

CodeIgniter REST API - CRUD

Nurul Anisa Sri Winarsih dan Muhammad Syaifur Rohman





CodeIgniter

CodeIgniter REST API CRUD

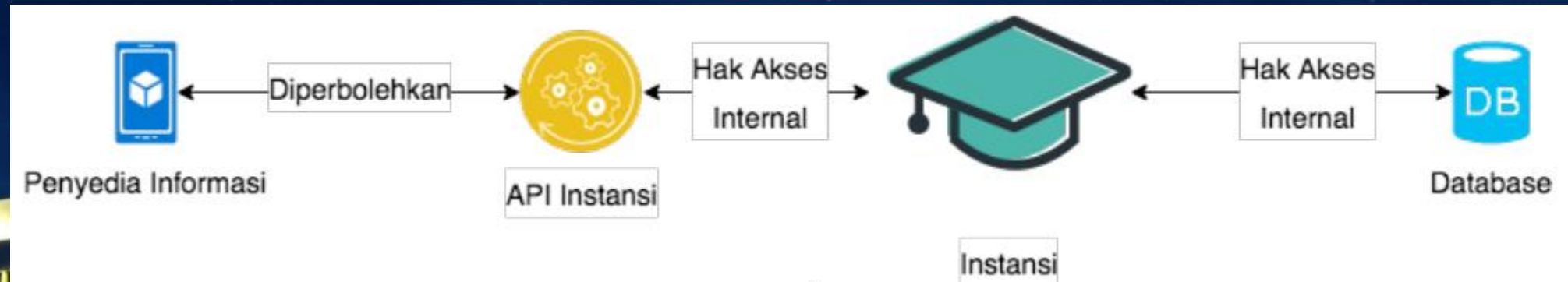
REST API

- **REST (REpresentational State Transfer)** merupakan suatu standar komunikasi protocol yang digunakan untuk pertukaran data dan informasi.
- Umumnya REST digunakan dalam pengembangan Website. Bentuknya nanti data akan disajikan dalam bentuk yang berbeda dengan nama **JSON**.
- Contoh kasus yang pernah ditemui adalah jika ada suatu layanan informasi membutuhkan data penting maka yang perlu dipertimbangkan adalah meminta data tersebut ke narasumber (**resource**). Sayangnya walaupun sebagai narasumber bisa memberikan informasi, instansi tersebut tidak serta merta bisa memberikan hak ases ke databasenya karena masalah keamanan (lihat ilustrasi).



REST API

- Untuk menghindari hal itu metode **REST api** bisa diterapkan. Dengan adanya api informasi bisa disajikan tanpa harus memberikan hak akses kedalam sistemnya (lihat ilustrasi)
- Arsitektur REST membutuhkan **Server** dan **Client**, dimana **Server** akan bertindak sebagai penyedia data dan informasi dan **Client** akan bertindak sebagai pengelola atau penerimanya:



REST API

Keuntungan

- Lebih sederhana/simpel untuk dikembangkan ketimbang protocol lainnya
- Mudah dipelajari, tidak bergantung pada tools
- Ringkas, tidak membutuhkan layer pertukaran pesan (messaging) tambahan
- Secara desain dan filosofi lebih dekat dengan web

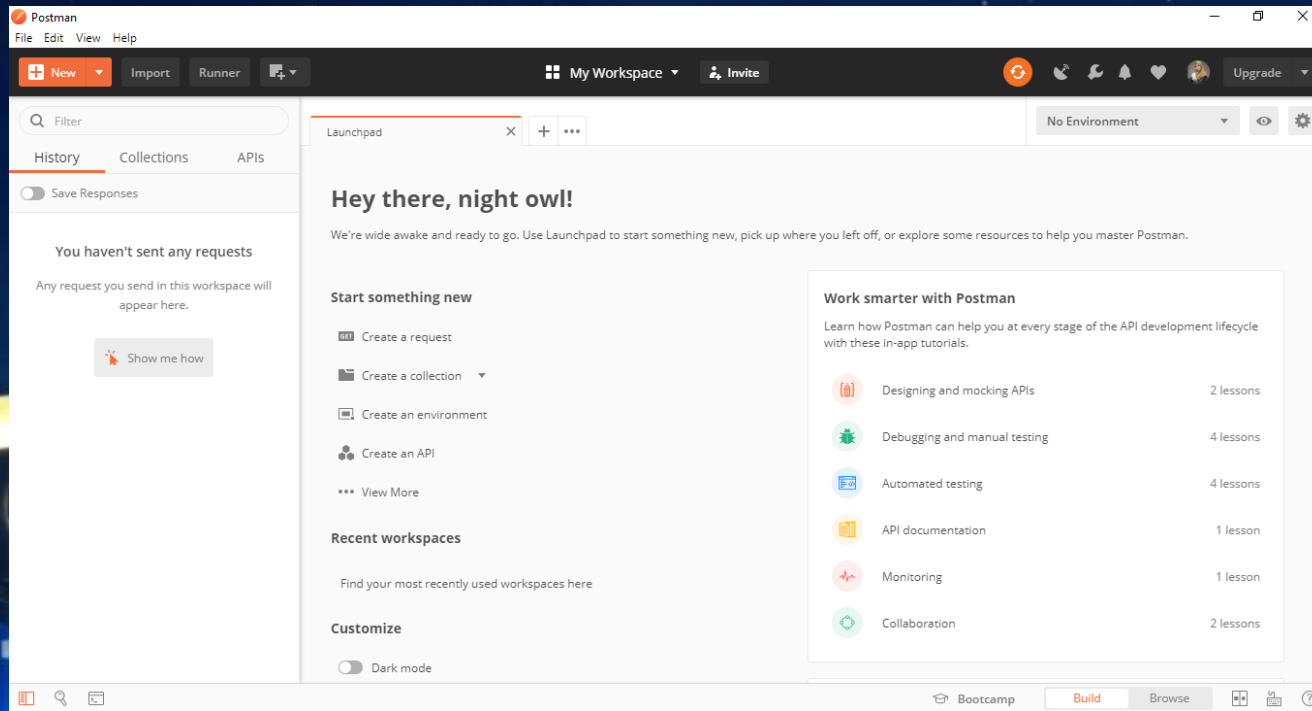
Kelemahan

- Mengasumsi model point-to-point komunikasi - tidak dapat digunakan untuk lingkungan komputasi terdistribusi di mana pesan akan melalui satu atau lebih Perantara
- Kurangnya dukungan standar untuk keamanan, kebijakan, keandalan pesan, dll, sehingga layanan yang mempunyai persyaratan lebih canggih lebih sulit untuk dikembangkan ("dipecahkan sendiri")
- Berkaitan dengan model transport HTTP



