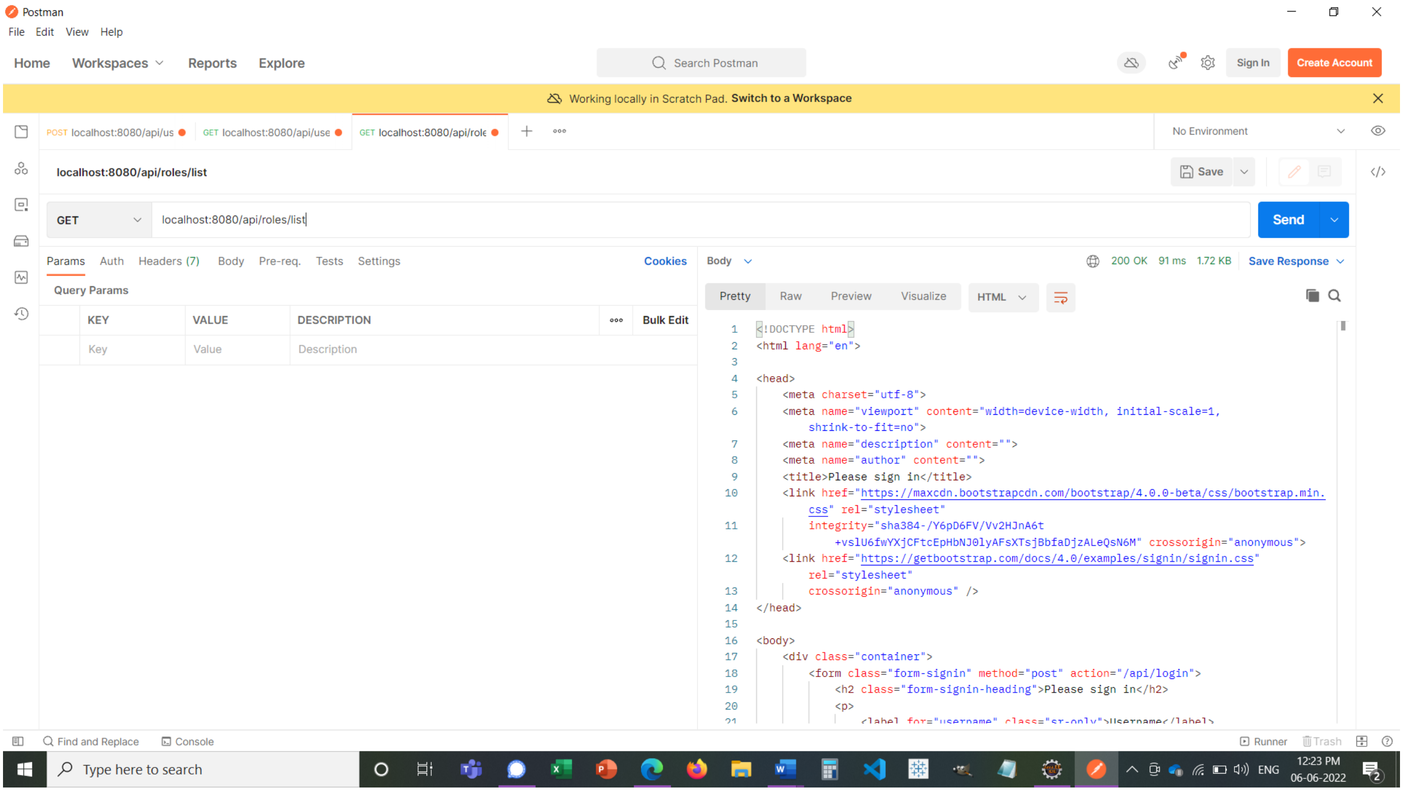
Screenshots of the Rest Application:

Employee Management Application with Rest and Security

A) Accessing the URL to get a list of Roles http://localhost:8080/api/roles/list
It redirects to a login page. We login with “ADMIN” credentials using the URL Pasted below.
http://localhost:8080/api/login
Once successfully logged in, we see the list of roles as the response returned.


Postman
File Edit View Help
Home Workspaces Reports Explore
Search Postman
Sign In
Create Account
Working locally in Scratch Pad. Switch to a Workspace
POST localhost:8080/api/us
GET localhost:8080/api/use
GET localhost:8080/api/role
No Environment
Save
Send
Params Auth Headers (7) Body Pre-req. Tests Settings
Cookies
Query Params
Bulk Edit
Body
200 OK 91 ms 1.72 KB
Save Response
Pretty Raw Preview Visualize HTML
Find and Replace Console
Runner Trash
Type here to search
ENG
12:23 PM
06-06-2022

localhost:8080/api/roles/list

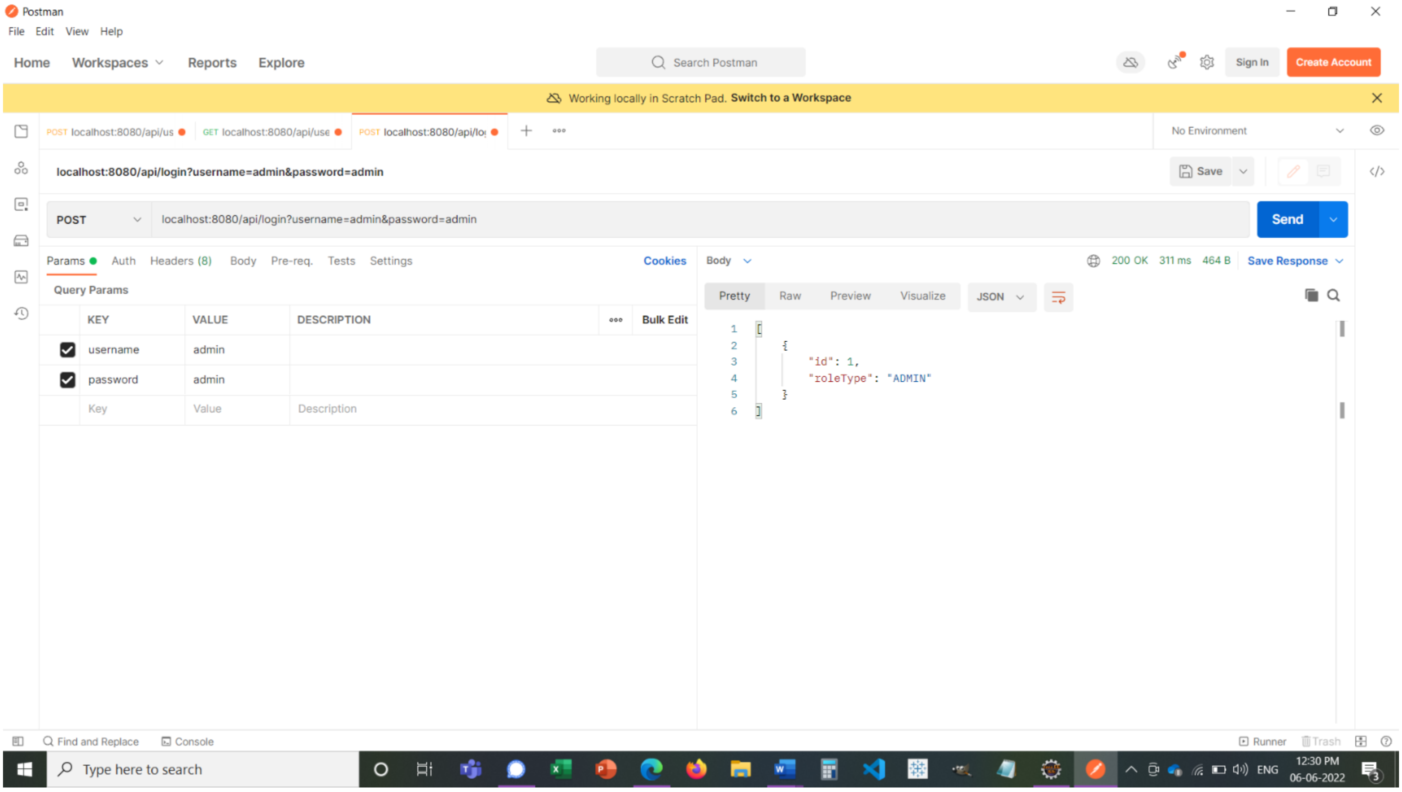
GET localhost:8080/api/roles/list

KEY	VALUE	DESCRIPTION
Key	Value	Description

```html
<!DOCTYPE html>
<html lang="en">

<head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1,
        shrink-to-fit=no">
    <meta name="description" content="">
    <meta name="author" content="">
    <title>Please sign in</title>
    <link href="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0-beta/css/bootstrap.min.
        css" rel="stylesheet"
        integrity="sha384-/Y6pD6FV/Vv2HJnA6t
            +vslU6fwYXjCFtcEpHbNJ0lyAFsXTsjBbfaDjzALeQsN6M" crossorigin="anonymous">
    <link href="https://getbootstrap.com/docs/4.0/examples/signin/signin.css"
        rel="stylesheet"
        crossorigin="anonymous" />
</head>

<body>
    <div class="container">
        <form class="form-signin" method="post" action="/api/login">
            <h2 class="form-signin-heading">Please sign in</h2>
            <p>
                <label for="username" class="sr-only">Username</label>
```


Postman
File Edit View Help
Home Workspaces Reports Explore
Search Postman
Sign In
Create Account
Working locally in Scratch Pad. Switch to a Workspace
POST localhost:8080/api/us
GET localhost:8080/api/use
POST localhost:8080/api/lo
No Environment
Save
Send
Params Auth Headers (8) Body Pre-req. Tests Settings
Cookies
Query Params
Bulk Edit
Body
200 OK 311 ms 464 B
Save Response
Pretty Raw Preview Visualize JSON
Find and Replace Console
Runner Trash
Type here to search
ENG
12:30 PM
06-06-2022

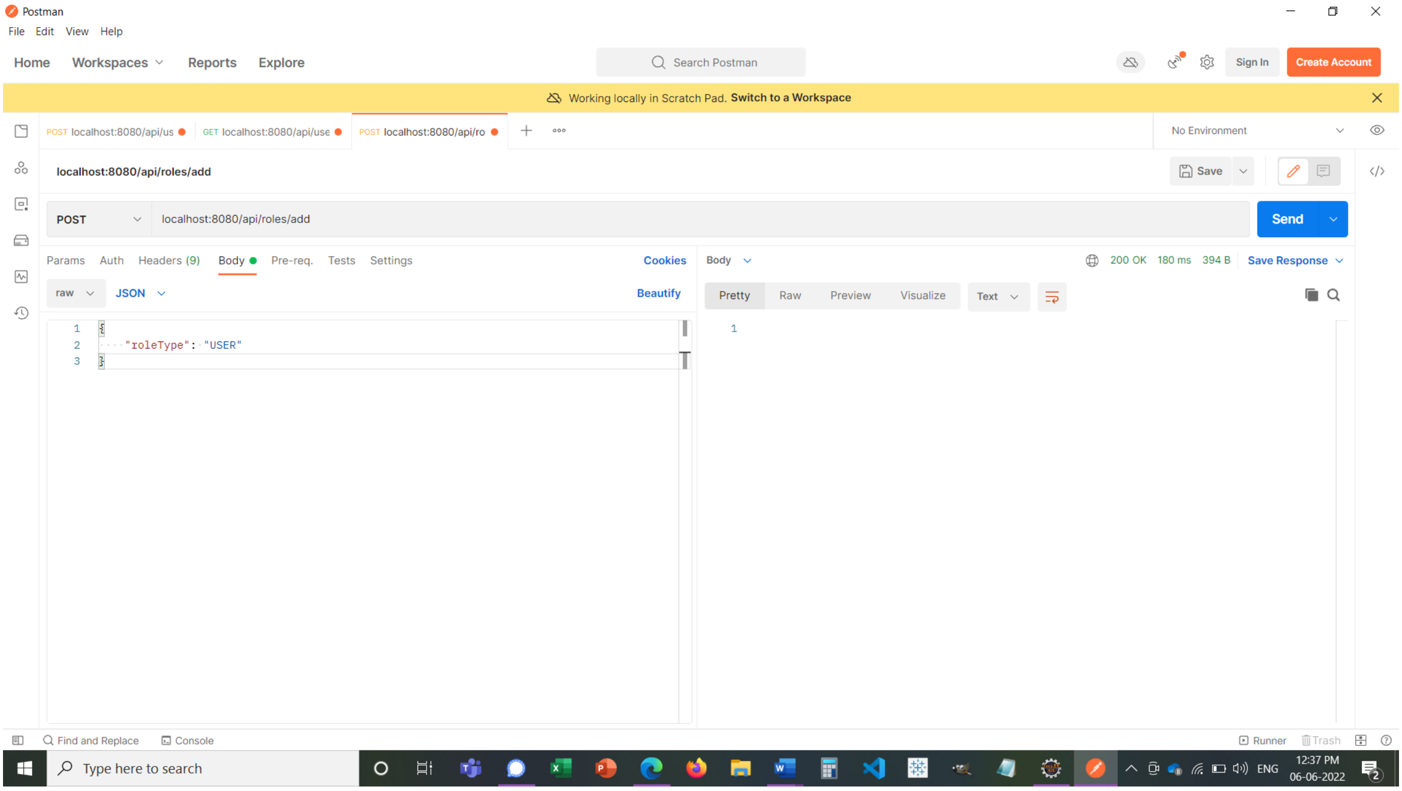
localhost:8080/api/login?username=admin&password=admin

POST localhost:8080/api/login?username=admin&password=admin

	KEY	VALUE	DESCRIPTION
☑	username	admin	
☑	password	admin	
	Key	Value	Description

```json
[
    {
        "id": 1,
        "roleType": "ADMIN"
    }
]
```

