

# WEB APPLICATION DEVELOPMENT

## LAB 9: JPA

Name: Ung Huynh Phuc

ID: ITITIU21284

### Course

POST api/course: Create new course

```
POST localhost:8080/api/course

{
  "id": "IT900IU",
  "courseLevelId": 2,
  "name": "IT for Manager",
  "nameVN": "IT cho quản lý",
  "creditTheory": 3,
  "creditLab": 1,
  "description": "Infomation Technology"
}
```

```
{
  "responseCode": "002",
  "responseMessage": "Course has been successfully created",
  "courseInfo": {
    "id": "IT900IU",
    "courseLevelId": 2,
    "name": "IT for Manager",
    "nameVN": "IT cho quản lý",
    "creditTheory": 3,
    "creditLab": 1,
    "description": "Infomation Technology"
  }
}
```

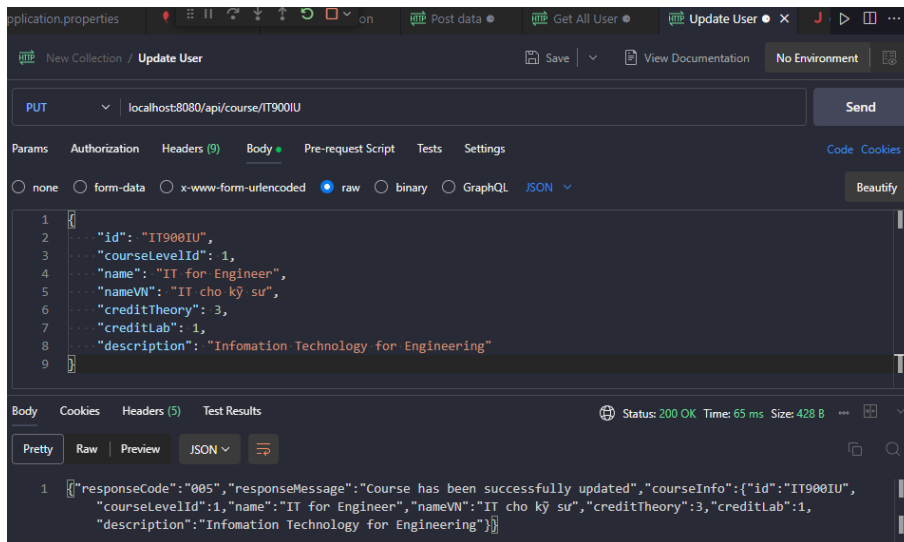
id	course_level_id	name	name_vn	credit_theory	credit_lab	description
IT544	2	Network Security	An toàn Mạng Máy tính	3	1	
IT545	2	Algorithm Optimization	Tối ưu hóa giải thuật	3	1	
IT561_1	2	Thesis (Research)	Luận văn tốt nghiệp	0	32	
IT561_2	2	Thesis (Course Work)	Luận văn tốt nghiệp	0	12	
IT900IU	2	IT for Manager	IT cho quản lý	3	1	Infomation Technolo
ITAI	1	Prerequisite course or AI		3	1	
ITCE1	1	Elective ITCE1	Tự chọn ITCE1	3	3	Elective course for I
ITCE2	1	Elective ITCE2	Tự chọn ITCE2	3	1	Elective course for I
ITCS1	1	Elective CS1	Tự chọn CS1	3	1	Elective course for C