Postman

- Karena pada dasarnya kita akan membangun sebuah **API** maka kali ini akan digunakan aplikasi testing API dengan Postman.
- Download <https://www.postman.com/downloads/>



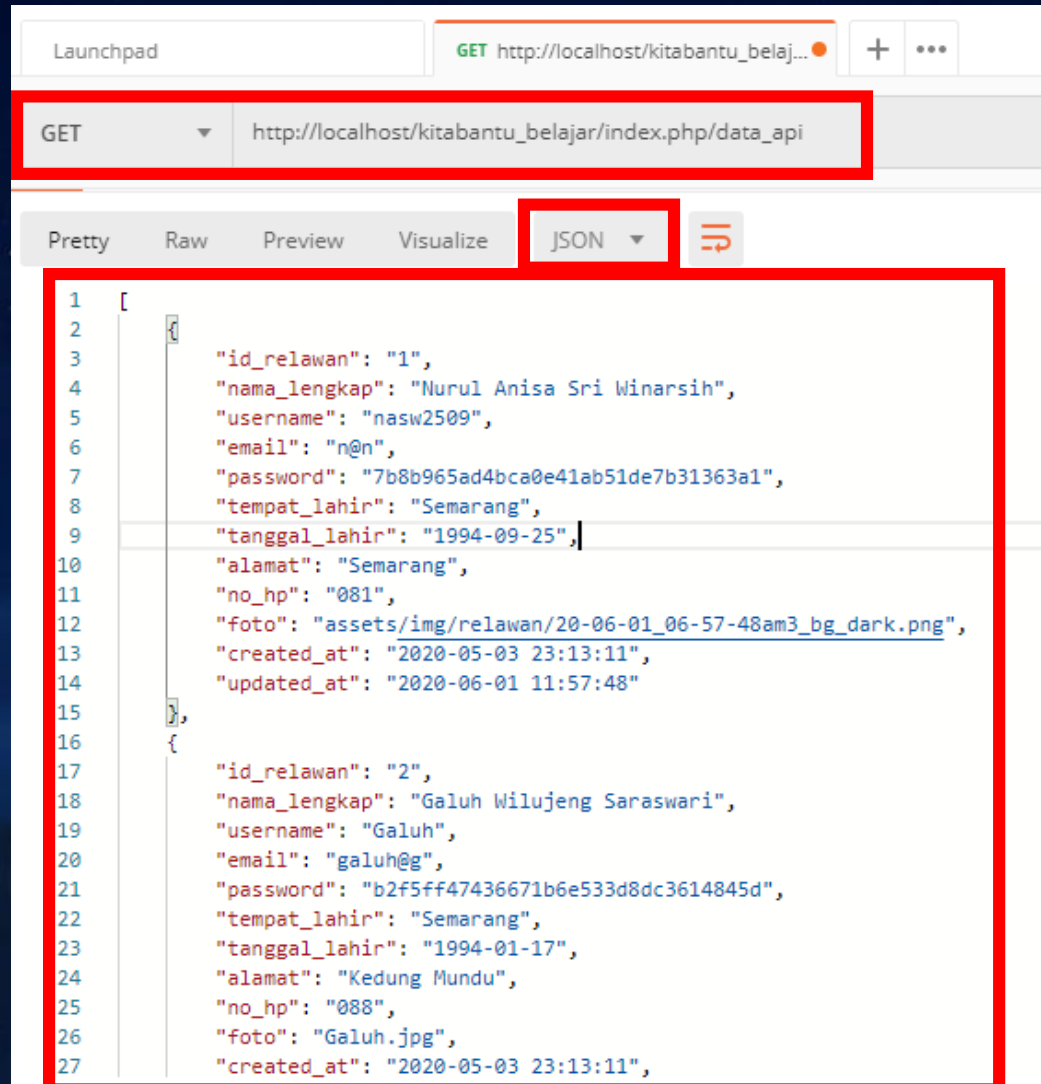
- Buka VS Code, open folder kitabantu
- Buat file Data_api.php di Controller

READ

application > controllers > Data_api.php

```
1  <?php
2  defined('BASEPATH') OR exit('No direct script access allowed');
3
4  class Data_api extends CI_Controller {
5      function __construct(){
6          //pasti akan dijalankan ketika controller dipanggil
7          parent::__construct();
8          $this->load->model('mymodel');
9      }
10
11     function index(){
12         //menampilkan data relawan
13         $relawan = $this->mymodel->Get('relawan'); //dari mymodel
14         // $relawan = $this->db->query("SELECT username, email FROM relawan")->result();
15         echo json_encode($relawan);
16     }
17 }
18 ?>
```