B) Add the “USER” role to the roles table


Postman
File Edit View Help
Home Workspaces Reports Explore
Search Postman
Sign In Create Account
Working locally in Scratch Pad. Switch to a Workspace
POST localhost:8080/api/us
GET localhost:8080/api/use
POST localhost:8080/api/ro
No Environment
Save
Send
Params Auth Headers (9) Body Pre-req. Tests Settings
Cookies
raw JSON
Beautify
Body
Save Response
Pretty Raw Preview Visualize Text
Find and Replace Console
Runner Trash
Type here to search
ENG 12:37 PM 06-06-2022

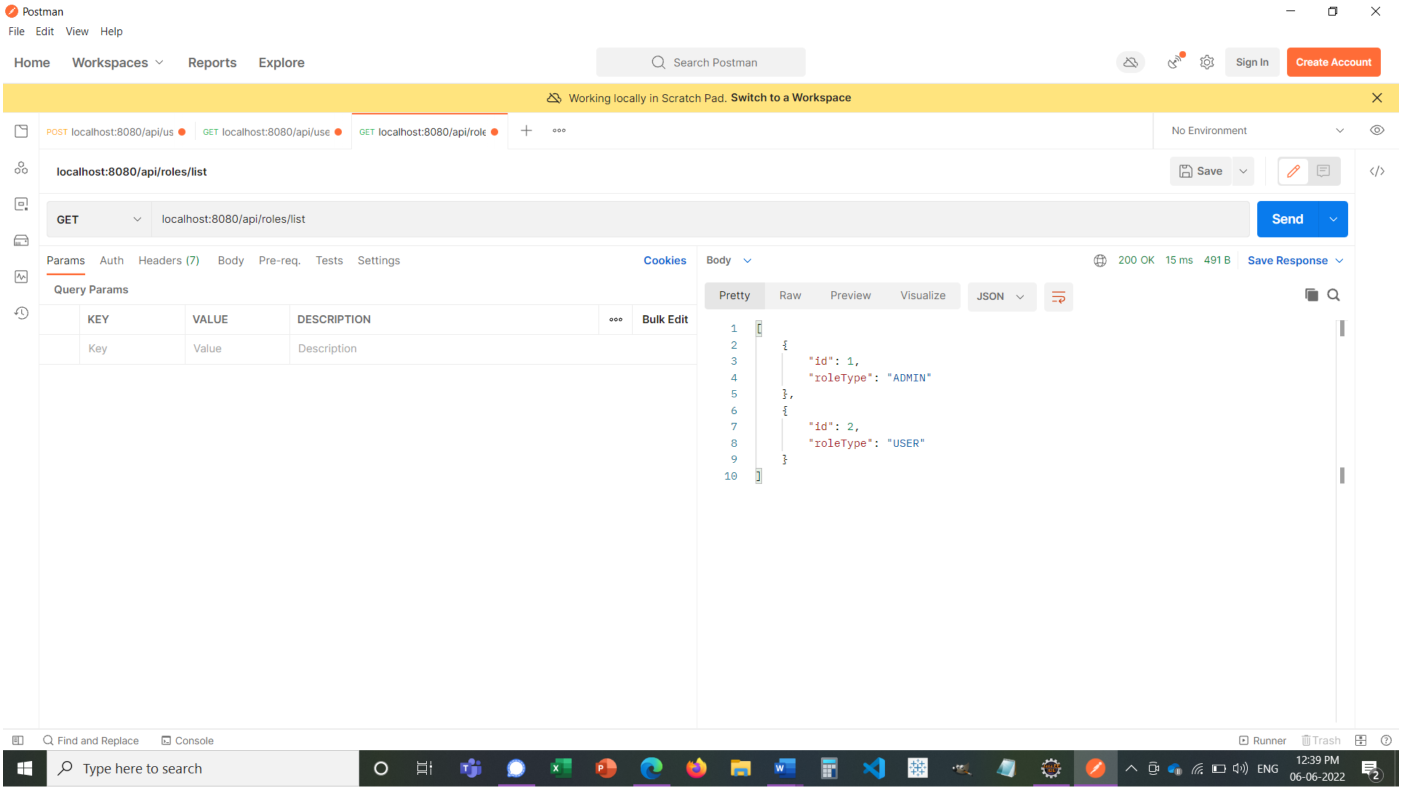
localhost:8080/api/roles/add

POST localhost:8080/api/roles/add

```
{
    "roleType": "USER"
}
```

200 OK 180 ms 394 B

B.1) List all the roles to see the USER role added.


Postman
File Edit View Help
Home Workspaces Reports Explore
Search Postman
Sign In Create Account
Working locally in Scratch Pad. Switch to a Workspace
POST localhost:8080/api/us
GET localhost:8080/api/use
GET localhost:8080/api/role
No Environment
Save
Send
Params Auth Headers (7) Body Pre-req. Tests Settings
Cookies
Query Params
KEY VALUE DESCRIPTION Bulk Edit
Key Value Description
Body
Save Response
Pretty Raw Preview Visualize JSON
Find and Replace Console
Runner Trash
Type here to search
ENG 12:39 PM 06-06-2022

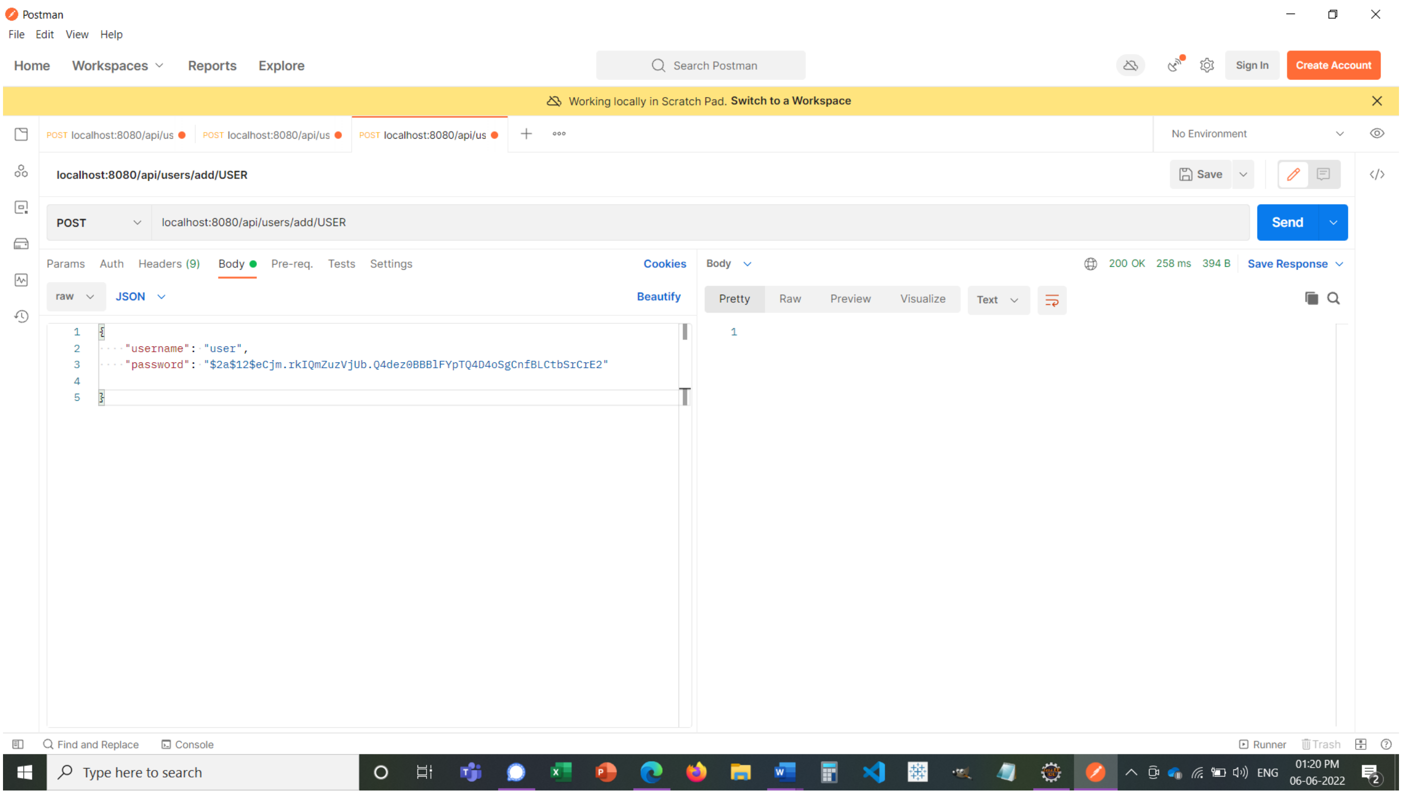
localhost:8080/api/roles/list

GET localhost:8080/api/roles/list

200 OK 15 ms 491 B

```
[
    {
        "id": 1,
        "roleType": "ADMIN"
    },
    {
        "id": 2,
        "roleType": "USER"
    }
]
```

C) Add a new user with “USER” role to the users table


Postman
File Edit View Help
Home Workspaces Reports Explore
Search Postman
Sign In
Create Account
Working locally in Scratch Pad. Switch to a Workspace
POST localhost:8080/api/us
No Environment
localhost:8080/api/users/add/USER
Save
Params Auth Headers (9) Body Pre-req. Tests Settings
Cookies
raw JSON
Beautify
Body
200 OK 258 ms 394 B
Save Response
Pretty Raw Preview Visualize Text
Find and Replace Console
Runner Trash
Type here to search
01:20 PM
06-06-2022

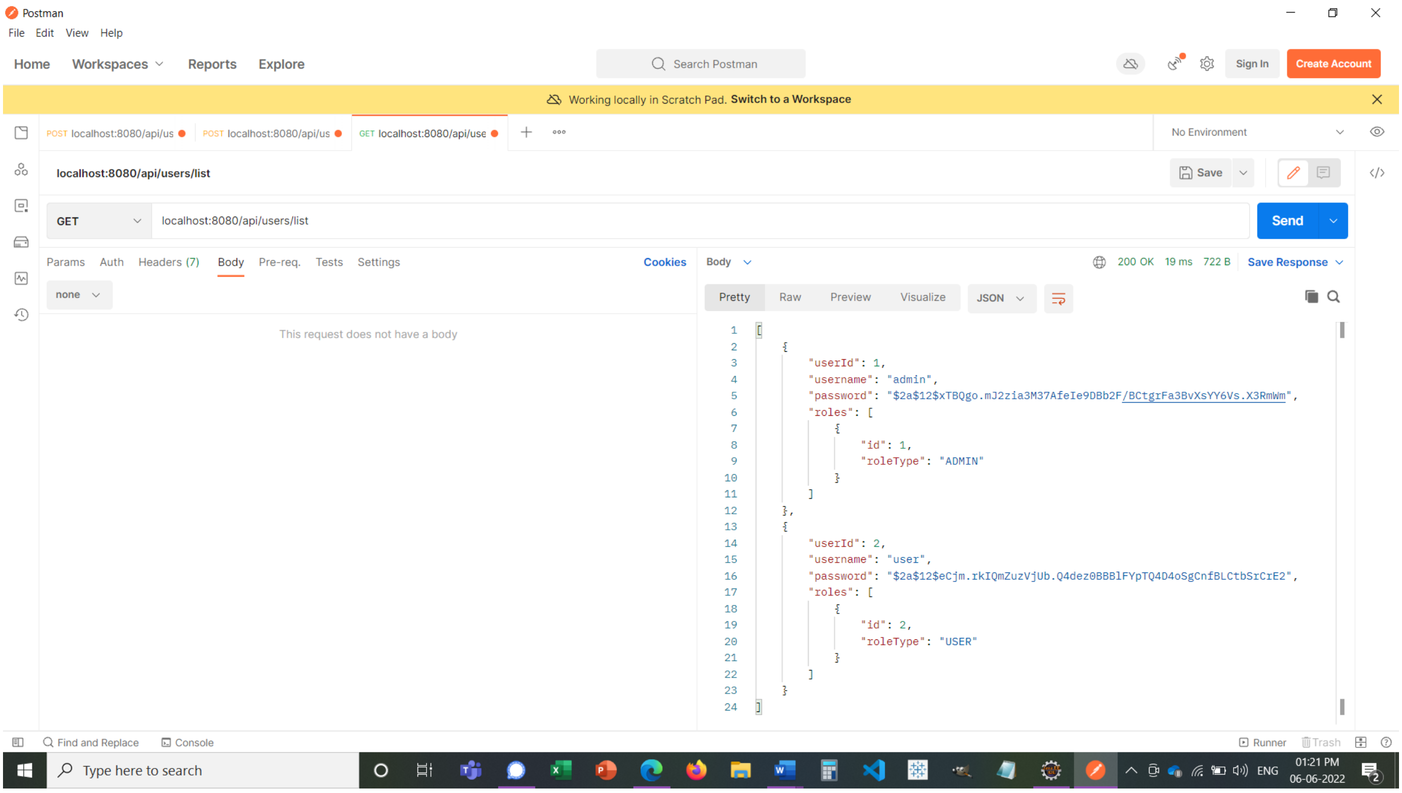
POST localhost:8080/api/users/add/USER

```
{
    "username": "user",
    "password": "$2a$12$eCjm.rkIQmZuzVjUb.Q4dez0BBBlFYpTQ4D4oSgCnfBLCtbSrCrE2"

}
```

```
1
```

