

**LAPORAN JOBSHEET 8 PEMROGRAMAN WEB LANJUT**  
**Implementasi Restful API**  
**Mata Kuliah Pemrograman Web Lanjut**



Dibuat Oleh :

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**JURUSAN TEKNOLOGI INFORMASI,  
PRODI D-IV TEKNIK INFORMATIKA  
POLINEMA 2020/2021**

## Praktikum - Bagian1 : Instalasi library restful codeigniter

No	Laporan
1	<div><h3>REST Server Tests</h3><h4><a href="#">Home</a></h4><p>See the article <a href="http://net.tutsplus.com/tutorials/php/working-with-restful-services-in-codeigniter-2/">http://net.tutsplus.com/tutorials/php/working-with-restful-services-in-codeigniter-2/</a></p><p>The master project repository is <a href="https://github.com/chriskacerguis/codeigniter-restserver">https://github.com/chriskacerguis/codeigniter-restserver</a></p><p>Click on the links to check whether the REST server is working.</p><ol style="list-style-type: none"><li>1. <a href="#">Users</a> - defaulting to JSON</li><li>2. <a href="#">Users</a> - get it in CSV</li><li>3. <a href="#">User #1</a> - defaulting to JSON (users/id/1)</li><li>4. <a href="#">User #1</a> - defaulting to JSON (users/1)</li><li>5. <a href="#">User #1</a> - get it in XML (users/id/1.xml)</li><li>6. <a href="#">User #1</a> - get it in XML (users/id/1/format/xml)</li><li>7. <a href="#">User #1</a> - get it in XML (users/id/1?format=xml)</li><li>8. <a href="#">User #1</a> - get it in XML (users/1.xml)</li><li>9. <a href="#">Users</a> - get it in JSON (AJAX request)</li><li>10. <a href="#">Users</a> - get it in HTML (users.html)</li><li>11. <a href="#">Users</a> - get it in HTML (users/format/html)</li><li>12. <a href="#">Users</a> - get it in HTML (users?format=html)</li></ol></div>
2	<p>Mengganti Config pada base_url</p> <div><pre>\$config['base_url'] = 'http://localhost:8080/rest-server/';  /*  -----    Index File  -----     Typically this will be your index.php file, unless you've rena   something else. If you are using mod_rewrite to remove the pag   variable so that it is blank.    */ \$config['index_page'] = ' ';  /*</pre></div> <p>Mengganti Autoload pada helper dan libraries</p> <div><pre>\$autoload['libraries'] = array('database');  \$autoload['helper'] = array('url');</pre></div>

Mengganti class Database pada “database” menjadi rest-server

```
$db['default'] = array(  
    'dsn' => '',  
    'hostname' => 'localhost',  
    'username' => 'root',  
    'password' => '',  
    'database' => 'rest-server',  
    'dbdriver' => 'mysqli',  
    'dbprefix' => '',  
);
```

- 3 Selanjutnya membuat database **rest\_server** pada phpmyadmin dan memasukkan data dummy. Untuk data dummy dapat dibuat sebagai berikut:















```
CREATE TABLE `mahasiswa` (  
  `id` int(11) NOT NULL,  
  `nrp` char(9) NOT NULL,  
  `nama` varchar(250) NOT NULL,  
  `email` varchar(250) DEFAULT NULL,  
  `jurusan` varchar(64) NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=latin1;  
  
INSERT INTO `mahasiswa` (`id`, `nrp`, `nama`, `email`, `jurusan`) VALUES  
(1, '043040001', 'Doddy Ferdiansyah', 'doy@gmail.com', 'Teknik Mesin'),  
(2, '023040123', 'Erik', 'erik@gmail.com', 'Teknik Industri'),  
(3, '043040321', 'Rommy Fauzi', 'rommy@gmail.com', 'Teknik Planologi'),  
(4, '033040023', 'Fajar Darmawan ', 'fajar@yahoo.com', 'Teknik Informa  
tika'),  
(5, '113040321', 'Ferry Mulyanto', 'ferry@yahoo.com', 'Manajemen');  
  
ALTER TABLE `mahasiswa`  
  ADD PRIMARY KEY (`id`);  
  
ALTER TABLE `mahasiswa`  
  MODIFY `id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=33;
```