Hasil READ di Postman

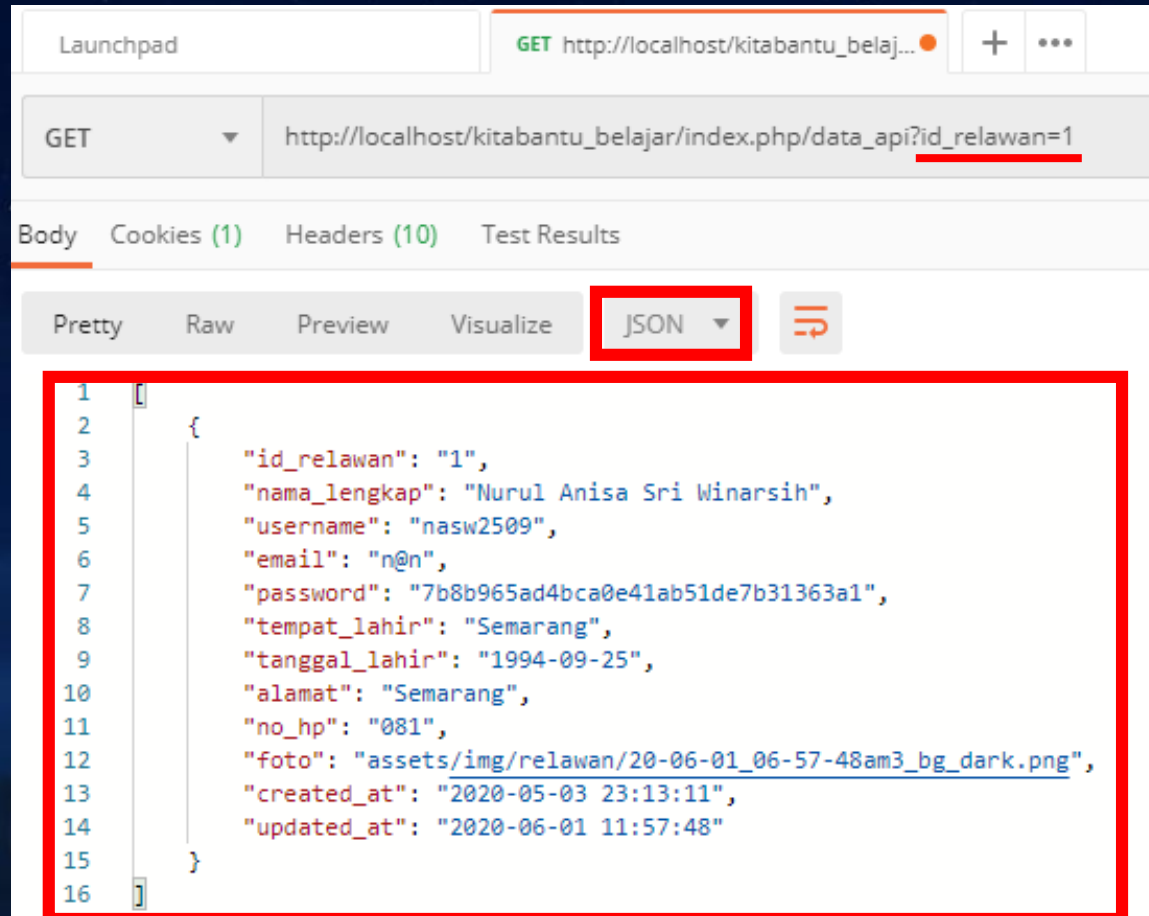


READ dengan WHERE

- Tambahkan pada Controller Data_api.php function index

```
11 function index(){
12     //menampilkan data relawan
13     // $relawan = $this->mymodel->Get('relawan'); //dari mymodel
14     // $relawan = $this->db->query("SELECT username, email FROM relawan")->result();
15
16     $id_relawan = $this->input->get('id_relawan');
17     if($id_relawan == ''){
18         $relawan = $this->mymodel->Get('relawan');
19     }else{
20         $relawan = $this->mymodel->GetWhere('relawan', array('id_relawan'=>$id_relawan));
21     }
22     echo json_encode($relawan);
23 }
```

Hasil READ dengan WHERE di Postman

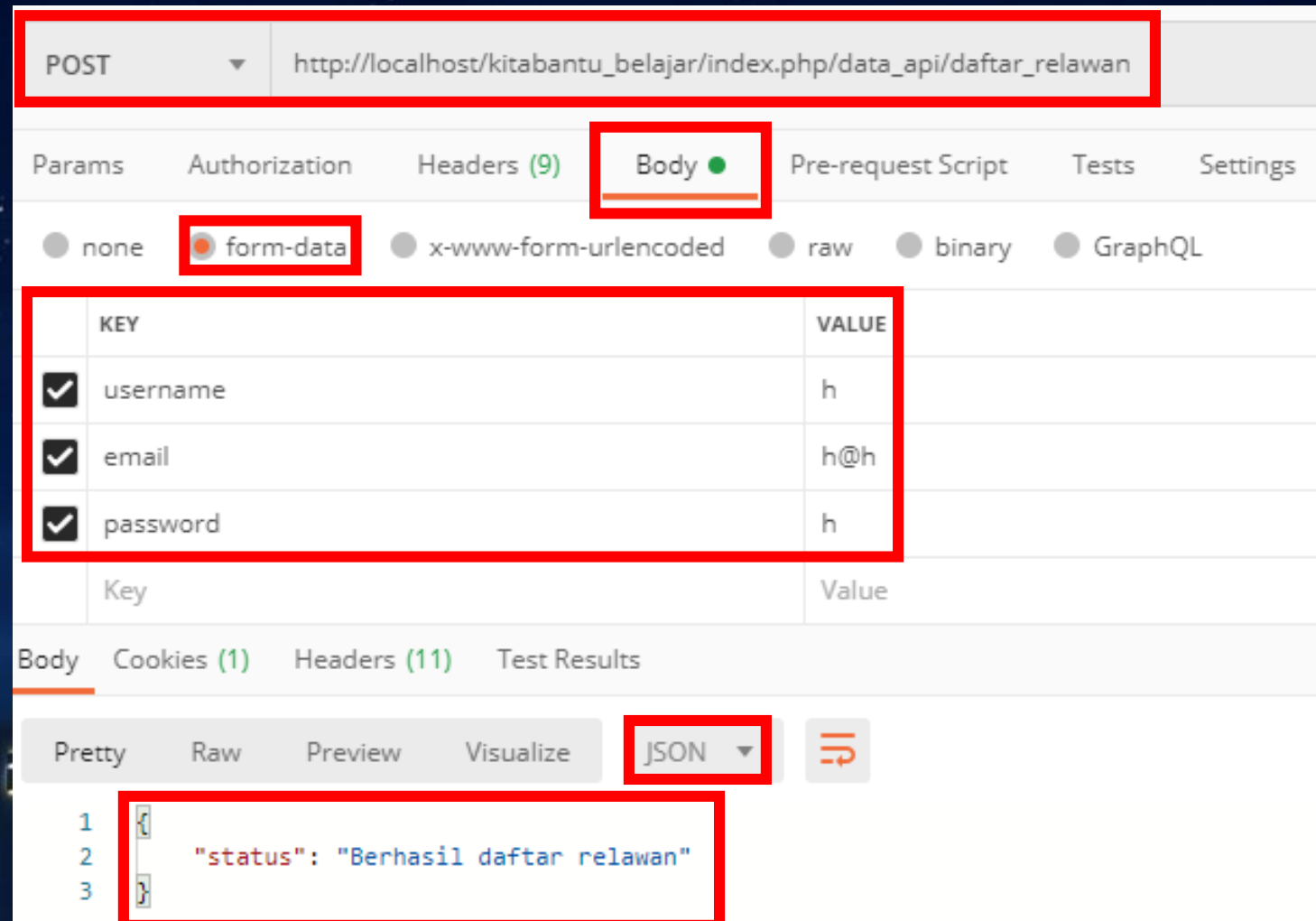


CREATE

application > controllers > Data_api.php

```
23     }
24     function daftar_relawan(){
25         $data = array(
26             'username' => $this->input->post('username'),
27             'email' => $this->input->post('email'),
28             'password' => md5($this->input->post('password'))
29         );
30         $query = $this->mymodel->Insert('relawan', $data);
31
32         if($query){
33             $hasil = array('status'=>'Berhasil daftar relawan');
34             echo json_encode($hasil);
35         }else{
36             $hasil = array('status'=>'Gagal daftar relawan');
37             echo json_encode($hasil);
38         }
39     }
40 }
41 ?>
```