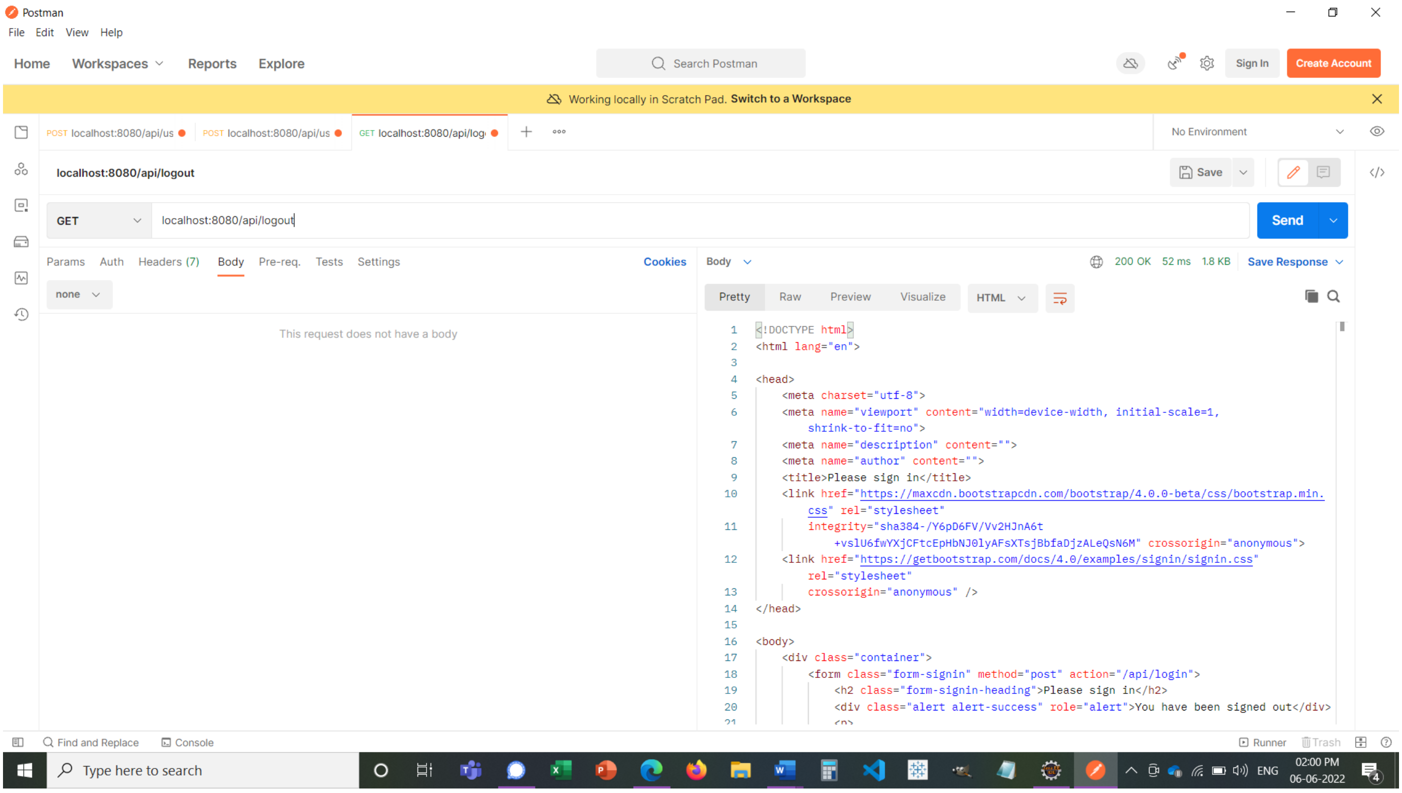
C.1) List all users to confirm that user with USER role has been added


Postman
File Edit View Help
Home Workspaces Reports Explore
Search Postman
Sign In
Create Account
Working locally in Scratch Pad. Switch to a Workspace
POST localhost:8080/api/us
GET localhost:8080/api/use
No Environment
localhost:8080/api/users/list
Save
Params Auth Headers (7) Body Pre-req. Tests Settings
Cookies
none
This request does not have a body
Body
200 OK 19 ms 722 B
Save Response
Pretty Raw Preview Visualize JSON
Find and Replace Console
Runner Trash
Type here to search
01:21 PM
06-06-2022

GET localhost:8080/api/users/list

```
[
    {
        "userId": 1,
        "username": "admin",
        "password": "$2a$12$xTBQgo.mJ2zia3M37AfeIe9DBb2F/BCtgrFa3BvXsYY6Vs.X3RmWm",
        "roles": [
            {
                "id": 1,
                "roleType": "ADMIN"
            }
        ]
    },
    {
        "userId": 2,
        "username": "user",
        "password": "$2a$12$eCjm.rkIQmZuzVjUb.Q4dez0BBBlFYpTQ4D4oSgCnfBLCtbSrCrE2",
        "roles": [
            {
                "id": 2,
                "roleType": "USER"
            }
        ]
    }
]
```

D) Logout and then login with user having USER role


Postman
File Edit View Help
Home Workspaces Reports Explore
Search Postman
Sign In
Create Account
Working locally in Scratch Pad. Switch to a Workspace
POST localhost:8080/api/us
POST localhost:8080/api/us
GET localhost:8080/api/log
No Environment
Save
Params Auth Headers (7) Body Pre-req. Tests Settings
Cookies
Pretty Raw Preview Visualize HTML
Find and Replace
Console
Runner
Trash
Type here to search
ENG
02:00 PM
06-06-2022

localhost:8080/api/logout

GET localhost:8080/api/logout

Send

Body: none

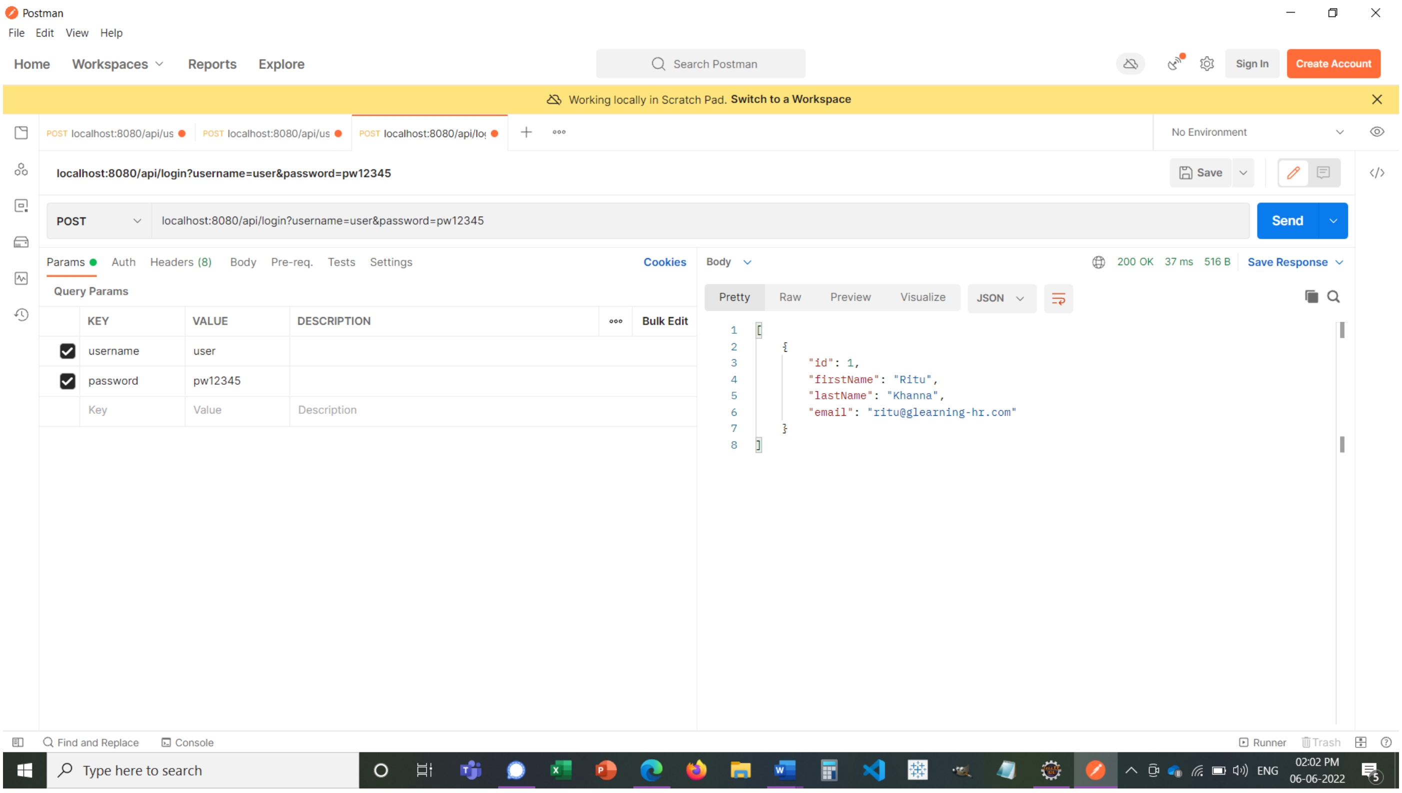
This request does not have a body

Body 200 OK 52 ms 1.8 KB Save Response

```
<!DOCTYPE html>
<html lang="en">

<head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1,
        shrink-to-fit=no">
    <meta name="description" content="">
    <meta name="author" content="">
    <title>Please sign in</title>
    <link href="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0-beta/css/bootstrap.min.
        css" rel="stylesheet"
        integrity="sha384-/Y6pD6FV/Vv2HJnA6t
            +vslU6fwYXjCFtcEpHbNJ0lyAFsXTsjBbfaDjzALeQsN6M" crossorigin="anonymous">
    <link href="https://getbootstrap.com/docs/4.0/examples/signin/signin.css"
        rel="stylesheet"
        crossorigin="anonymous" />
</head>

<body>
    <div class="container">
        <form class="form-signin" method="post" action="/api/login">
            <h2 class="form-signin-heading">Please sign in</h2>
            <div class="alert alert-success" role="alert">You have been signed out</div>
```


Postman
File Edit View Help
Home Workspaces Reports Explore
Search Postman
Sign In
Create Account
Working locally in Scratch Pad. Switch to a Workspace
POST localhost:8080/api/us
POST localhost:8080/api/us
POST localhost:8080/api/lo
No Environment
Save
Params Auth Headers (8) Body Pre-req. Tests Settings
Cookies
Bulk Edit
Pretty Raw Preview Visualize JSON
Find and Replace
Console
Runner
Trash
Type here to search
ENG
02:02 PM
06-06-2022

localhost:8080/api/login?username=user&password=pw12345

POST localhost:8080/api/login?username=user&password=pw12345

Send

Query Params

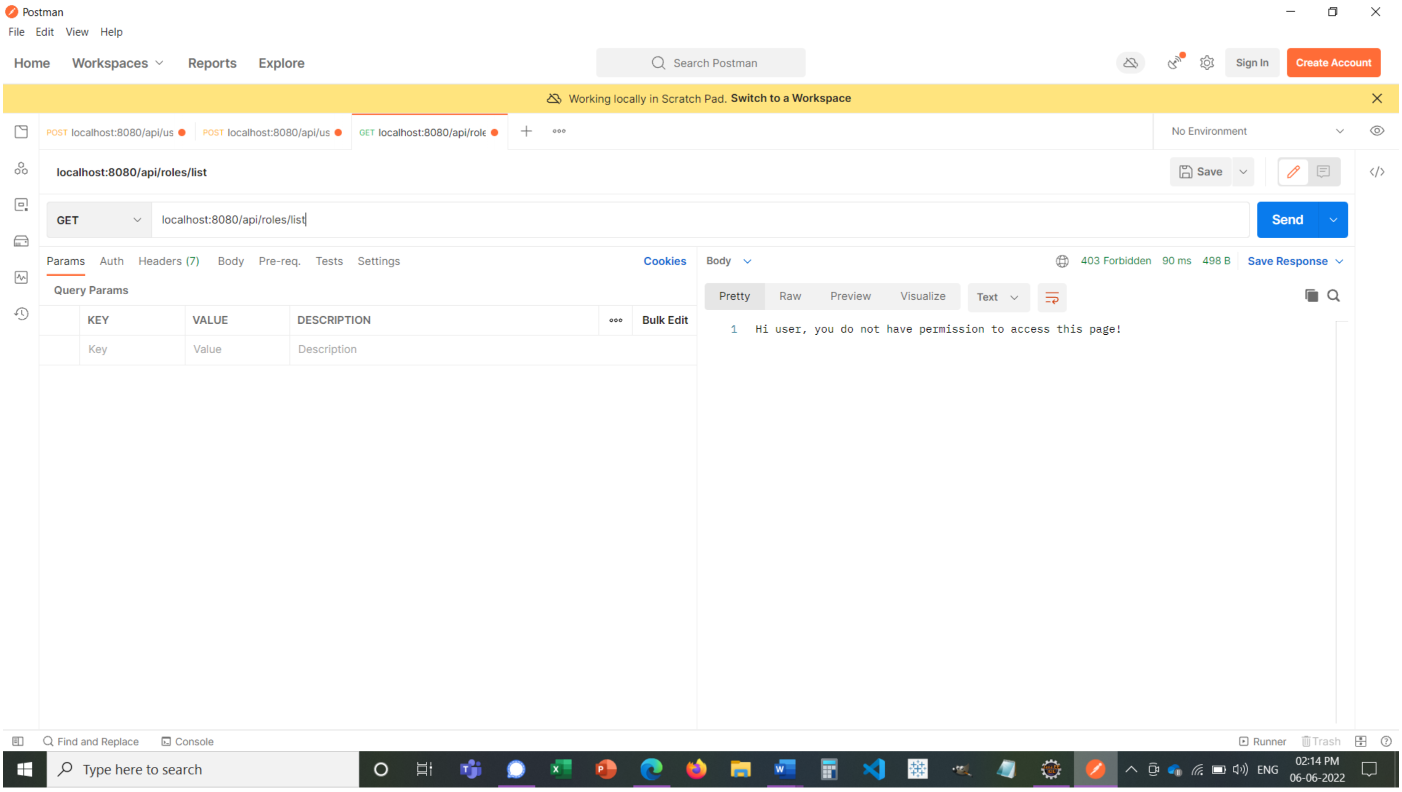
	KEY	VALUE	DESCRIPTION
☑	username	user	
☑	password	pw12345	
	Key	Value	Description

Body 200 OK 37 ms 516 B Save Response

```
[
    {
        "id": 1,
        "firstName": "Ritu",
        "lastName": "Khanna",
        "email": "ritu@glearning-hr.com"
    }
]
```

E) The user cannot access roles table or users table. But the user can access employees table.
User can only perform read operations on the employees table.
User cannot add, update or delete an employee record

