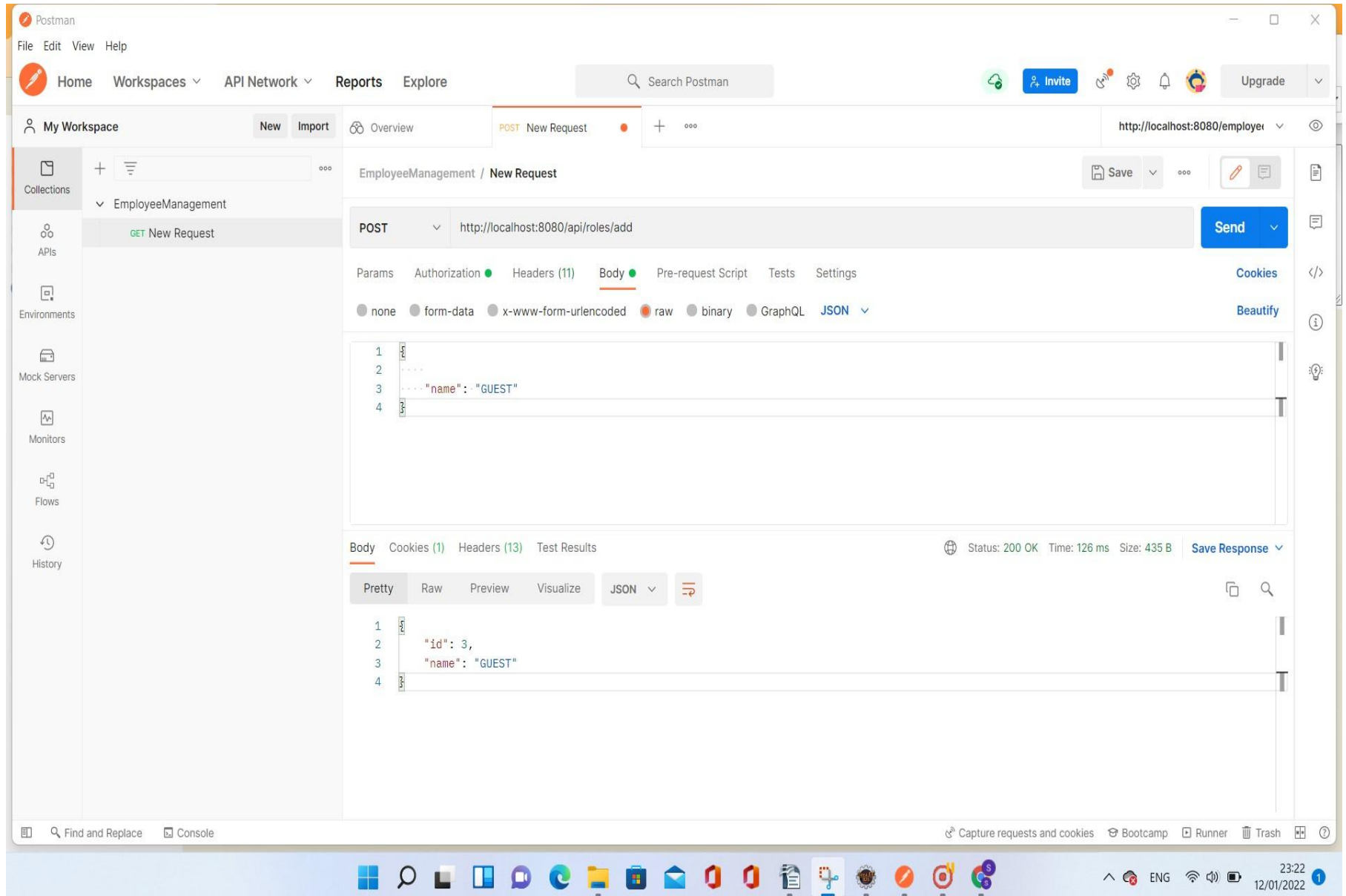


EMPLOYEE MANAGEMENT : REST API ASSIGNMENT 6 SOLUTION

1. Add Roles Dynamically



Roles List Before Adding

The screenshot shows the H2 Console web interface. The browser address bar displays the URL: `localhost:8080/h2-console/login.do?jsessionid=02b2e6cec8b164c8882bd7e34b1964ae`. The console toolbar includes options for `Auto commit`, `Max rows: 1000`, `Auto complete: Off`, and `Auto select: On`. The left sidebar shows the database structure for `jdbc:h2:mem:employee`, including tables like `EMPLOYEE`, `ROLES`, `USERS`, `USERS_ROLES`, and `INFORMATION_SCHEMA`. The main area displays the SQL statement `SELECT * FROM ROLES` and its results in a table format.