Hasil CREATE di Postman



Database setelah CREATE

← T →		id_relawan	nama_lengkap	username	email	password	tempat_lahir
<input type="checkbox"/>	Edit Copy Delete	1	Nurul Anisa Sri Winarsih	nasw2509	n@n	7b8b965ad4bca0e41ab51de7b31363a1	Semarang
<input type="checkbox"/>	Edit Copy Delete	2	Galuh Wilujeng Saraswari	Galuh	galuh@g	b2f5ff47436671b6e533d8dc3614845d	Semarang
<input type="checkbox"/>	Edit Copy Delete	4		b	b@gmail.com	92eb5ffee6ae2fec3ad71c777531578f	
<input type="checkbox"/>	Edit Copy Delete	5		cc	c@c	4a8a08f09d37b73795649038408b5f33	
<input type="checkbox"/>	Edit Copy Delete	9		a	a@a	0cc175b9c0f1b6a831c399e269772661	
<input type="checkbox"/>	Edit Copy Delete	10		ddd	d@d	8277e0910d750195b448797616e091ad	
<input type="checkbox"/>	Edit Copy Delete	11		eeee	e@e	e1671797c52e15f763380b45e841ec32	
<input type="checkbox"/>	Edit Copy Delete	12		g	g@g	b2f5ff47436671b6e533d8dc3614845d	
<input type="checkbox"/>	Edit Copy Delete	16		h	h@h	2510c39011c5be704182423e3a695e91	

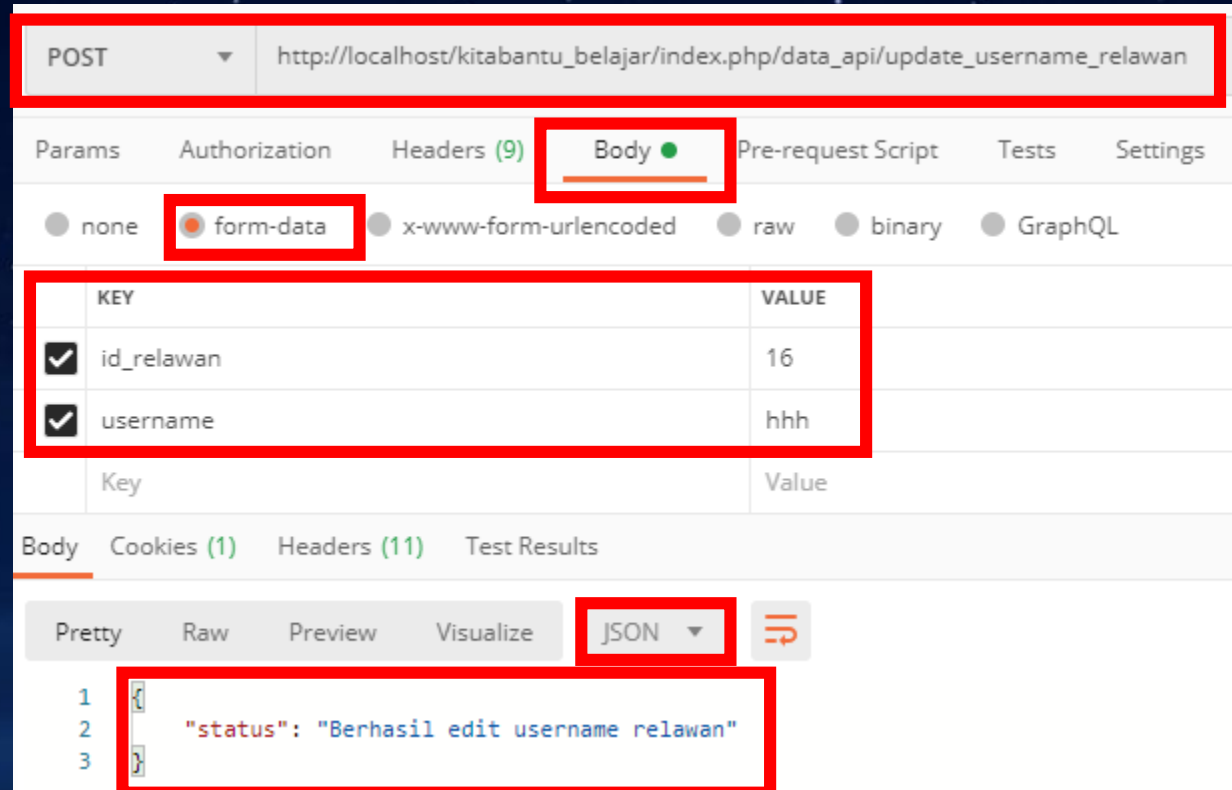
UDINUS

UPDATE

application > controllers > Data_api.php

```
39     }
40     function update_username_relawan(){
41         $where = array(
42             'id_relawan' => $this->input->post('id_relawan')
43         );
44         $data = array(
45             'username' => $this->input->post('username')
46         );
47         $query = $this->mymodel->Update('relawan', $data, $where);
48
49         if($query){
50             $hasil = array('status'=>'Berhasil edit username relawan');
51             echo json_encode($hasil);
52         }else{
53             $hasil = array('status'=>'Gagal edit username relawan');
54             echo json_encode($hasil);
55         }
56     }
57 }
58 ?>
```