User to access roles table

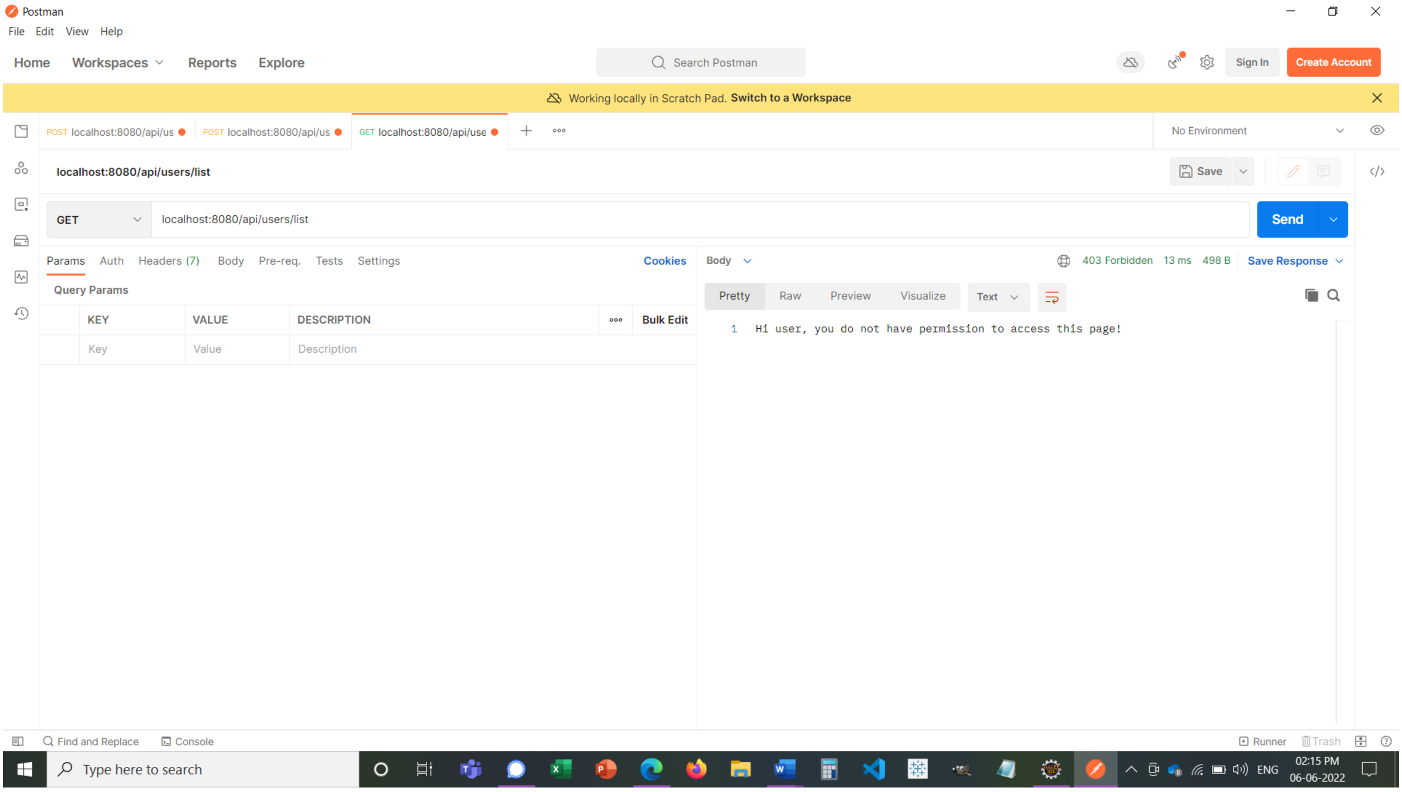

GET localhost:8080/api/roles/list

403 Forbidden 90 ms 498 B

```
1  Hi user, you do not have permission to access this page!
```

Postman
File Edit View Help
Home Workspaces Reports Explore
Search Postman
Sign In
Create Account
Working locally in Scratch Pad. Switch to a Workspace
No Environment
Save
Send
Params Auth Headers (7) Body Pre-req. Tests Settings Cookies
Query Params
KEY VALUE DESCRIPTION Bulk Edit
Body
Save Response
Pretty Raw Preview Visualize Text
Find and Replace Console Runner Trash
Type here to search
02:14 PM 06-06-2022

User to access users table

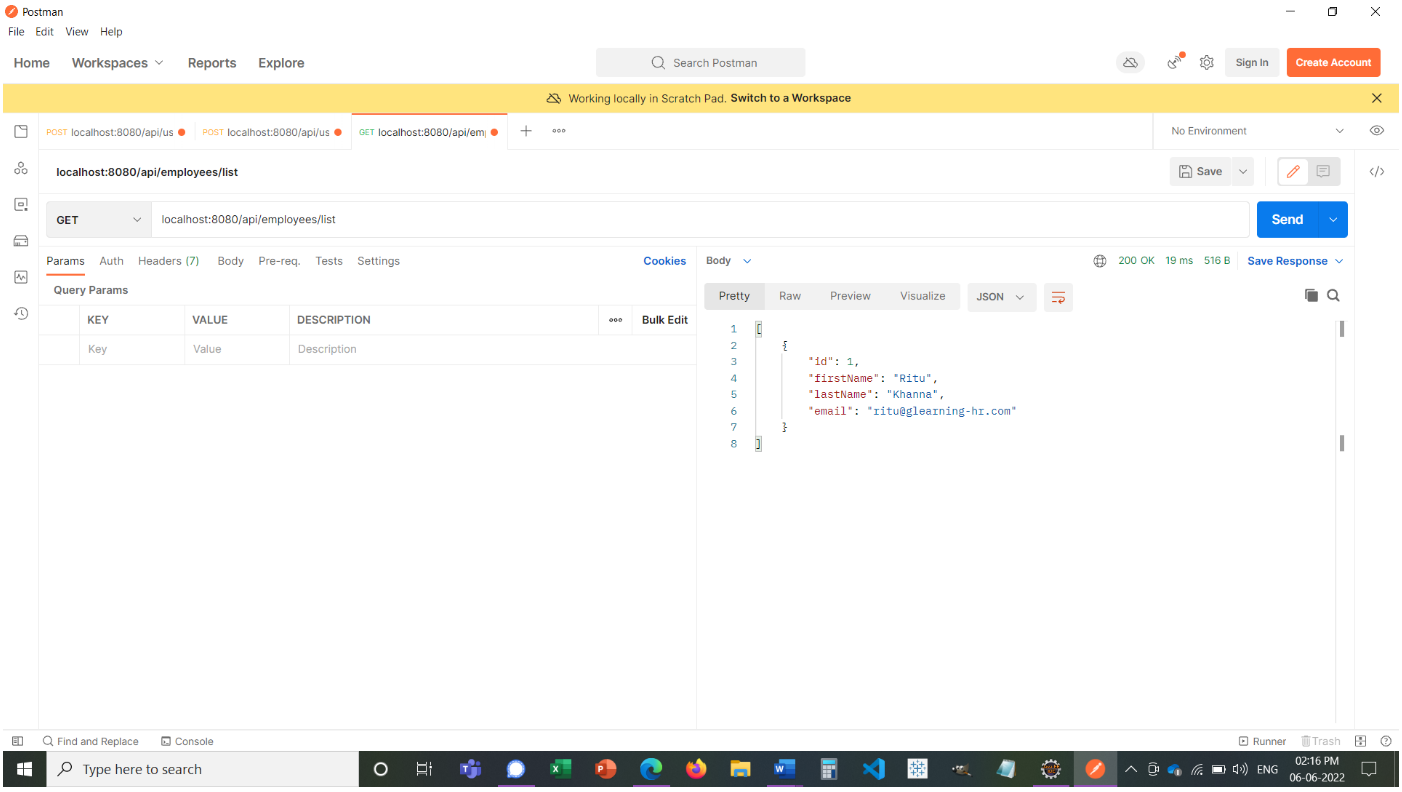

GET localhost:8080/api/users/list

403 Forbidden 13 ms 498 B

```
1  Hi user, you do not have permission to access this page!
```

Postman
File Edit View Help
Home Workspaces Reports Explore
Search Postman
Sign In
Create Account
Working locally in Scratch Pad. Switch to a Workspace
No Environment
Save
Send
Params Auth Headers (7) Body Pre-req. Tests Settings Cookies
Query Params
KEY VALUE DESCRIPTION Bulk Edit
Body
Save Response
Pretty Raw Preview Visualize Text
Find and Replace Console Runner Trash
Type here to search
02:15 PM 06-06-2022

User to access the employees table


Postman
File Edit View Help
Home Workspaces Reports Explore
Search Postman
Sign In
Create Account
Working locally in Scratch Pad. Switch to a Workspace
POST localhost:8080/api/us
POST localhost:8080/api/us
GET localhost:8080/api/em
No Environment
Save
Send
Params Auth Headers (7) Body Pre-req. Tests Settings
Cookies
Query Params
KEY VALUE DESCRIPTION
Bulk Edit
Key Value Description
Body
Pretty Raw Preview Visualize JSON
Save Response
Find and Replace
Console
Runner
Trash
Type here to search
ENG
02:16 PM
06-06-2022

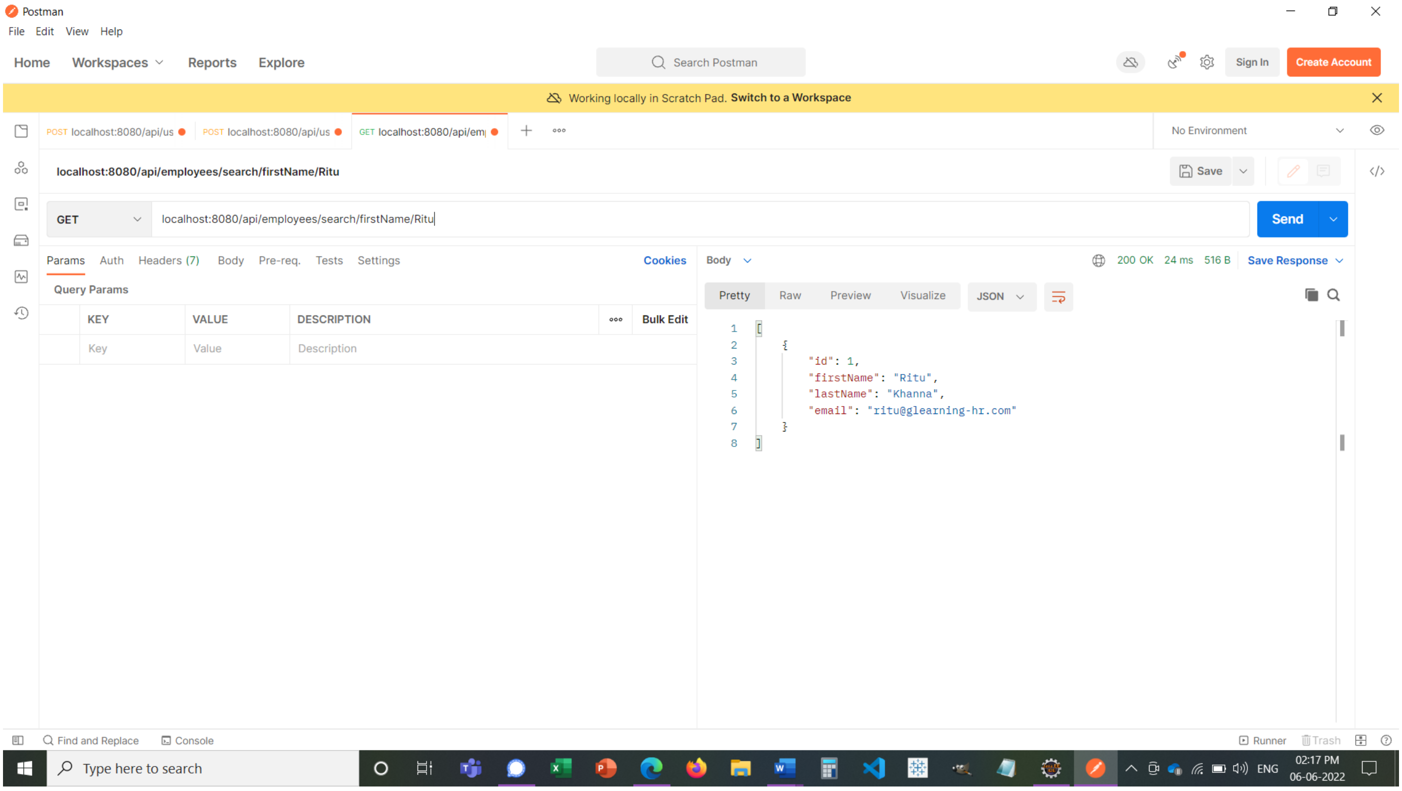
localhost:8080/api/employees/list

GET localhost:8080/api/employees/list

200 OK 19 ms 516 B

```
[
    {
        "id": 1,
        "firstName": "Ritu",
        "lastName": "Khanna",
        "email": "ritu@glearning-hr.com"
    }
]
```

User to perform search operation on the employees table using firstName


Postman
File Edit View Help
Home Workspaces Reports Explore
Search Postman
Sign In
Create Account
Working locally in Scratch Pad. Switch to a Workspace
POST localhost:8080/api/us
POST localhost:8080/api/us
GET localhost:8080/api/em
No Environment
Save
Send
Params Auth Headers (7) Body Pre-req. Tests Settings
Cookies
Query Params
KEY VALUE DESCRIPTION
Bulk Edit
Key Value Description
Body
Pretty Raw Preview Visualize JSON
Save Response
Find and Replace
Console
Runner
Trash
Type here to search
ENG
02:17 PM
06-06-2022