GET api/courses: List all courses

```
GET localhost:8080/api/course

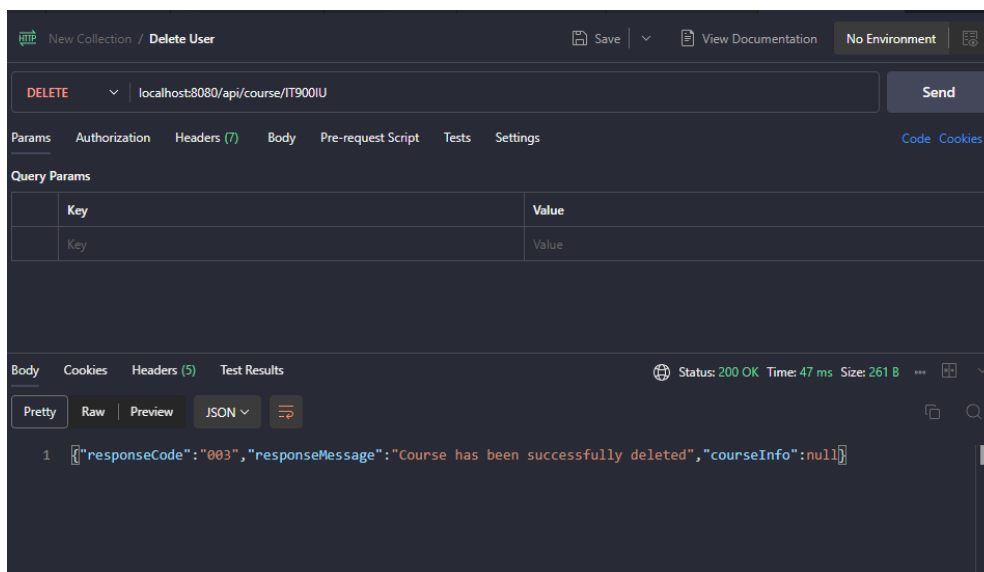
[
  {
    "id": "CH011",
    "courseLevelId": 1,
    "name": "Chemistry for Engineer",
    "nameVN": "Hoá học cho kĩ sư",
    "creditTheory": 3,
    "creditLab": 0,
    "description": "This one-semester course is designed for engineering students those who are pursuing a non- chemistry engineering degree such as information technology, bio-technology, civil, biomedical, electronic and telecommunication engineering. The course will introduce the basic principles of chemistry and connect those principles to issues in engineering professions. The related lab-work is not included in this course."
  },
  {
    "id": "CH012",
    "courseLevelId": 1,
    "name": "Chemistry Laboratory",
    "nameVN": "Thực hành hoá học",
    "creditTheory": 0,
    "creditLab": 1,
    "description": "This course is designed for non-chemistry majors, as it is intended for students pursuing a degree in information technology, electronic and telecommunication. The course introduces the lab-work with emphasis on techniques relevant to engineering in chemistry."
  },
  {
    "id": "EE050",
    "courseLevelId": 1,
    "name": "Introduction to Computer for Engineers",
    "nameVN": "Giới thiệu máy tính cho kỹ sư",
    "creditTheory": 3,
    "creditLab": 0,
    "description": "This course is an introduction to solving engineering problems through the use of the computer. It introduces general problem-solving techniques including the concepts of step-wise refinement applied to the development of"
  }
]
```

PUT api/course/{id}: update an existing course give course id



id	course_level_id	name	name_vn	credit_theory	credit_lab	description
IT544	2	Network Security	An toàn Mạng Máy tính	3	1	
IT545	2	Algorithm Optimization	Tối ưu hóa giải thuật	3	1	
IT561_1	2	Thesis (Research)	Luận văn tốt nghiệp	0	32	
IT561_2	2	Thesis (Course Work)	Luận văn tốt nghiệp	0	12	
IT900IU	1	IT for Engineer	IT cho kỹ sư	3	1	Information Technolo
ITAI	1	Prerequisite course of AI		3	1	
ITCE1	1	Elective ITCE1	Tự chọn ITCE1	3	1	Elective course for I

## DELETE api/course/{id}:delete an existing course



id	course_level_id	name	name_vn	credit_theory	credit_lab	description
IT544	2	Network Security	An toàn Mạng Máy tính	3	1	
IT545	2	Algorithm Optimization	Tối ưu hóa giải thuật	3	1	
IT561_1	2	Thesis (Research)	Luận văn tốt nghiệp	0	32	
IT561_2	2	Thesis (Course Work)	Luận văn tốt nghiệp	0	12	
ITAI	1	Prerequisite course of AI		3	1	
ITCE1	1	Elective ITCE1	Tự chọn ITCE1	3	1	Elective course for I
ITCE2	1	Elective ITCE2	Tự chọn ITCE2	3	1	Elective course for I
ITCS1	1	Elective CS1	Tự chọn CS1	3	1	Elective course for C
ITCS2	1	Elective CS2	Tự chọn CS2	3	1	Elective course for C
ITCS3	1	Elective CS3	Tự chọn CS3	3	1	Elective course for C

## Program

POST api/program: Create new program

GET api/program: List all program

PUT api/ program /{id}: update an existing program give course id

DELETE api/ program /{id}:delete an existing program

### **Course\_program**

POST api/course\_program: Create new course\_program

GET api/ course\_program: List all course\_program

PUT api/ course\_program /{course\_id}/{program\_id}: update an existing course\_program  
give {course\_id}/{program\_id}

DELETE api/ course\_program /{course\_id}/{program\_id }:delete an existing  
course\_program given {course\_id}/{program\_id}