Hasil UPDATE di Postman



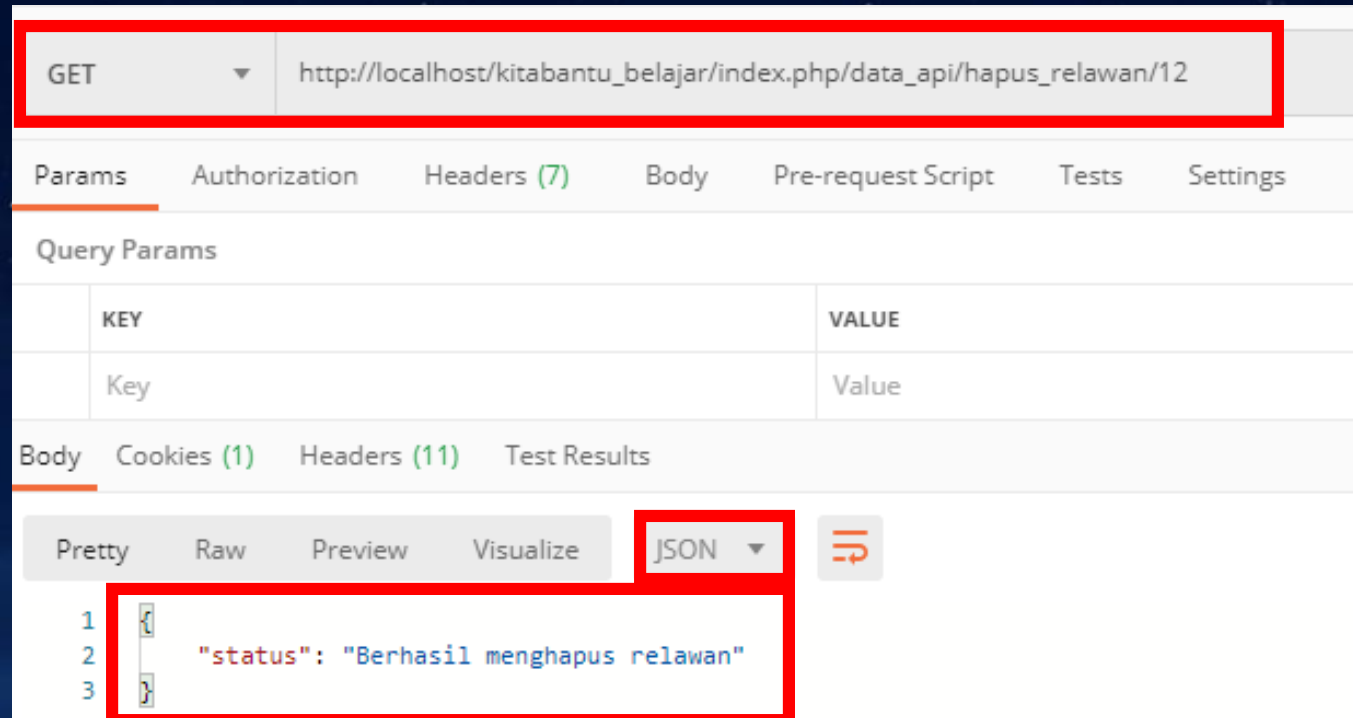
	id_relawan	nama_lengkap	username	email	password	tempat_lahir
<input type="checkbox"/> Edit Copy Delete	11		eeee	e@e	e1671797c52e15f763380b45e841ec32	
<input type="checkbox"/> Edit Copy Delete	12		g	g@g	b2f5ff47436671b6e533d8dc3614845d	
<input type="checkbox"/> Edit Copy Delete	16		hhh	h@h	2510c39011c5be704182423e3a695e91	

DELETE

application > controllers > Data_api.php

```
56     }  
57     public function hapus_relawan($id_relawan){  
58         $id_relawan = array(  
59             'id_relawan' => $id_relawan  
60         );  
61         $query = $this->mymodel->Delete('relawan', $id_relawan);  
62         if($query){  
63             $hasil = array('status'=>'Berhasil menghapus relawan');  
64             echo json_encode($hasil);  
65         }else{  
66             $hasil = array('status'=>'Gagal menghapus relawan');  
67             echo json_encode($hasil);  
68         }  
69     }  
70 }  
71 ?>
```

Hasil DELETE di Postman



	id_relawan	nama_lengkap	username	email	password	tempat_lahir
<input type="checkbox"/> Edit Copy Delete	10	ddd	ddd	d@d	8277e0910d750195b448797616e091ad	
<input type="checkbox"/> Edit Copy Delete	11	eeee	eeee	e@e	e1671797c52e15f763380b45e841ec32	
<input type="checkbox"/> Edit Copy Delete	16	hhh	hhh	h@h	2510c39011c5be704182423e3a695e91	