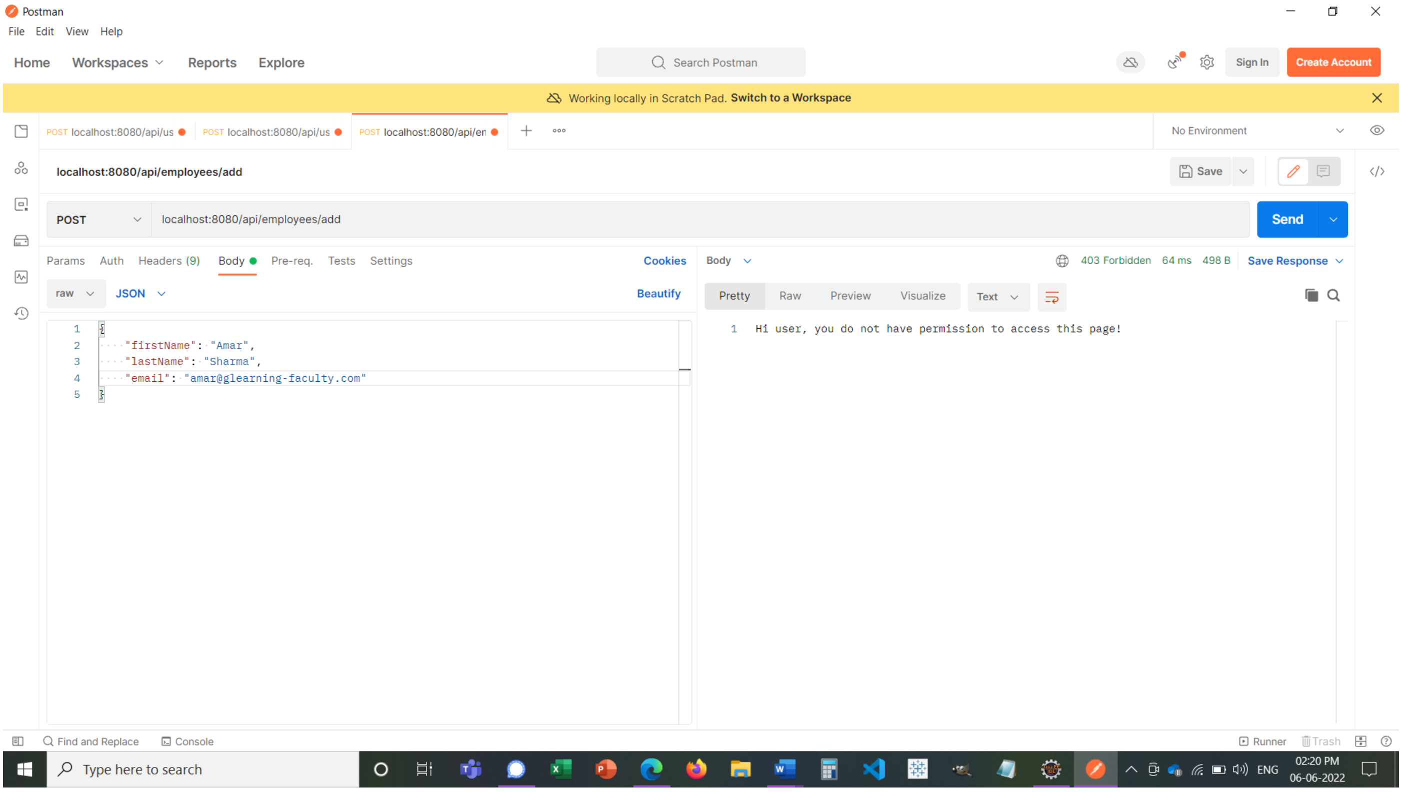
localhost:8080/api/employees/search/firstName/Ritu

GET localhost:8080/api/employees/search/firstName/Ritu

200 OK 24 ms 516 B

```
[
    {
        "id": 1,
        "firstName": "Ritu",
        "lastName": "Khanna",
        "email": "ritu@glearning-hr.com"
    }
]
```

User to add employee record



localhost:8080/api/employees/add

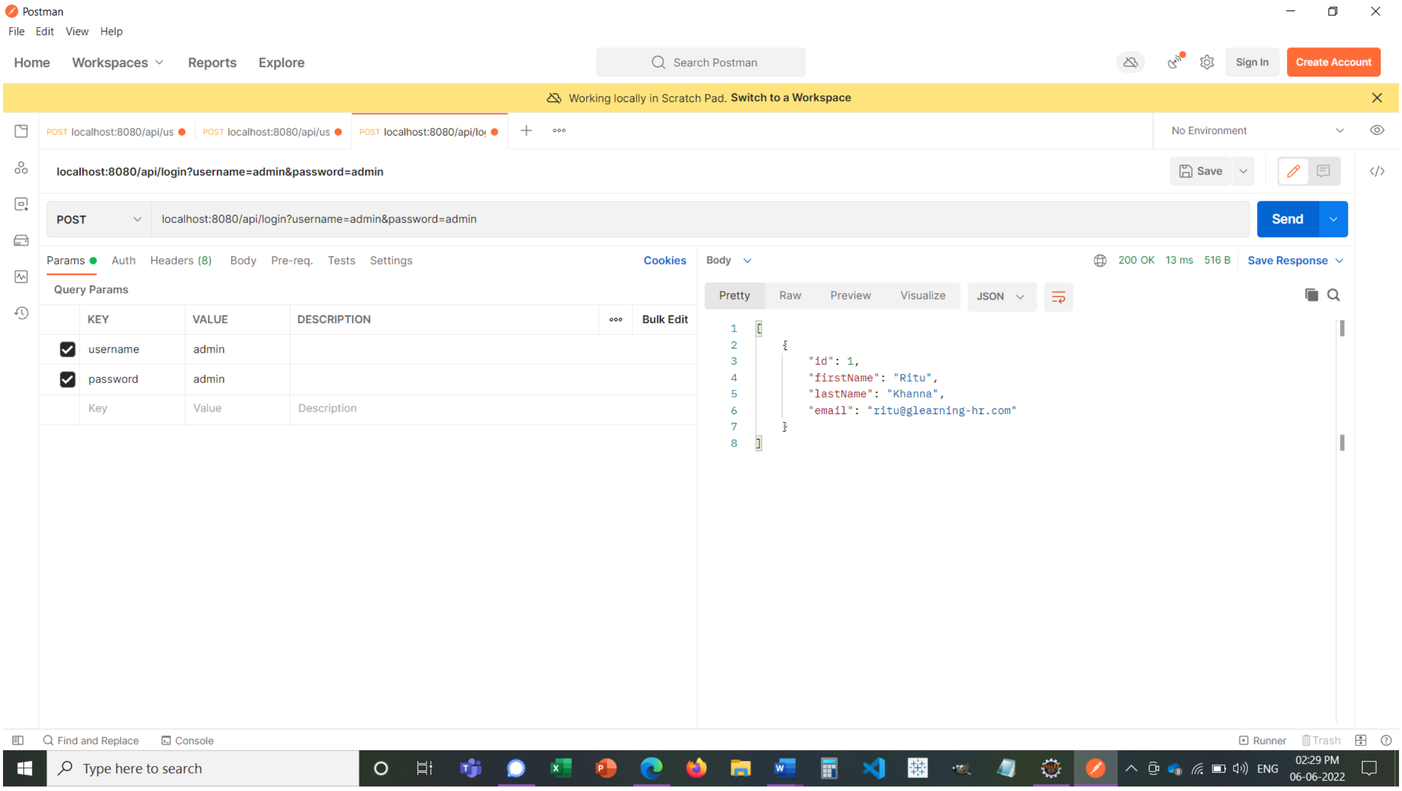
POST localhost:8080/api/employees/add

```
{
····"firstName": "Amar",
····"lastName": "Sharma",
····"email": "amar@glearning-faculty.com"
}
```

403 Forbidden 64 ms 498 B

```
Hi user, you do not have permission to access this page!
```

F) Login with ADMIN role credentials to perform CRUD operations on employees table.



localhost:8080/api/login?username=admin&password=admin

POST localhost:8080/api/login?username=admin&password=admin

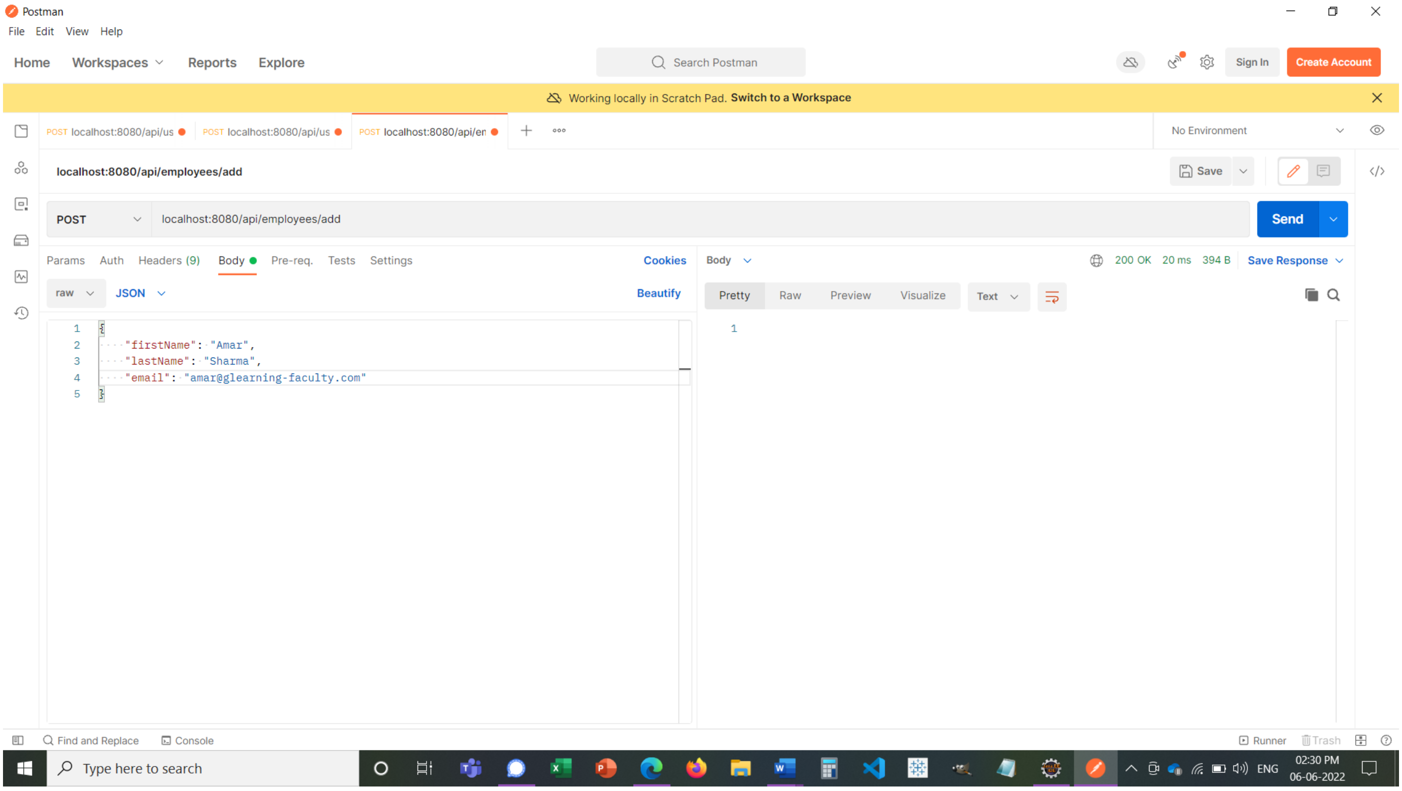
Query Params

	KEY	VALUE	DESCRIPTION
☑	username	admin	
☑	password	admin	
	Key	Value	Description

200 OK 13 ms 516 B

```
[
    {
        "id": 1,
        "firstName": "Ritu",
        "lastName": "Khanna",
        "email": "ritu@glearning-hr.com"
    }
]
```

Admin to add an employee record



POST localhost:8080/api/employees/add

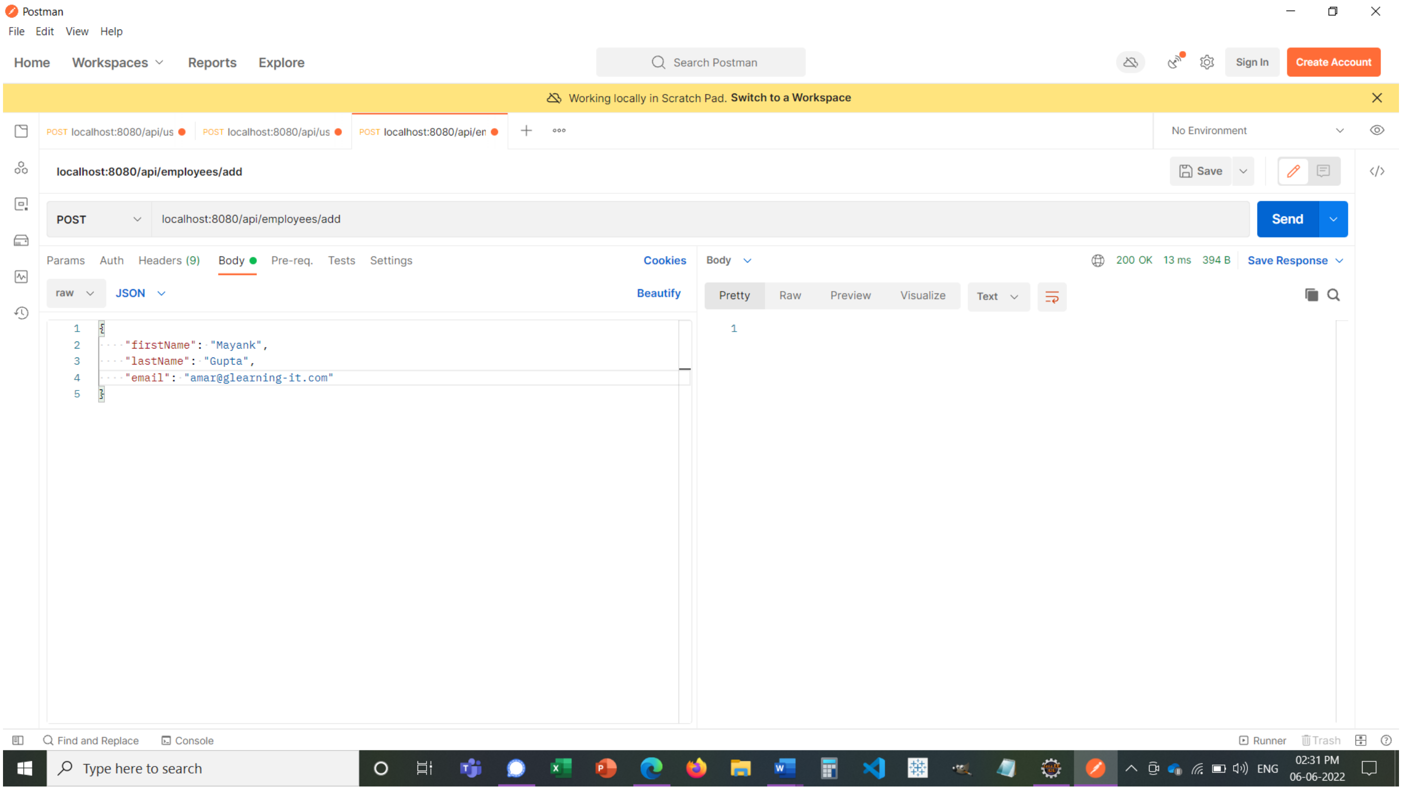
Body raw JSON

```
{
    "firstName": "Amar",
    "lastName": "Sharma",
    "email": "amar@glearning-faculty.com"
}
```