+ Options














				id	nrp	nama	email	jurusan
<input type="checkbox"/>	Edit	Copy	Delete	1	043040001	Doddy Ferdiansyah	doy@gmail.com	Teknik Mesin
<input type="checkbox"/>	Edit	Copy	Delete	2	023040123	Erik	erik@gmail.com	Teknik Industri
<input type="checkbox"/>	Edit	Copy	Delete	3	043040321	Romy Fauzi	rommy@gmail.com	Teknik Planologi
<input type="checkbox"/>	Edit	Copy	Delete	4	033040023	Fajar Darmawan	fajar@yahoo.com	Teknik Informatika
<input type="checkbox"/>	Edit	Copy	Delete	5	113040321	Ferry Mulyanto	ferry@yahoo.com	Manajemen
<input type="checkbox"/>	Edit	Copy	Delete	34	040307002	Joko Anwar	jk_anwar@gmail.com	Teknik Industri

4

Before :

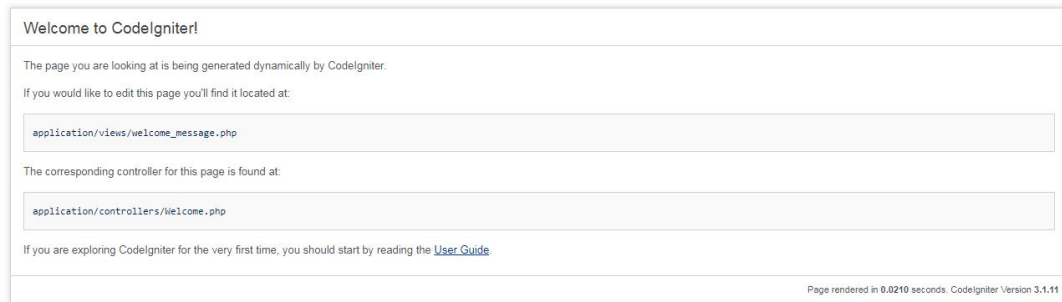
	cache	9/19/2019 7:08 PM	File folder
	config	9/19/2019 7:08 PM	File folder
	controllers	9/19/2019 7:08 PM	File folder
	core	9/19/2019 7:08 PM	File folder
	helpers	9/19/2019 7:08 PM	File folder
	hooks	9/19/2019 7:08 PM	File folder
	language	9/19/2019 7:08 PM	File folder
	libraries	9/19/2019 7:08 PM	File folder
	logs	9/19/2019 7:08 PM	File folder
	models	9/19/2019 7:08 PM	File folder
	third_party	9/19/2019 7:08 PM	File folder
	views	9/19/2019 7:08 PM	File folder
	.htaccess	9/19/2019 7:08 PM	HTACCESS File
	index.html	9/19/2019 7:08 PM	Chrome HTML Do...

After :

	cache	9/19/2019 7:08 PM	File folder	
	config	3/23/2020 8:31 AM	File folder	
	controllers	3/23/2020 8:31 AM	File folder	
	core	3/23/2020 8:31 AM	File folder	
	helpers	3/23/2020 8:31 AM	File folder	
	hooks	3/23/2020 8:31 AM	File folder	
	language	3/23/2020 8:31 AM	File folder	
	libraries	3/23/2020 8:31 AM	File folder	
	logs	3/23/2020 8:31 AM	File folder	
	models	3/23/2020 8:31 AM	File folder	
	tests	3/23/2020 8:31 AM	File folder	
	third_party	3/23/2020 8:31 AM	File folder	
	views	3/23/2020 4:06 PM	File folder	
	.htaccess	9/19/2019 7:08 PM	HTACCESS File	1 KB
	index.html	3/23/2020 8:31 AM	Chrome HTML Do...	1 KB

5

Selanjutnya buka project [http://localhost:8080/Web\\_Lanjut/Jobsheet8/](http://localhost:8080/Web_Lanjut/Jobsheet8/). Jika berhasil, tampilan akan berubah menjadi seperti ini:



## Praktikum - Bagian 2 : Membuat Aplikasi CRUD Restful Codeigniter

No	Laporan
1	<p>Membuat file <b>Mahasiswa.php</b> pada <b>controller/api</b>. Selanjutnya tulis kode berikut:</p> <pre>application &gt; controllers &gt; api &gt; 📄 Mahasiswa.php 1  &lt;?php 2 3      defined('BASEPATH') OR exit('No direct script access allowed'); 4 5      require APPPATH . 'libraries/REST_Controller.php'; 6      require APPPATH . 'libraries/format.php'; 7 8      class Mahasiswa extends REST_Controller { 9 10         public function __construct(){ 11             parent::__construct(); 12             \$this-&gt;load-&gt;model('Mahasiswa_model','mahasiswa'); 13         } 14 15         public function index_get() 16         { 17             \$id = \$this-&gt;get('id'); 18             if(\$id === null){ 19                 \$mahasiswa = \$this-&gt;mahasiswa-&gt;getMahasiswa(); 20             }else{ 21                 \$mahasiswa = \$this-&gt;mahasiswa-&gt;getMahasiswa(\$id); 22             } 23 24             if(\$mahasiswa){ 25                 \$this-&gt;response([ 26                     'status' =&gt; true, 27                     'data' =&gt; \$mahasiswa 28                 ],REST_Controller::HTTP_OK); 29             }else{ 30                 \$this-&gt;response([ 31                     'status' =&gt; false, 32                     'message' =&gt; 'id not found' 33                 ], REST_Controller::HTTP_NOT_FOUND); 34             } 35         } 36     } 37 38     /* End of file Mahasiswa.php */ 39 40  ?&gt;</pre>



2

Selanjutnya Membuat file **Mahasiswa\_model.php** pada model. Selanjutnya tulis kode berikut:

```
application > models > Mahasiswa_model.php
1  <?php
2
3      defined('BASEPATH') OR exit('No direct script access allowed');
4
5      class Mahasiswa_model extends CI_Model {
6
7          public function getMahasiswa($id = null){
8              if($id === null){
9                  return $this->db->get('mahasiswa')->result_array();
10             }else{
11                 return $this->db->get_where('mahasiswa', ['id' => $id])->result_array();
12             }
13         }
14     }
15
16     /* End of file Mahasiswa_model.php */
17
18     ?>
```

3

GET

Pretty Raw Preview Visualize JSON

```

1  {
2      "status": true,
3      "data": [
4          {
5              "id": "1",
6              "nrp": "043040001",
7              "nama": "Doddy Ferdiansyah",
8              "email": "doy@gmail.com",
9              "jurusan": "Teknik Mesin"
10         },
11         {
12             "id": "2",
13             "nrp": "023040123",
14             "nama": "Erik",
15             "email": "erik@gmail.com",
16             "jurusan": "Teknik Industri"
17         },
18         {
19             "id": "3",
20             "nrp": "043040321",
21             "nama": "Rommy Fauzi",
22             "email": "rommy@gmail.com",
23             "jurusan": "Teknik Planologi"
24         },
25         {
26             "id": "4",

```

#### 4 Mencari data mahasiswa berdasarkan id

Query Params

KEY	VALUE
<input checked="" type="checkbox"/> id	2
Key	Value

Body Cookies Headers (7) Test Results Status: 200 O

Pretty Raw Preview Visualize JSON ↗

```
1 {
2   "status": true,
3   "data": [
4     {
5       "id": "2",
6       "nrp": "023040123",
7       "nama": "Erik",
8       "email": "erik@gmail.com",
9       "jurusan": "Teknik Industri"
10    }
11  ]
12 }
```