CodeIgniter Hosting Gratis

Nurul Anisa Sri Winarsih



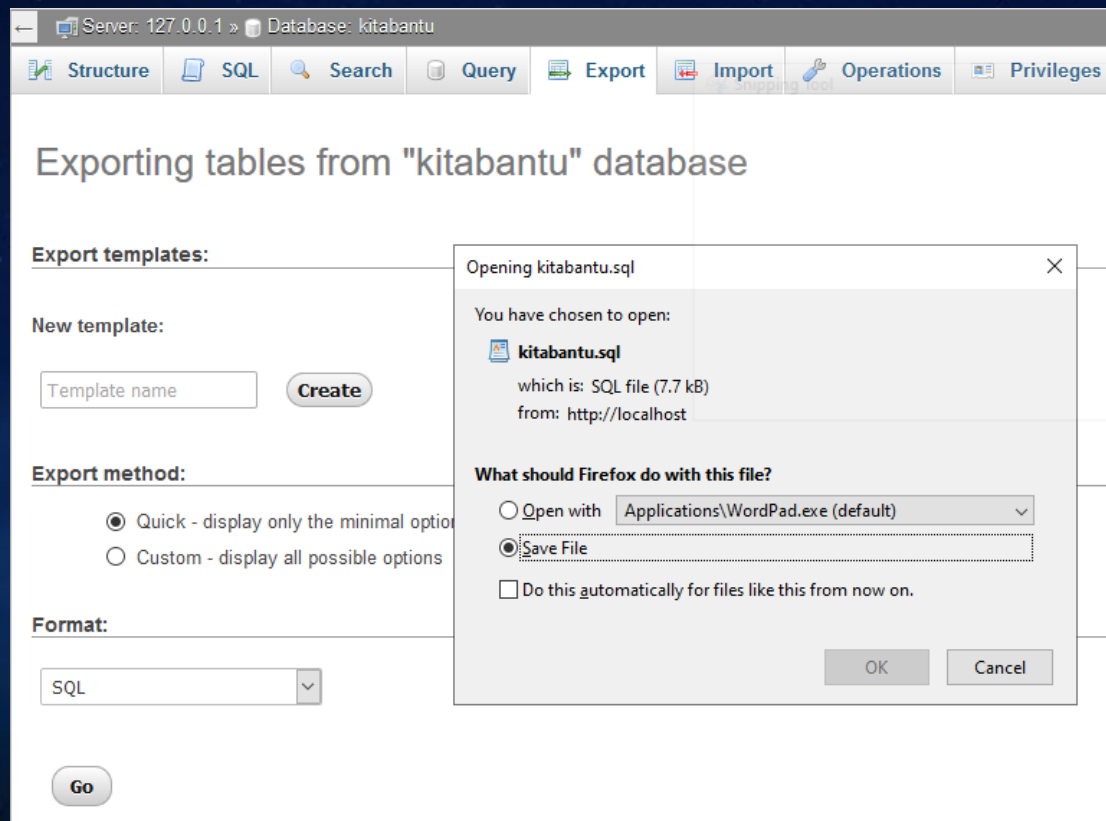


CodeIgniter Hosting Gratis

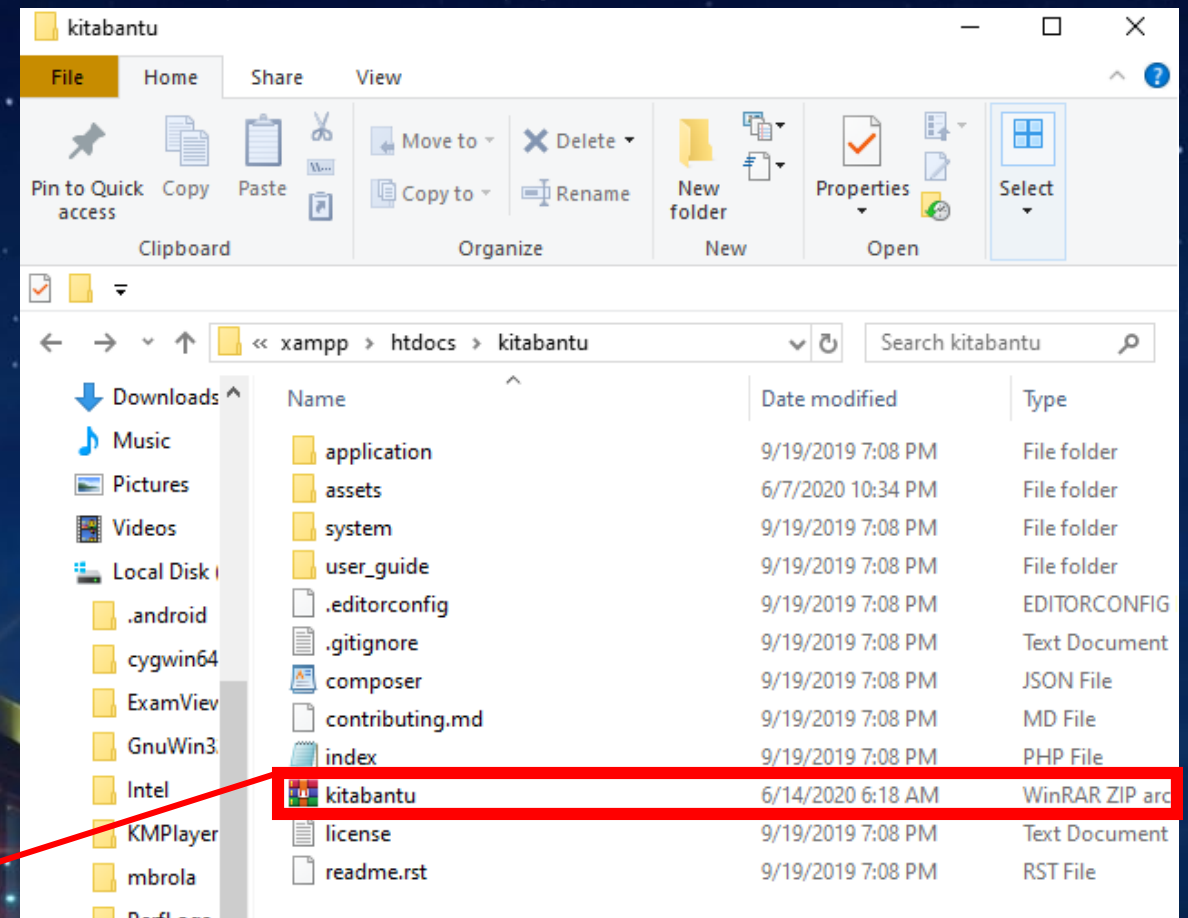
www.000webhostapp.com

Persiapan

Export Database dari PhpMyAdmin



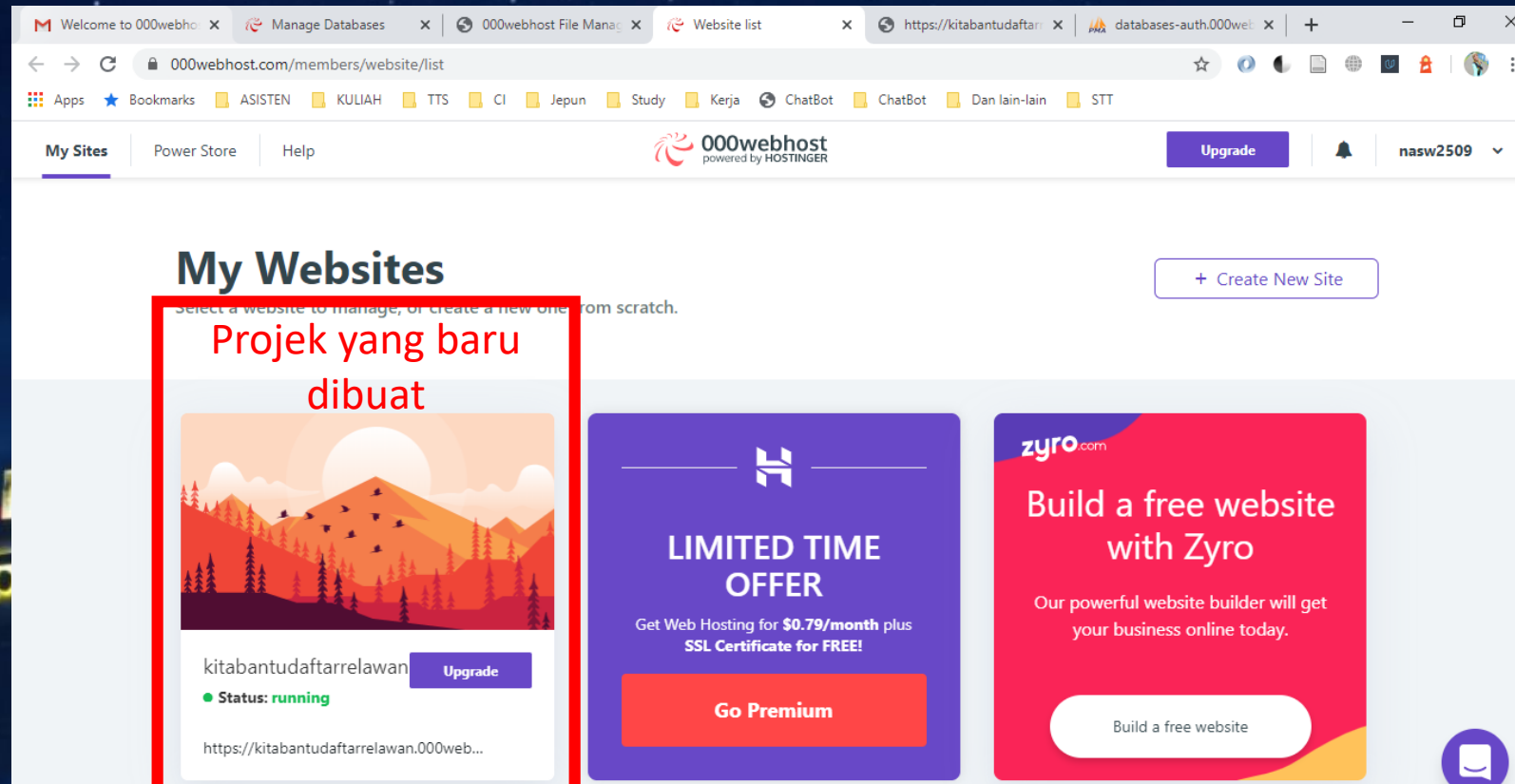
Zip semua yg ada di kitabantu



Hasil zip

www.000webhostapp.com

- Daftar dan login di www.000webhostapp.com
- Buat proyek, lalu masuk dalam website tersebut



Dashboard Proyek

The screenshot shows the 000webhost dashboard in a web browser. The browser's address bar displays the URL `000webhost.com/members/website/kitabantudaftarrelawan/build`. The dashboard header includes navigation links for 'My Sites', 'Power Store', and 'Help', the 000webhost logo (powered by HOSTINGER), an 'Upgrade' button, a notification bell, and the user's account name 'nasw2509'. A left sidebar menu for 'kitabantudaftarrelawan' lists 'Build a Website' (active), 'Tools', 'Website Settings', and 'Community Help'. The main content area, titled 'All websites > Kitabantudaftarrelawan', features three cards: 'zyro' (Build a free