200 OK 20 ms 394 B

```
1
```

Admin to add one more employee record



POST localhost:8080/api/employees/add

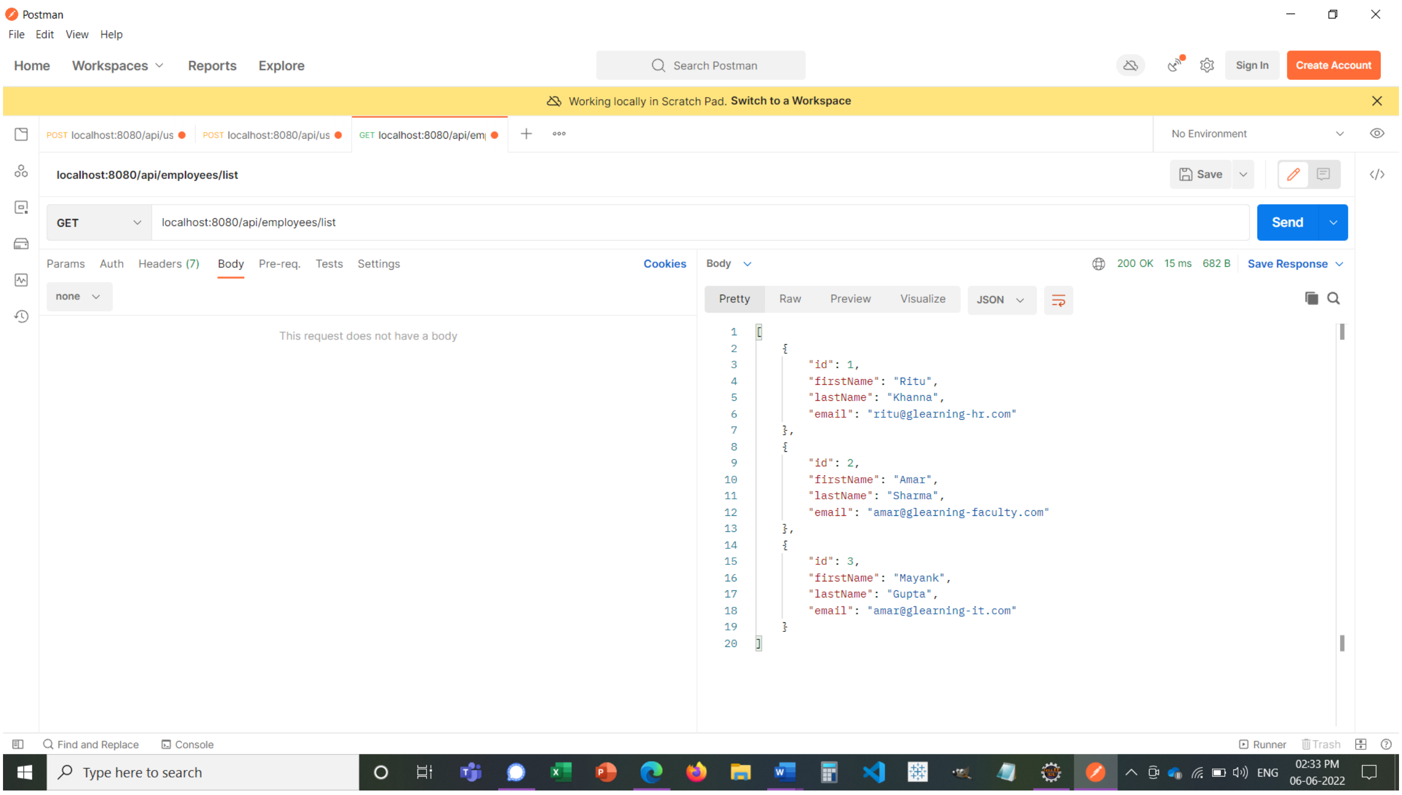
Body raw JSON

```
{
    "firstName": "Mayank",
    "lastName": "Gupta",
    "email": "amar@glearning-it.com"
}
```

200 OK 13 ms 394 B

```
1
```

Admin to list all employee records to verify the added employees


Postman
File Edit View Help
Home Workspaces Reports Explore
Search Postman
Sign In
Create Account
Working locally in Scratch Pad. Switch to a Workspace
POST localhost:8080/api/us
POST localhost:8080/api/us
GET localhost:8080/api/em
No Environment
Save
Send
Params Auth Headers (7) Body Pre-req. Tests Settings
Cookies
none
This request does not have a body
Body
Pretty Raw Preview Visualize JSON
Save Response
Find and Replace Console
Runner Trash
Type here to search
ENG
02:33 PM
06-06-2022

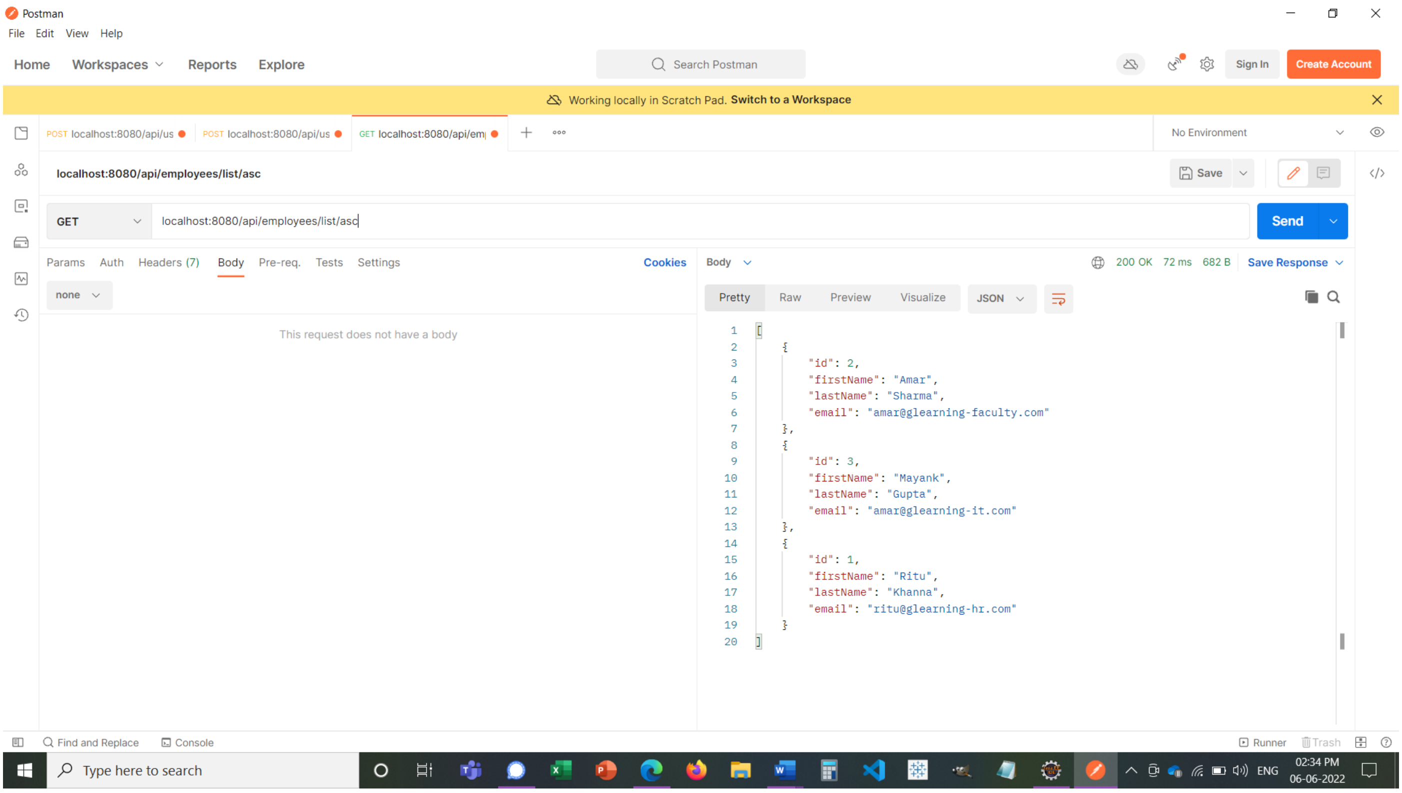
localhost:8080/api/employees/list

GET localhost:8080/api/employees/list

200 OK 15 ms 682 B

```
[
    {
        "id": 1,
        "firstName": "Ritu",
        "lastName": "Khanna",
        "email": "ritu@glearning-hr.com"
    },
    {
        "id": 2,
        "firstName": "Amar",
        "lastName": "Sharma",
        "email": "amar@glearning-faculty.com"
    },
    {
        "id": 3,
        "firstName": "Mayank",
        "lastName": "Gupta",
        "email": "amar@glearning-it.com"
    }
]
```

Admin to list all employees in ascending order


Postman
File Edit View Help
Home Workspaces Reports Explore
Search Postman
Sign In
Create Account
Working locally in Scratch Pad. Switch to a Workspace
POST localhost:8080/api/us
POST localhost:8080/api/us
GET localhost:8080/api/em
No Environment
Save
Send
Params Auth Headers (7) Body Pre-req. Tests Settings
Cookies
none
This request does not have a body
Body
Pretty Raw Preview Visualize JSON
Save Response
Find and Replace Console
Runner Trash
Type here to search
ENG
02:34 PM
06-06-2022

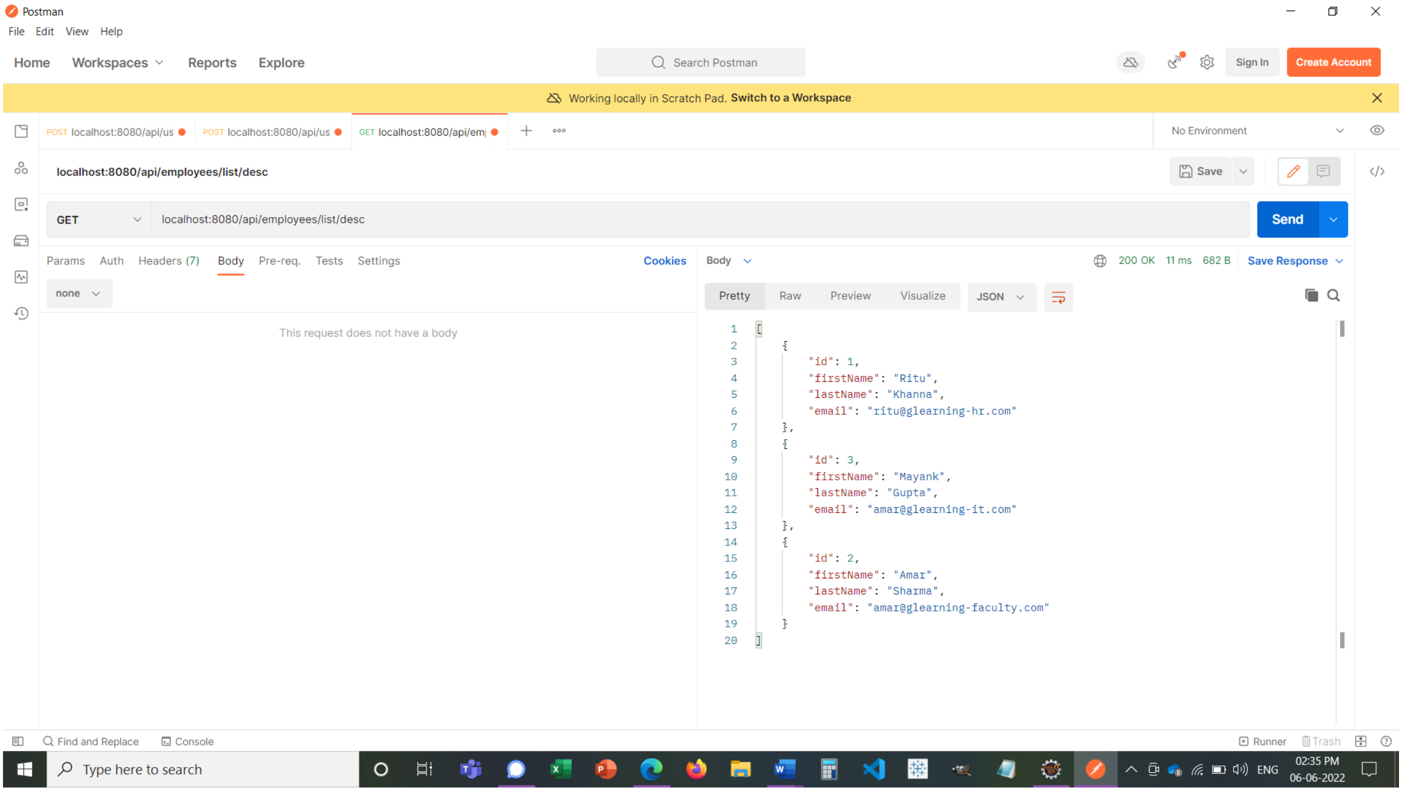
localhost:8080/api/employees/list/asc

GET localhost:8080/api/employees/list/asc

200 OK 72 ms 682 B

```
[
    {
        "id": 2,
        "firstName": "Amar",
        "lastName": "Sharma",
        "email": "amar@glearning-faculty.com"
    },
    {
        "id": 3,
        "firstName": "Mayank",
        "lastName": "Gupta",
        "email": "amar@glearning-it.com"
    },
    {
        "id": 1,
        "firstName": "Ritu",
        "lastName": "Khanna",
        "email": "ritu@glearning-hr.com"
    }
]
```