SQL statement:

```
SELECT * FROM ROLES
```

ROLE_ID	NAME
1	ADMIN
2	USER

(2 rows, 2 ms)

Edit

Roles List After Adding

The screenshot shows the H2 Console web interface. The browser address bar displays `localhost:8080/h2-console/login.do?jsessionid=3641e807ba362f95943548f662ae4b46`. The left sidebar shows the database structure for `jdbc:h2:mem:employeeedb`, including tables `EMPLOYEE`, `ROLES`, `USERS`, `USERS_ROLES`, and the `INFORMATION_SCHEMA` folder. The main area contains a SQL statement input field with `SELECT * FROM ROLES;` and a results pane below it. The results pane shows the query executed, the SQL statement, and a table with 3 rows and 2 columns: `ROLE_ID` and `NAME`. The rows are: `1 ADMIN`, `2 USER`, and `3 GUEST`. Below the table, it indicates `(3 rows, 6 ms)` and an `Edit` button.

Run Run Selected Auto complete Clear SQL statement:

SELECT * FROM ROLES;

ROLE_ID	NAME
1	ADMIN
2	USER
3	GUEST

(3 rows, 6 ms)

Edit

2. Add Users to the DB

The screenshot shows the Postman application interface. The top navigation bar includes 'Home', 'Workspaces', 'API Network', 'Reports', and 'Explore'. The left sidebar shows 'My Workspace' with a 'New Request' button. The main area displays a 'POST' request to 'http://localhost:8080/api/users/add'. The request body is a JSON object with the following structure:

```
1 {
2   "id": 3,
3   "username": "tadmin",
4   "password": "admin123",
5   "roles": [
6     {
7       "id": 2,
8       "name": "ADMIN"
9     }
10  ]
11 }
```

The response is shown in the bottom section, with a status of '200 OK', time of '1644 ms', and size of '623 B'. The response body is a JSON object with the following structure:

```
1 {
2   "id": 3,
3   "username": "tadmin",
4   "password": "$2a$10$pTMgBNJG1VV2TIsnSoIkTuWEKisMaFyXA0weOt.1fErCJdpSu5Gww",
5   "roles": [
6     {
7       "id": 2,
8       "name": "ADMIN"
9     }
10  ]
11 }
```

The bottom status bar shows 'Capture requests and cookies', 'Bootcamp', 'Runner', 'Trash', and a system clock indicating '15:37 13/01/2022'.

Users List Before adding tadmin

H2 Console

localhost:8080/h2-console/login.do?jsessionid=02b2e6cec8b164c8882bd7e34b1964ae

Auto commit ☒ Max rows: 1000 Auto complete Off Auto select On

jdbc:h2:mem:employeeedb

- EMPLOYEE
- ROLES
- USERS
- USERS_ROLES
- INFORMATION_SCHEMA
- Sequences
- Users

H2 1.4.200 (2019-10-14)

Run Run Selected Auto complete Clear SQL statement:

```
SELECT * FROM USERS
```

```
SELECT * FROM USERS;
```

USER_ID	PASSWORD	USERNAME
1	\$2a\$12\$UX3pazFrDzVomiZf15T1pu3l8UOydfJ8E4X5DmIIWTE77HV4LxDe	admin1
2	\$2a\$12\$RyPNA5uvkoy9bw/e/FsSEew7dYTO8mbEPleciz3rsxAwujaBqaWU2	user1

(2 rows, 4 ms)

Edit

Windows taskbar: 23:03 12/01/2022

Users List after adding the tadmin

H2 Console x | x | +

localhost:8080/h2-console/login.do?jsessionid=0c948e02146c7cc6abeff02f352502b7

Auto commit ☒ Max rows: 1000 Auto complete Off Auto select On

jdbc:h2:mem:employeeedb

- EMPLOYEE
- ROLES
- USERS
- USERS_ROLES
- INFORMATION_SCHEMA
- Sequences
- Users
- H2 1.4.200 (2019-10-14)

Run Run Selected Auto complete Clear SQL statement:

```
SELECT * FROM USERS
```

```
SELECT * FROM USERS;
```