website with Zyro), 'WordPress' (Create powerful & beautiful website using WordPress), and 'File Manager' (Upload your own prebuilt website. For Advanced users.). The 'File Manager' card is highlighted with a red border and includes the instruction 'Klik untuk upload kodingan' in red text above it. Each card has a corresponding action button: 'Build a free website', 'Install >', and 'Upload >'.

Welcome to 000webhost! - nasw2509 x Build a Website x 000webhost File Manager x +

000webhost.com/members/website/kitabantudaftarrelawan/build

Apps Bookmarks ASISTEN KULIAH TTS CI Jepun Study Kerja ChatBot ChatBot Dan lain-lain STT

My Sites Power Store Help 000webhost powered by HOSTINGER Upgrade nasw2509

All websites > Kitabantudaftarrelawan

kitabantudaftarrelawan
Current site | Free

Build a Website

Tools >

Website Settings >

Community Help >

zyro
Build a free website with Zyro
Our powerful website builder will get your business online today.
Build a free website

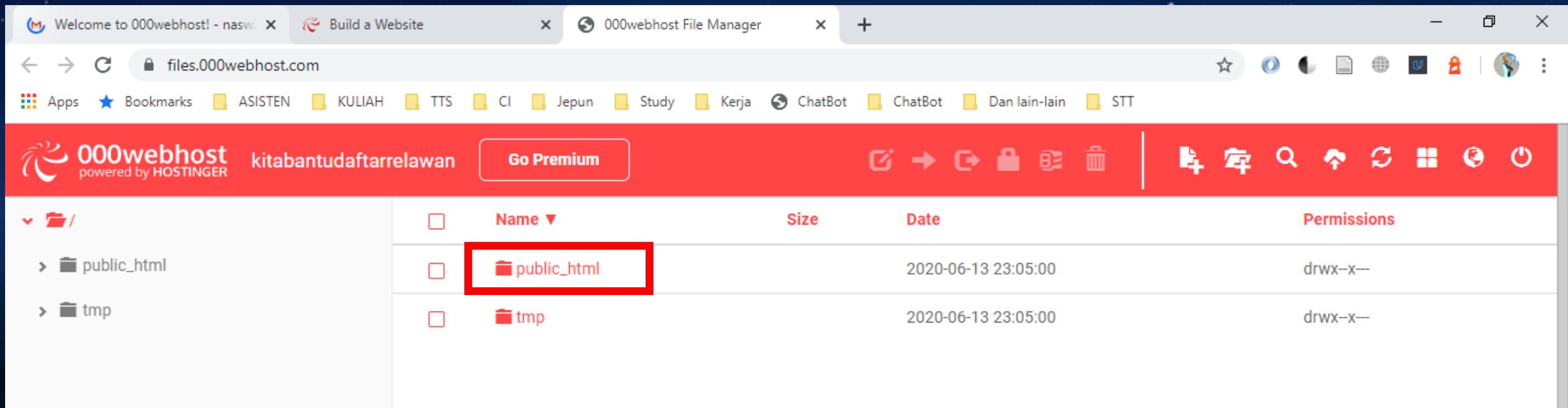
WordPress
Create powerful & beautiful website using WordPress.
Install >