Admin to list all employees in descending order


Postman
File Edit View Help
Home Workspaces Reports Explore
Search Postman
Sign In
Create Account
Working locally in Scratch Pad. Switch to a Workspace
POST localhost:8080/api/us
POST localhost:8080/api/us
GET localhost:8080/api/em
No Environment
Save
Send
Params Auth Headers (7) Body Pre-req. Tests Settings
Cookies
none
Pretty Raw Preview Visualize JSON
Save Response
Find and Replace
Console
Runner
Trash
Type here to search
ENG
02:35 PM
06-06-2022

localhost:8080/api/employees/list/desc

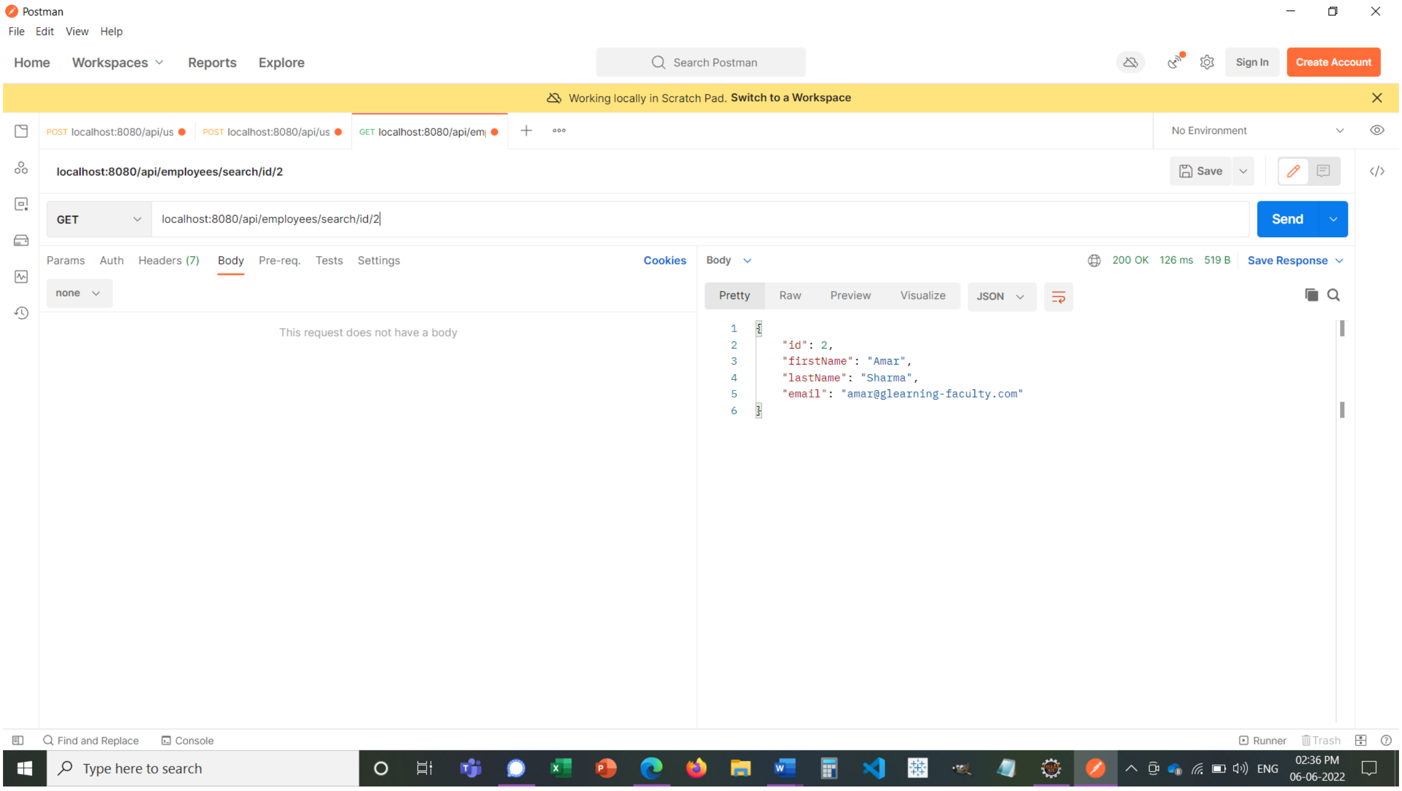
GET localhost:8080/api/employees/list/desc

This request does not have a body

Body 200 OK 11 ms 682 B

```
[
    {
        "id": 1,
        "firstName": "Ritu",
        "lastName": "Khanna",
        "email": "ritu@glearning-hr.com"
    },
    {
        "id": 3,
        "firstName": "Mayank",
        "lastName": "Gupta",
        "email": "amar@glearning-it.com"
    },
    {
        "id": 2,
        "firstName": "Amar",
        "lastName": "Sharma",
        "email": "amar@glearning-faculty.com"
    }
]
```

Admin to search employee by Id = 2


Postman
File Edit View Help
Home Workspaces Reports Explore
Search Postman
Sign In
Create Account
Working locally in Scratch Pad. Switch to a Workspace
POST localhost:8080/api/us
POST localhost:8080/api/us
GET localhost:8080/api/em
No Environment
Save
Send
Params Auth Headers (7) Body Pre-req. Tests Settings
Cookies
none
Pretty Raw Preview Visualize JSON
Save Response
Find and Replace
Console
Runner
Trash
Type here to search
ENG
02:36 PM
06-06-2022

localhost:8080/api/employees/search/id/2

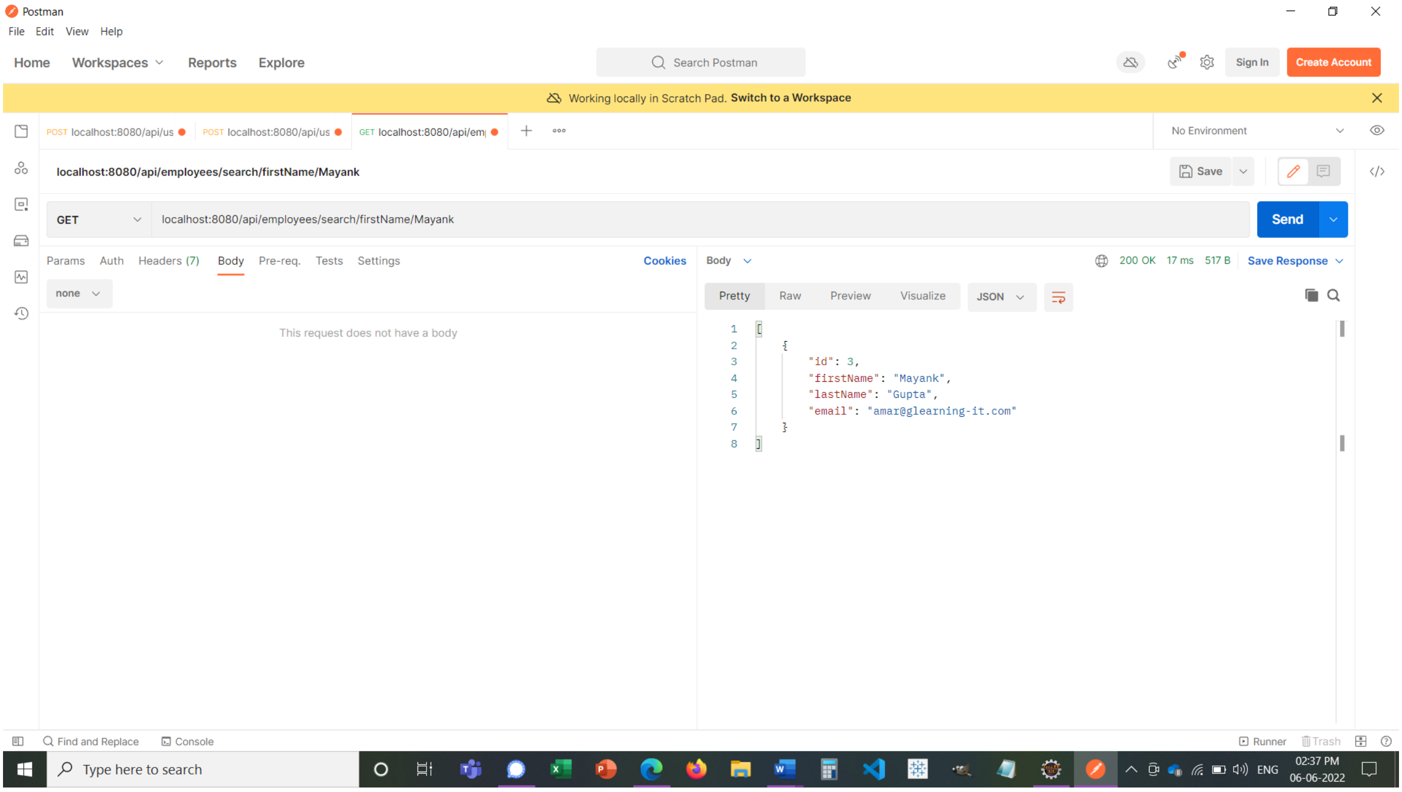
GET localhost:8080/api/employees/search/id/2

This request does not have a body

Body 200 OK 126 ms 519 B

```
{
    "id": 2,
    "firstName": "Amar",
    "lastName": "Sharma",
    "email": "amar@glearning-faculty.com"
}
```

Admin to search by firstName = Mayank



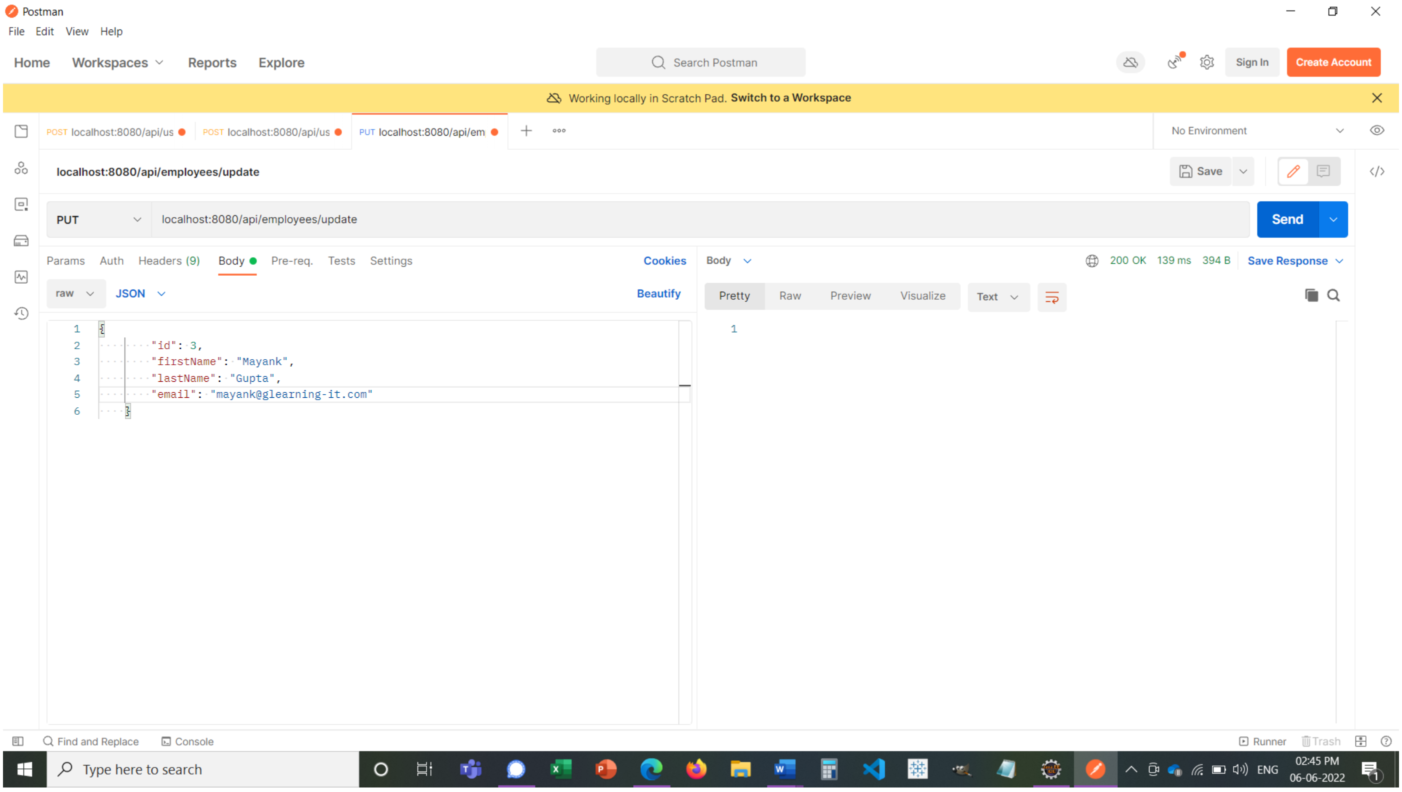
GET localhost:8080/api/employees/search/firstName/Mayank

This request does not have a body

200 OK 17 ms 517 B

```
[
    {
        "id": 3,
        "firstName": "Mayank",
        "lastName": "Gupta",
        "email": "amar@glearning-it.com"
    }
]
```

Admin to update email id of the employee id=3 from amar@glearning-it.com to mayank@glearning-it.com.