USER_ID	PASSWORD	USERNAME
1	\$2a\$12\$UX3pazFrDzVomiZf5T1pul3l8UOydfJ8E4X5DmllWTE77HV4LxDe	admin1
2	\$2a\$10\$q0zk2UZNgPilgg.xMtQvoO5CV08SxqyG5pCzG3WL4eyD9jm66lfOq	user1
3	\$2a\$10\$xhkc42/plOXFFVToORaRvOvrTiW613DvCO9LcBy32AM3tlx14QSeS	tadmin

(3 rows, 8 ms)

Edit

Windows taskbar: 17:08 13/01/2022

3. Add Employees Data

The screenshot shows the Postman application interface. The top navigation bar includes 'Home', 'Workspaces', 'API Network', 'Reports', and 'Explore'. The left sidebar shows 'My Workspace' with a collection named 'EmployeeManagement' containing a 'GET New Request' item. The main panel displays a 'New Request' for the endpoint 'http://localhost:8080/api/employees/add' using the POST method. The request body is a JSON object:

```
{  "firstName": "employee4",  "lastName": "lastN",  "email": "emp4@gmail.com"}
```

. The response is displayed in the bottom panel, showing a status of 200 OK, a time of 796 ms, and a size of 586 B. The response body is formatted as text and shows the following output:

```
1 Employee Added Successfully!
2 id : 4
3 First Name : employee4
4 Last Name : lastN
5 Email : emp4@gmail.com
```

Postman

File Edit View Help

Home Workspaces API Network Reports Explore

Search Postman

My Workspace New Import Overview POST New Request

EmployeeManagement / New Request

POST http://localhost:8080/api/employees/add

Params Authorization Headers (11) Body Pre-request Script Tests Settings

none form-data x-www-form-urlencoded raw binary GraphQL JSON

```
1 {
2   ...
3   "firstName": "employee4",
4   "lastName": "lastN",
5   "email": "emp4@gmail.com"
6 }
```

Body Cookies (1) Headers (14) Test Results

Status: 200 OK Time: 796 ms Size: 586 B Save Response

Pretty Raw Preview Visualize Text

```
1 Employee Added Successfully!
2 id : 4
3 First Name : employee4
4 Last Name : lastN
5 Email : emp4@gmail.com
```

Find and Replace Console

Capture requests and cookies Bootcamp Runner Trash

16:09 13/01/2022

4. Employees List

Postman

File Edit View Help

Home Workspaces API Network Reports Explore

Search Postman

My Workspace

New Import

Overview GET New Request

http://localhost:8080/employee

EmployeeManagement / New Request

Save

GET http://localhost:8080/api/employees/list Send

Params Authorization Headers (11) Body Pre-request Script Tests Settings Cookies

Type Basic Auth

Heads up! These parameters hold sensitive data. To keep this data secure while working in a collaborative environment, we recommend using variables. [Learn more about variables](#)

The authorization header will be automatically generated when you send the request. [Learn more about authorization](#)

Username tadmin

Password admin123

☒ Show Password

Body Cookies (1) Headers (13) Test Results

Status: 200 OK Time: 199 ms Size: 640 B Save Response

Pretty Raw Preview Visualize JSON

```
1 {
2   {
3     "id": 1,
4     "firstName": "sunil",
5     "lastName": "kumar",
6     "email": "sk@gmail.com"
7   },
8   {
9     "id": 2,
10    "firstName": "sunilkumar",
```

Find and Replace Console

Capture requests and cookies Bootcamp Runner Trash

15:46 13/01/2022

Employees List from H2 Console

H2 Console

localhost:8080/h2-console/login.do?jsessionid=0c948e02146c7cc6abeff02f352502b7

Auto commit ☒ Max rows: 1000 Auto complete Off Auto select On

jdbc:h2:mem:employeeedb

- EMPLOYEE
- ROLES
- USERS
- USERS_ROLES
- INFORMATION_SCHEMA
- Sequences
- Users
- H2 1.4.200 (2019-10-14)

Run Run Selected Auto complete Clear SQL statement:

```
SELECT * FROM EMPLOYEE
```

```
SELECT * FROM EMPLOYEE;
```

ID	EMAIL	FIRST_NAME	LAST_NAME
1	sk@gmail.com	sunil	kumar
2	skn@gmail.com	sunilkumar	KK
3	gl@greatlearning.com	great	learning
4	emp4@gmail.com	Emp4 FirstName	lastN
5	emp5@greatlearning.com	Emp5	lastN
6	emp6@greatlearning.com	Emp6	lastN

(6 rows, 7 ms)

Edit

Windows taskbar: 16:23 13/01/2022

5. Fetch Employee Record for the given Id

The screenshot shows the Postman application interface. The top bar includes the Postman logo, menu items (File, Edit, View, Help), and navigation tabs (Home, Workspaces, API Network, Reports, Explore). A search bar labeled "Search Postman" is present. On the right, there are icons for "Invite", settings, notifications, and an "Upgrade" button.

