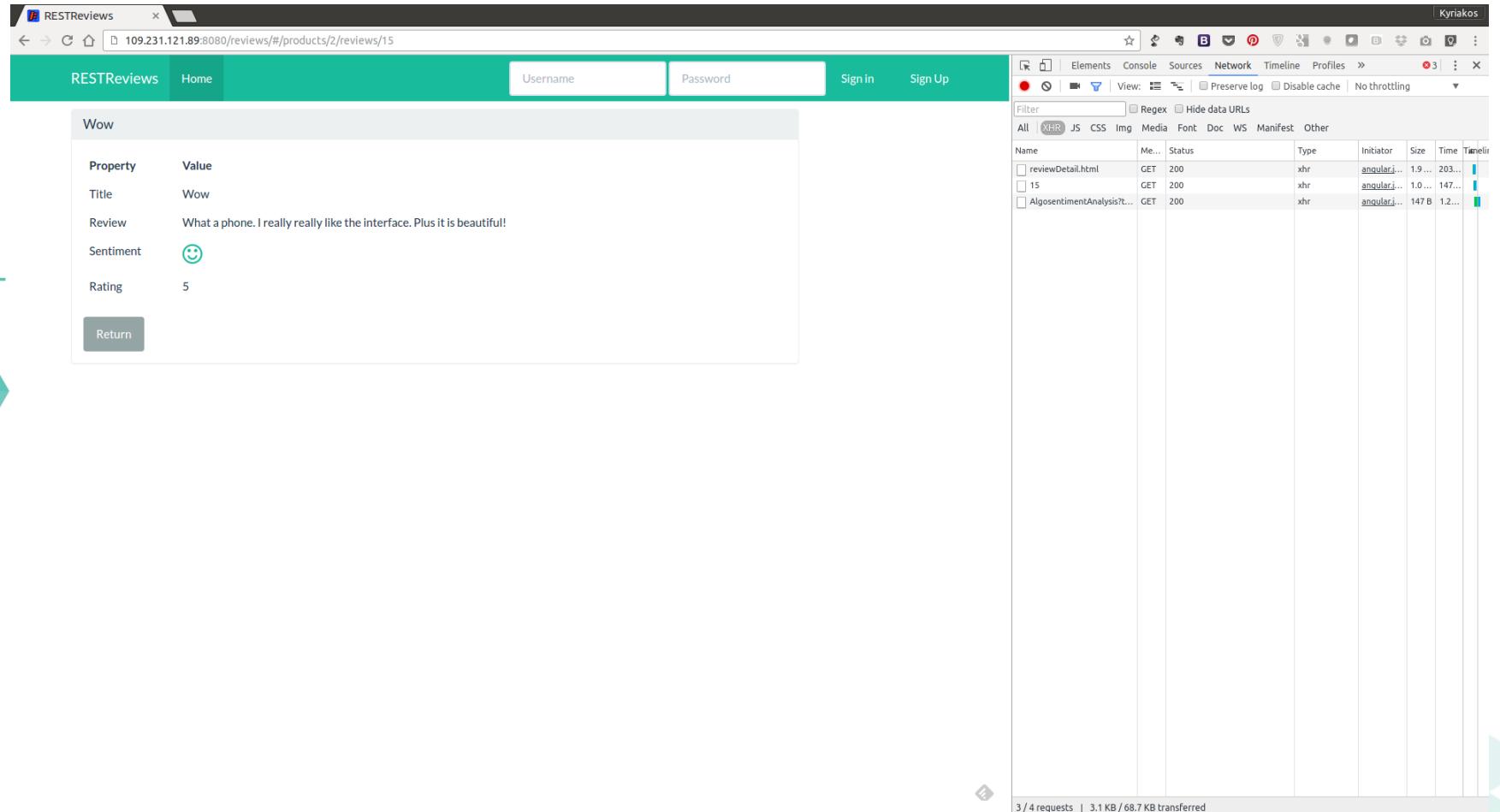


The screenshot shows a browser window with the URL `109.231.121.89:8080/reviews/#/products/2`. The page displays a product detail for an iPhone 6s, including its image, title, description, categories, and price. The 'Network' tab of the developer tools is selected, showing an XHR request for the product details. The response body contains a JSON object with a 'linklist' field containing several links, including 'Get all reviews', 'Create a new review', and links to individual reviews.

```

{
  "linklist": [
    {
      "idType": "0",
      "linkRel": "Get all reviews"
    },
    {
      "idType": "0",
      "linkRel": "Get all reviews of th"
    },
    {
      "idType": "0",
      "linkRel": "Create a new review"
    },
    {
      "idType": "15",
      "linkRel": "Wow",
      "linkType": "Chi"
    },
    {
      "idType": "16",
      "linkRel": "Expensive :(",
      "linkType": "Chi"
    },
    {
      "idType": "3",
      "linkRel": "Best phone ever",
      "linkType": "Chi"
    },
    {
      "idType": "0",
      "linkRel": "Delete the parent Java"
    },
    {
      "idType": "0",
      "linkRel": "Get the parent Java"
    },
    {
      "idType": "0",
      "linkRel": "Update the Java"
    }
  ]
}
  
```

Read Review (1/2)



The screenshot shows a browser window with the RESTReviews application. The main content area displays a review for a product with the title "Wow". The review details are as follows:

Property	Value
Title	Wow
Review	What a phone. I really really like the interface. Plus it is beautiful!
Sentiment	
Rating	5

A "Return" button is located at the bottom left of the review card.

At the top of the browser window, there is a navigation bar with links for "RESTReviews" and "Home", and input fields for "Username" and "Password". There are also "Sign in" and "Sign Up" buttons.