#### 5 Membuat function Delet, Update, dan Create

##### Delete:

```
// DELETE
function index_delete() {
    $id = $this->delete('id');
    if ($id === null) {
        $this->response([
            'status' => false,
            'message' => 'provide an id'
        ], REST_Controller::HTTP_BAD_REQUEST);
    } else {
        if ($this->mahasiswa->deleteMahasiswa($id) > 0) {
            $this->response([
                'status' => true,
                'id' => $id,
                'message' => 'deleted'
            ], REST_Controller::HTTP_OK);
        } else {
            $this->response([
                'status' => false,
                'message' => 'id not found!'
            ], REST_Controller::HTTP_BAD_REQUEST);
        }
    }
}
```



### Update:

```
62 // POST
63 public function index_post(){
64     $data = [
65         'nrp' => $this->post('nrp'),
66         'nama' => $this->post('nama'),
67         'email' => $this->post('email'),
68         'jurusan' => $this->post('jurusan'),
69     ];
70
71     if ($this->mahasiswa->createMahasiswa($data) > 0) {
72         $this->response([
73             'status' => true,
74             'message' => 'new mahasiswa has been created'
75         ], REST_Controller::HTTP_CREATED);
76     } else {
77         $this->response([
78             'status' => false,
79             'message' => 'failed to create new data'
80         ], REST_Controller::HTTP_BAD_REQUEST);
81     }
82 }
```

### Create:

```
// PUT
public function index_put(){
    $id = $this->put('id');
    $data = [
        'nrp' => $this->put('nrp'),
        'nama' => $this->put('nama'),
        'email' => $this->put('email'),
        'jurusan' => $this->put('jurusan'),
    ];
    if ($this->mahasiswa->updateMahasiswa($data, $id) > 0) {
        $this->response([
            'status' => true,
            'message' => 'new mahasiswa has been updated'
        ], REST_Controller::HTTP_OK);
    } else {
        $this->response([
            'status' => false,
            'message' => 'failed to update data'
        ], REST_Controller::HTTP_BAD_REQUEST);
    }
}
```

6

Membuat model Create, Delete, Update pada Mahasiswa\_model

```

public function deleteMahasiswa($id){
    $this->db->delete('mahasiswa', ['id' => $id]);
    return $this->db->affected_rows();
}

public function createMahasiswa($data){
    $this->db->insert('mahasiswa', $data);
    return $this->db->affected_rows();
}

public function updateMahasiswa($data, $id){
    $this->db->update('mahasiswa', $data, ['id' => $id]);
    return $this->db->affected_rows();
}

```

7

CREATE

Params Authorization Headers (9) **Body** Pre-request Script Tests Settings

☐ none ☐ form-data ☒ x-www-form-urlencoded ☐ raw ☐ binary ☐ GraphQL

	KEY	VALUE
<input checked="" type="checkbox"/>	nrp	0403070028
<input checked="" type="checkbox"/>	nama	Joko Anwar
<input checked="" type="checkbox"/>	email	jk_anwar@gmail.com
<input checked="" type="checkbox"/>	jurusan	Teknik Kimia
	Key	Value

Body Cookies Headers (7) Test Results

Pretty

Raw

Preview

Visualize

JSON



```

1 {
2   "status": true,
3   "message": "new mahasiswa has been created"
4 }

```


8

UPDATE : data jurusan diganti dari JURUSAN TEKNIK INFORMATIKA menjadi JURUSAN TEKNIK KIMIA

PUT ▼ http://localhost:8080/code-kedelapan/api/Mahasiswa

<input checked="" type="checkbox"/>	nama	joko anwar
<input checked="" type="checkbox"/>	email	jk_anwar@gmail.com
<input checked="" type="checkbox"/>	jurusan	Teknik Industri
<input checked="" type="checkbox"/>	id	34
	Key	Value

Body Cookies Headers (7) Test Results

Pretty Raw Preview Visualize JSON ▼ 

```

1  {
2    "status": true,
3    "message": "new mahasiswa has been updated"
4  }
  
```


9

DELETE

DELETE ▼ http://localhost:8080/code-kedelapan/api/Mahasiswa

<input checked="" type="checkbox"/>	id	33
	Key	Value

Body Cookies Headers (7) Test Results

Pretty Raw Preview Visualize JSON ▼ 

```

1  {
2    "status": true,
3    "id": "33",
4    "message": "deleted"
5  }
  
```