The main workspace is titled "My Workspace" and contains a collection named "EmployeeManagement". Within this collection, a "New Request" is selected. The request details are as follows:

- Method:** GET
- URL:** http://localhost:8080/api/employees/2
- Body Type:** none
- Status:** 200 OK
- Time:** 22 ms
- Size:** 485 B

The response body is displayed in JSON format (Pretty view):

```
1 {
2   "id": 2,
3   "firstName": "sunilkumar",
4   "lastName": "KK",
5   "email": "skn@gmail.com"
6 }
```

The bottom status bar shows "Capture requests and cookies", "Bootcamp", "Runner", "Trash", and the system clock indicating 17:51 on 13/01/2022.

6. Update and existing Employee

The screenshot shows the Postman application interface. The top bar includes the Postman logo, menu items (File, Edit, View, Help), navigation tabs (Home, Workspaces, API Network, Reports, Explore), a search bar, and utility buttons (Invite, Upgrade). The left sidebar displays the 'My Workspace' section with a 'New Request' button and a list of collections, including 'EmployeeManagement'. The main workspace is titled 'EmployeeManagement / New Request' and shows a PUT request to 'http://localhost:8080/api/employees/update'. The request body is in JSON format, containing employee details: id, firstName, lastName, and email. The response is displayed in the 'Body' tab, showing a success message and the updated employee details. The status bar at the bottom indicates the request was successful (200 OK) with a response time of 63 ms and a size of 549 B.

Postman

File Edit View Help

Home Workspaces API Network Reports Explore

Search Postman

My Workspace New Import Overview PUT New Request

http://localhost:8080/employee

EmployeeManagement / New Request

PUT http://localhost:8080/api/employees/update

Params Authorization Headers (11) Body Pre-request Script Tests Settings

none form-data x-www-form-urlencoded raw binary GraphQL JSON

```
1 {
2   "id": 4,
3   "firstName": "Emp4 FirstName",
4   "lastName": "lastN",
5   "email": "emp4@gmail.com"
6 }
```

Body Cookies (1) Headers (13) Test Results

Status: 200 OK Time: 63 ms Size: 549 B Save Response

Pretty Raw Preview Visualize Text

```
1 Employee Updated Successfully!
2 Updated Employee Details is :
3 id : 4
4 First Name : Emp4 FirstName
5 Last Name : lastN
6 Email : emp4@gmail.com
```

Find and Replace Console

Capture requests and cookies Bootcamp Runner Trash

16:19 13/01/2022

Updated Employee List in H2 - Console

H2 Console

localhost:8080/h2-console/login.do?jsessionId=0c948e02146c7cc6abeff02f352502b7

Auto commit Max rows: 1000 Auto complete: Off Auto select: On

jdbc:h2 mem:employeeedb

EMPLOYEE

ROLES

USERS

USERS_ROLES

INFORMATION_SCHEMA

Sequences

Users

H2 1.4.200 (2019-10-14)

Run Run Selected Auto complete Clear SQL statement:

SELECT * FROM EMPLOYEE

SELECT * FROM EMPLOYEE;

ID	EMAIL	FIRST_NAME	LAST_NAME
1	sk@gmail.com	sunil	kumar
2	skn@gmail.com	sunilkumar	KK
3	gl@greatlearning.com	great	learning
4	emp4@gmail.com	Emp4 FirstName	lastN

(4 rows, 11 ms)

Edit



7. Delete an Employee Record by giving id

The screenshot shows the Postman application interface. The top bar includes the Postman logo, menu items (File, Edit, View, Help), and navigation tabs (Home, Workspaces, API Network, Reports, Explore). A search bar labeled "Search Postman" is present. On the right, there are buttons for "Invite", "Upgrade", and a user profile icon.