To the right of the main content, the browser's developer tools Network tab is open, showing the following network requests:

Name	Method	Status	Type	Initiator	Size	Time	Timeline
reviewDetail.html	GET	200	xhr	angularjs...	1.9 ...	203...	
15	GET	200	xhr	angularjs...	1.0 ...	147...	
AlgosentimentAnalysis?...	GET	200	xhr	angularjs...	147 B	1.2...	

At the bottom of the browser window, the status bar shows "3 / 4 requests | 3.1 KB / 68.7 KB transferred".

Read Review (2/2)

S-CASE

RESTReviews

109.231.121.89:8080/review

RESTReviews Home

Wow

Property	Value
Title	Wow
Review	What a phone. I...
Sentiment	
Rating	5

Return

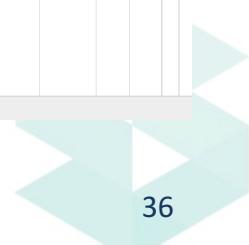
Network

Filter Regex Hide data URLs

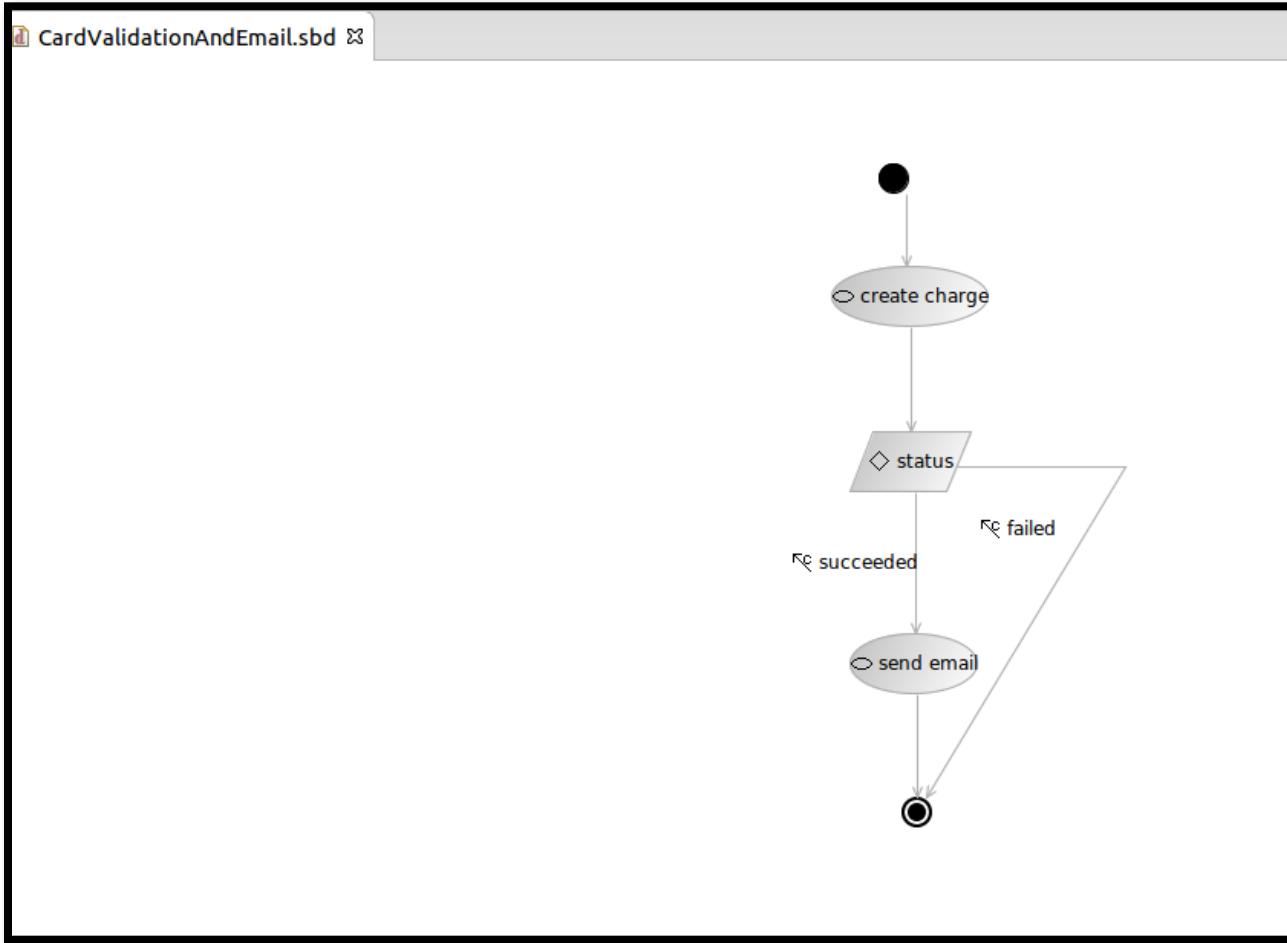
All | XHR JS CSS Img Media Font Doc WS Manifest Other

Name	Me...	Status	Type	Initiator	Size	Time	Timeline
reviewDetail.html	GET	200	xhr	angular.j...	1.9 ...	203...	
15	GET	200	xhr	angular.j...	1.0 ...	147...	
AlgosentimentAnalysis?t...	GET	200	xhr	angular.j...	147 B	1.2...	

3 / 4 requests | 3.1 KB / 68.7 KB transferred



Plausible Web Service Composition



Some numbers

Property	Value
LoC automatically generated	~ 3K
Time to create the service with S-CASE	~ 15-30'
Estimate if manually written by an expert	2 man days
Perceived reliability	~ 70%, similar to top OS Java projects
Client LoC	~ 1K
Time estimate for the client	1-2 man days