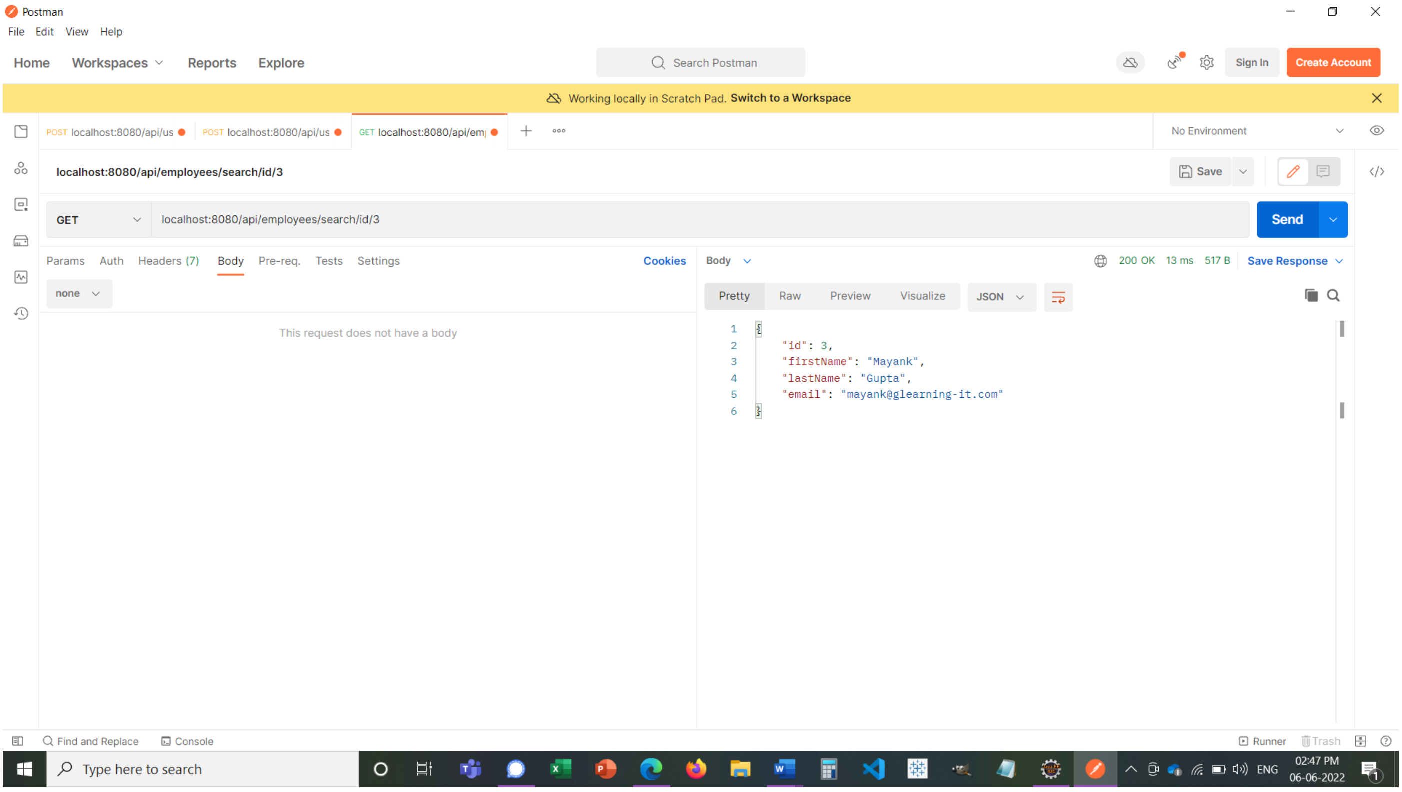


PUT localhost:8080/api/employees/update

```
{
    "id": 3,
    "firstName": "Mayank",
    "lastName": "Gupta",
    "email": "mayank@glearning-it.com"
}
```

200 OK 139 ms 394 B

Admin to search the employee by id=3 to verify the update


Postman
File Edit View Help
Home Workspaces Reports Explore
Search Postman
Sign In
Create Account
Working locally in Scratch Pad. Switch to a Workspace
POST localhost:8080/api/us
POST localhost:8080/api/us
GET localhost:8080/api/em
No Environment
Save
Send
Params Auth Headers (7) Body Pre-req. Tests Settings
Cookies
none
This request does not have a body
Body
Pretty Raw Preview Visualize JSON
Save Response
Find and Replace
Console
Runner
Trash
Type here to search
ENG
02:47 PM
06-06-2022

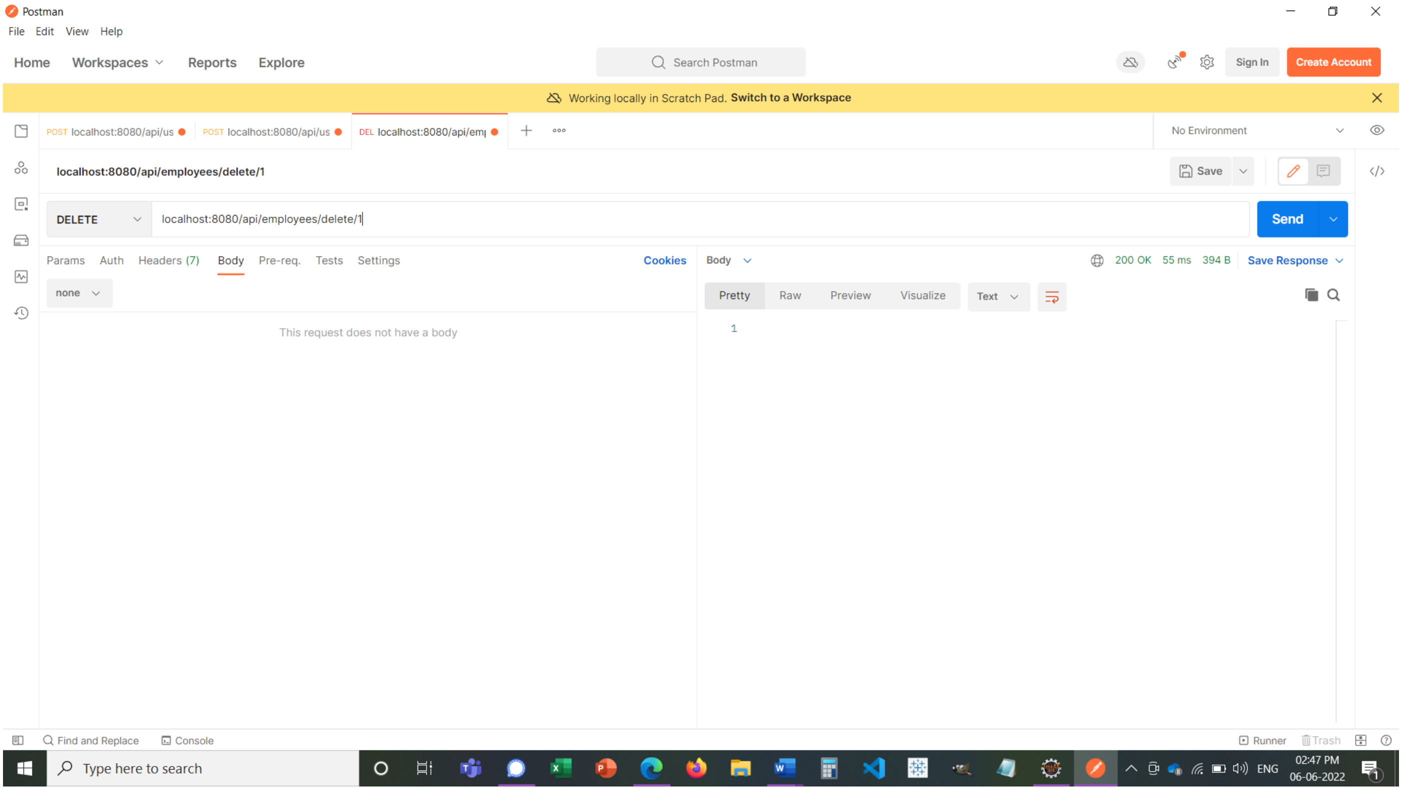
localhost:8080/api/employees/search/id/3

GET localhost:8080/api/employees/search/id/3

200 OK 13 ms 517 B

```
{
    "id": 3,
    "firstName": "Mayank",
    "lastName": "Gupta",
    "email": "mayank@glearning-it.com"
}
```

Admin to delete the employee with id=1

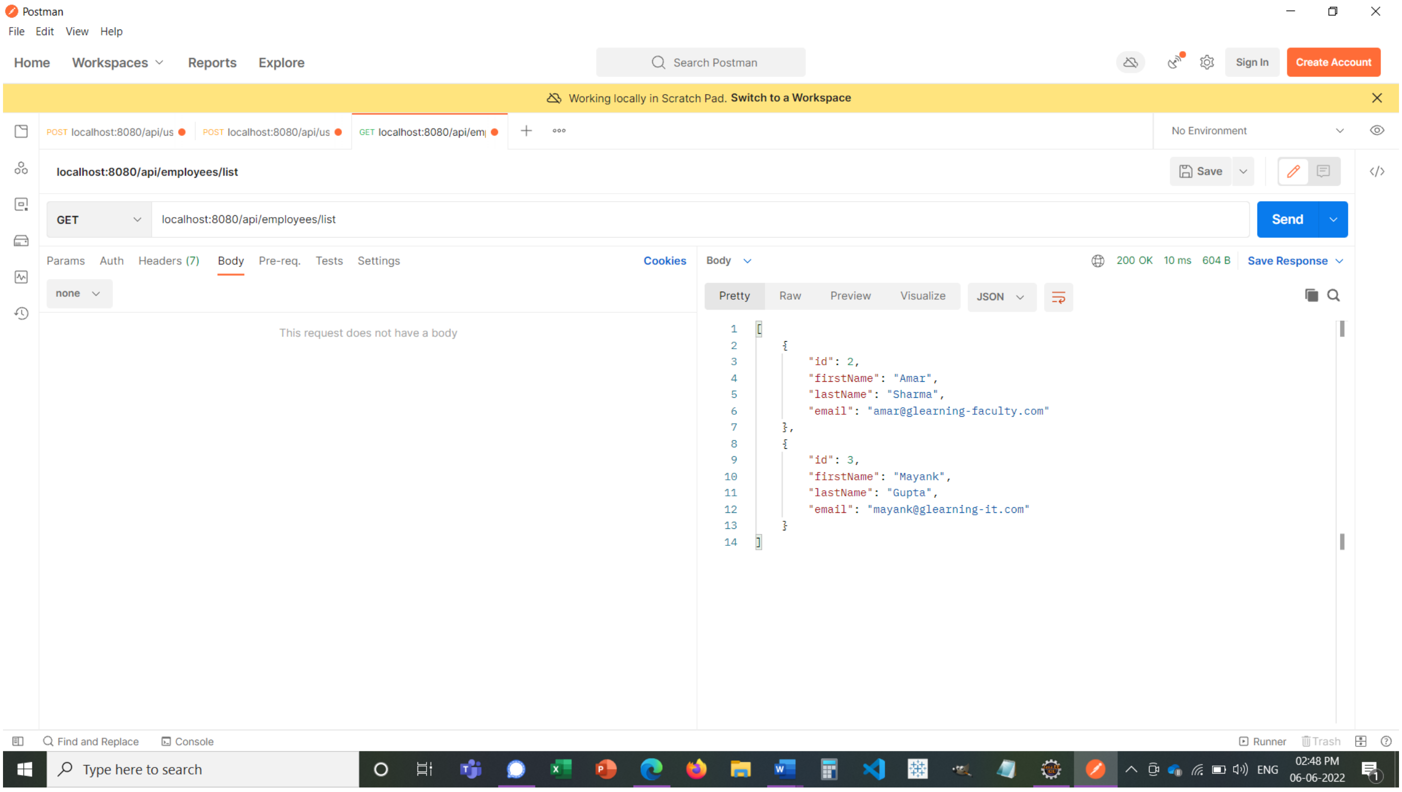

Postman
File Edit View Help
Home Workspaces Reports Explore
Search Postman
Sign In
Create Account
Working locally in Scratch Pad. Switch to a Workspace
POST localhost:8080/api/us
POST localhost:8080/api/us
DEL localhost:8080/api/em
No Environment
Save
Send
Params Auth Headers (7) Body Pre-req. Tests Settings
Cookies
none
This request does not have a body
Body
Pretty Raw Preview Visualize Text
Save Response
Find and Replace
Console
Runner
Trash
Type here to search
ENG
02:47 PM
06-06-2022

localhost:8080/api/employees/delete/1

DELETE localhost:8080/api/employees/delete/1

200 OK 55 ms 394 B

Admin to list all the employees to confirm the delete


Postman
File Edit View Help
Home Workspaces Reports Explore
Search Postman
Sign In
Create Account
Working locally in Scratch Pad. Switch to a Workspace
POST localhost:8080/api/us
POST localhost:8080/api/us
GET localhost:8080/api/em
No Environment
Save
Send
Params Auth Headers (7) Body Pre-req. Tests Settings
Cookies
none
Body
Pretty Raw Preview Visualize JSON
Save Response
Find and Replace
Console
Runner
Trash
Type here to search
ENG
02:48 PM
06-06-2022

localhost:8080/api/employees/list

GET localhost:8080/api/employees/list

This request does not have a body

200 OK 10 ms 604 B

```
[
    {
        "id": 2,
        "firstName": "Amar",
        "lastName": "Sharma",
        "email": "amar@glearning-faculty.com"
    },
    {
        "id": 3,
        "firstName": "Mayank",
        "lastName": "Gupta",
        "email": "mayank@glearning-it.com"
    }
]
```