The main workspace is titled "My Workspace" and contains a collection named "EmployeeManagement". A "New Request" button is visible. The selected request is a DELETE request to the endpoint `http://localhost:8080/api/employees/delete/5`. The request is configured with Basic Authentication, using the username "admin1" and password "admin123". A warning message states: "Heads up! These parameters hold sensitive data. To keep this data secure while working in a collaborative environment, we recommend using variables. [Learn more about variables](#)".

The response is displayed in the "Body" tab, showing a JSON object: `{ "Deleted id : 5" }`. The status bar at the bottom indicates a successful response with status 200 OK, time 1102 ms, and size 426 B. The bottom of the screen shows the Windows taskbar with various application icons and the system clock displaying 16:38 on 13/01/2022.

Delete Record Not permitted for user1

Postman

File Edit View Help

Home

Workspaces

API Network

Reports

Explore

Search Postman

Invite

Upgrade

My Workspace

New Import

Overview

DEL New Request

+

...

http://localhost:8080/employee

Collections

+

...

EmployeeManagement

GET New Request

EmployeeManagement / New Request

Save

DELETE

http://localhost:8080/api/employees/delete/5

Send

Params

Authorization

Headers (11)

Body

Pre-request Script

Tests

Settings

Cookies

Type

Basic Auth

Heads up! These parameters hold sensitive data. To keep this data secure while working in a collaborative environment, we recommend using variables. [Learn more about variables](#)

The authorization header will be automatically generated when you send the request. [Learn more about authorization](#)

Username

user1

Password

user123

☒ Show Password

Body

Cookies (1)

Headers (13)

Test Results

Status: 403 Forbidden

Time: 893 ms

Size: 552 B

Save Response

Pretty

Raw

Preview

Visualize

JSON

1

2

3

4

5

6

7

"timestamp": "2022-01-13T11:07:54.601+00:00",

"status": 403,

"error": "Forbidden",

"message": "Forbidden",

"path": "/api/employees/delete/5"

Battery saver

Battery saver is on

Consider plugging in your device.

Find and Replace

Console

Capture requests and cookies

Bootcamp

Runner

Tran

Windows Taskbar

16:38

13/01/2022

Employees List H2 Console after the deletion of Employee Record 5

The screenshot shows the H2 Console web application in a browser. The address bar displays the URL: `localhost:8080/h2-console/login.do?jsessionid=0c948e02146c7cc6abeff02f352502b7`. The interface includes a toolbar with options like 'Auto commit', 'Max rows', 'Auto complete', and 'Auto select'. On the left, a sidebar lists database objects: 'jdbc:h2:mem:employeeedb', 'EMPLOYEE', 'ROLES', 'USERS', 'USERS_ROLES', 'INFORMATION_SCHEMA', 'Sequences', and 'Users'. The main area shows a SQL statement: `SELECT * FROM EMPLOYEE;`. Below the statement, the execution result is displayed as a table with 5 rows and 4 columns: ID, EMAIL, FIRST_NAME, and LAST_NAME. The table contains data for employees with IDs 1 through 6. Below the table, it indicates '(5 rows, 9 ms)'. An 'Edit' button is visible at the bottom left of the result area.

ID	EMAIL	FIRST_NAME	LAST_NAME
1	sk@gmail.com	sunil	kumar
2	skn@gmail.com	sunilkumar	KK
3	gl@greatlearning.com	great	learning
4	emp4@gmail.com	Emp4 FirstName	lastN
6	emp6@greatlearning.com	Emp6	lastN

(5 rows, 9 ms)

8. Fetch Employees by Search on First Name

The screenshot shows the Postman application interface. At the top, there's a navigation bar with 'Home', 'Workspaces', 'API Network', 'Reports', and 'Explore'. Below this, the 'My Workspace' section is active, showing a 'New Request' for the 'EmployeeManagement' collection. The request is a GET to 'http://localhost:8080/api/employees/search/emp'. The 'Authorization' tab is selected, showing 'Basic Auth' with 'user1' as the username and 'user123' as the password. A warning message states: 'Heads up! These parameters hold sensitive data. To keep this data secure while working in a collaborative environment, we recommend using variables. [Learn more about variables](#)'. The 'Body' tab shows the response in 'Pretty' format:

```
[{"id":4,"firstName":"Emp4 FirstName","lastName":"lastN","email":"emp4@gmail.com"}, {"id":5,"firstName":"Emp5","lastName":"lastN","email":"emp5@greatlearning.com"}, {"id":6,"firstName":"Emp6","lastName":"lastN","email":"emp6@greatlearning.com"}]
```

 The status bar at the bottom indicates 'Status: 200 OK', 'Time: 36 ms', and 'Size: 655 B'. The Windows taskbar at the very bottom shows the time as 16:34 on 13/01/2022.

