

# Creating REST APIs in Java Exercise

---

In this exercise you are going to create REST APIs in Java that can be called externally.

You will use Postman to test your APIs.

You are given a DAO with a set of C.R.U.D. methods for accessing the database:

- `List<Puppy> getPuppies()` - Returns a List of Puppy objects, one object for each puppy in the database
- `Puppy getPuppy(int id)` - Returns a single Puppy object from the database with the `id` specified
- `void savePuppy(Puppy puppyToSave)` - Adds the Puppy object passed to the database
- `void removePuppy(int id)` - Deletes a single Puppy from the database based on the `id` it is passed

## Setup the database

1. Open a terminal session and navigate to the folder:

```
```~/workspace/yourname-java/module-4/13-Creating-  
APIs/java/database```
```

2. Run the command: `sh import-database.sh` This will create the database and table you need for the exercise as well as populate the table and display its contents.

## Exercise

- Complete the `PuppiesController` given to handle the following API requests:

```
GET - /api/allPuppies - return all Puppies in the database as an array of  
JSON objects
```

```
GET - /api/puppy/# - Returns the Puppy from the database whose id  
matches the # specified as a JSON object
```

```
POST - /api/newPuppy - Add a Puppy to the database using the Puppy  
information in the API request
```

```
DELETE - /api/removePuppy/# - Delete the Puppy from the database whose id  
matches the # specified
```

- Use Postman to execute HTTP requests to test your Controller.
- Consider completing and testing the `GET /allPuppies` feature first so you can use it to verify the `POST` and `DELETE` features are correct. i.e. Use `/allPuppies` to see that the Puppy you added is in the database and the one you delete is gone.

*Remember:*

- Data is sent to the API in the querystring of the URL for a GET
- Data is sent to the API in the body of a POST request
- Header entries may be required for some requests.