Postman

File Edit View Help

Home Workspaces API Network Reports Explore

Search Postman

My Workspace New Import Overview GET New Request

EmployeeManagement / New Request

Save

GET http://localhost:8080/api/employees/search/emp Send

Params Authorization Headers (11) Body Pre-request Script Tests Settings Cookies

Type Basic Auth

Heads up! These parameters hold sensitive data. To keep this data secure while working in a collaborative environment, we recommend using variables. [Learn more about variables](#)

The authorization header will be automatically generated when you send the request. [Learn more about authorization](#)

Username user1

Password user123

Show Password

Body Cookies (1) Headers (13) Test Results

Status: 200 OK Time: 36 ms Size: 655 B Save Response

Pretty Raw Preview Visualize

```
[{"id":4,"firstName":"Emp4 FirstName","lastName":"lastN","email":"emp4@gmail.com"}, {"id":5,"firstName":"Emp5","lastName":"lastN","email":"emp5@greatlearning.com"}, {"id":6,"firstName":"Emp6","lastName":"lastN","email":"emp6@greatlearning.com"}]
```

Find and Replace Console

Capture requests and cookies Bootcamp Runner Trash

16:34 13/01/2022

9. Employees Sort on First Name

Sort Order - Ascending

The screenshot shows the Postman application interface. The left sidebar displays the 'My Workspace' section with a collection named 'EmployeeManagement'. The main panel shows a 'New Request' for the endpoint `http://localhost:8080/api/employees/sort?order=asc`. The request method is 'GET'. The 'Query Params' section shows a single parameter: `order=asc`. The 'Body' tab is selected, showing a JSON array of employee objects. The status bar at the bottom indicates a successful response with status 200 OK, time 18 ms, and size 882 B.

Request Details:

- Method: GET
- URL: `http://localhost:8080/api/employees/sort?order=asc`
- Query Params:

KEY	VALUE	DESCRIPTION
<input checked="" type="checkbox"/> order	asc	

Response Body (JSON):

```
[{"id":4,"firstName":"Emp4 FirstName","lastName":"lastN","email":"emp4@gmail.com"}, {"id":5,"firstName":"Emp5","lastName":"lastN","email":"emp5@greatlearning.com"}, {"id":6,"firstName":"Emp6","lastName":"lastN","email":"emp6@greatlearning.com"}, {"id":3,"firstName":"great","lastName":"learning","email":"gl@greatlearning.com"}, {"id":1,"firstName":"sunil","lastName":"kumar","email":"sk@gmail.com"}, {"id":2,"firstName":"sunilkumar","lastName":"KK","email":"skn@gmail.com"}]
```

Sort Order - Descending



File Edit View Help



Home

Workspaces ▾

API Network ▾

Reports

Explore

Search Postman



My Workspace

New

Import

Overview

GET New Request



Collections



EmployeeManagement

GET New Request



APIs



Environments



Mock Servers



Monitors



Flows



History

EmployeeManagement / New Request



GET



http://localhost:8080/api/employees/sort?order=desc

Send



Params ● Auth ● Headers (11) Body ● Pre-req. Tests Settings

Cookies

Query Params

	KEY	VALUE	DESCRIPTION	...	Bulk Edit
<input checked="" type="checkbox"/>	order	desc			

Body ▾



200 OK

21 ms

882 B

Save Response ▾

Pretty

Raw

Preview

Visualize

```
[{"id":2,"firstName":"sunilkumar","lastName":"KK","email":"skn@gmail.com"},
{"id":1,"firstName":"sunil","lastName":"kumar","email":"sk@gmail.com"},
{"id":3,"firstName":"great","lastName":"learning","email":"gl@greatlearning.com"},
{"id":6,"firstName":"Emp6","lastName":"lastN","email":"emp6@greatlearning.com"},
{"id":5,"firstName":"Emp5","lastName":"lastN","email":"emp5@greatlearning.com"},
{"id":4,"firstName":"Emp4 FirstName","lastName":"lastN","email":"emp4@gmail.com"}]
```