File Manager
Upload your own prebuilt website. For Advanced users.
Upload >

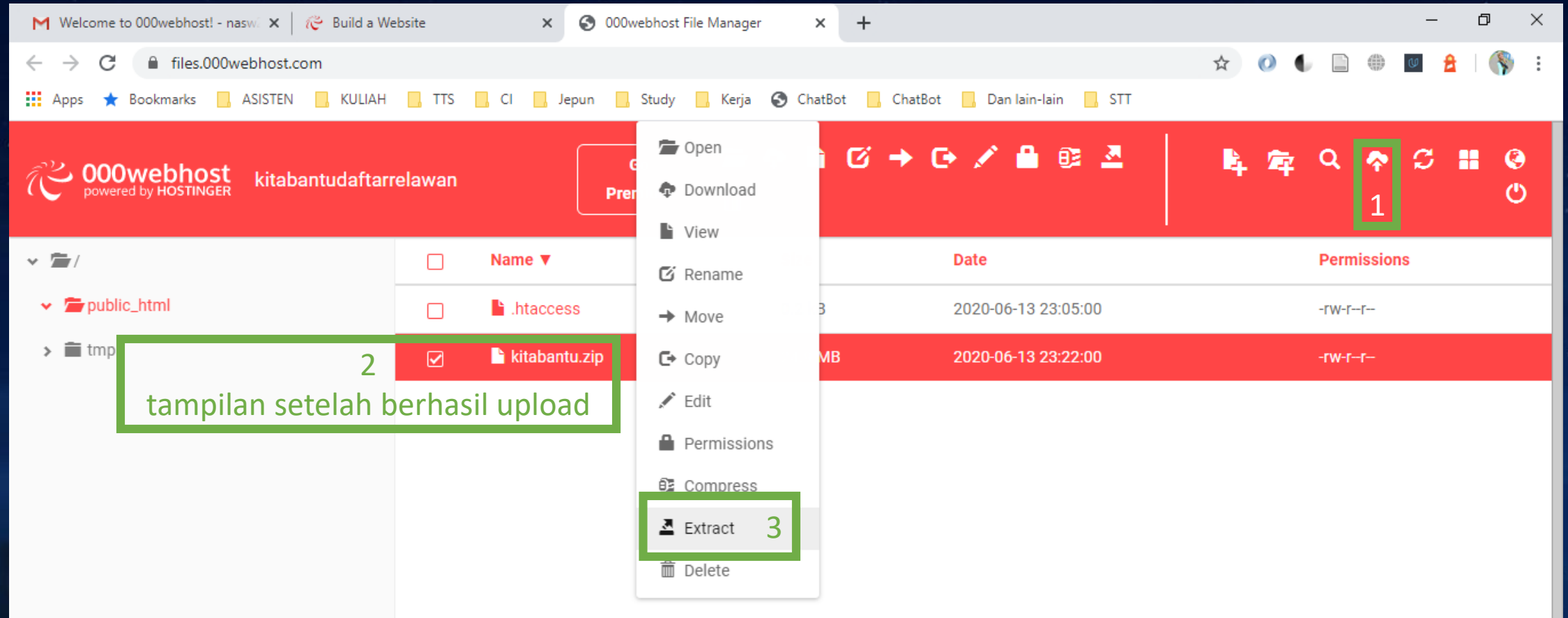
Klik untuk upload kodingan

Tampilan File Manager

- Cara akses:
 1. Klik File Manager pada dashboard proyek, atau
 2. Klik Home – Tools – File Manager
- Lalu masuk ke public_html



Upload kitabantu.zip di public_html



Hasil Setelah Extract – Semua Ada di Public_html

The screenshot shows the 000webhost File Manager interface. The browser address bar displays `files.000webhost.com`. The page header includes the 000webhost logo, the text "powered by HOSTINGER", and a breadcrumb trail: `kitabantudaftarrelawan > public_html`. A "Go Premium" button is visible. The left sidebar shows a directory tree with `public_html` expanded, listing subdirectories like `application`, `assets`, `kitabantu`, `system`, `user_guide`, and `tmp`. The main area displays a table of files and folders within `public_html`.

<input type="checkbox"/>	Name ▼	Size	Date	Permissions
<input type="checkbox"/>	application		2020-06-13 23:24:00	drwxr-xr-x
<input type="checkbox"/>	assets		2020-06-13 23:24:00	drwxr-xr-x
<input type="checkbox"/>	kitabantu		2020-06-13 23:26:00	drwxr-xr-x
<input type="checkbox"/>	system		2020-06-13 23:24:00	drwxr-xr-x
<input type="checkbox"/>	user_guide		2020-06-13 23:24:00	drwxr-xr-x
<input type="checkbox"/>	.editorconfig	0.3 kB	2020-06-13 23:24:00	-rw-r--r--
<input type="checkbox"/>	.gitignore	0.5 kB	2020-06-13 23:24:00	-rw-r--r--
<input type="checkbox"/>	.htaccess	0.2 kB	2020-06-13 23:05:00	-rw-r--r--
<input type="checkbox"/>	composer.json	0.6 kB	2020-06-13 23:24:00	-rw-r--r--
<input type="checkbox"/>	contributing.md	6.7 kB	2020-06-13 23:24:00	-rw-r--r--
<input type="checkbox"/>	index.php	10.0 kB	2020-06-13 23:24:00	-rw-r--r--

Buat database

- Klik Home – Tools – Database Manager

The screenshot shows the 000webhost Database Manager interface. The left sidebar contains a navigation menu with 'Home', 'Tools', 'Set Web Address', 'File Manager', 'Database Manager' (highlighted), and 'Email Manager'. The main content area shows 'My Databases' with a count of 1 and a '+ New Database' button. A table lists the database details:

DB Name	DB User	DB Host
id14073997_kitabantu	id14073997_root	localhost

Red annotations highlight the database name 'id14073997_kitabantu' and the user 'id14073997_root', with text stating 'Isi database name = kitabantu User = root' and '2 hasil – ada id random otomatis'. A 'Manage' button is visible next to the database entry.

Database Manage Lalu Import

The screenshot shows the phpMyAdmin web interface in a browser. The browser's address bar displays the URL: `databases-auth.000webhost.com/db_import.php?db=id14073997_kitabantu`. The phpMyAdmin interface has a left sidebar with a tree view of databases. The database `id14073997_kitabantu` is selected and highlighted with a red box and the number 1. The main panel shows the 'Import' tab selected, also highlighted with a red box and the number 2. Below the 'Import' tab, the title is 'Importing into the database "id14073997_kitabantu"'. The 'File to import:' section contains instructions about file formats and a 'Choose File' button. The 'Choose File' button is highlighted with a red box and the number 3. Below the 'Choose File' button, there is a radio button for 'Browse your computer' and a radio button for 'Select from the web server upload directory'. The 'Character set of the file:' dropdown is set to 'utf-8'. At the bottom right, there is a red box with the text '4 Klik Go'.

Welcome to 000webhost! - nasw... x Manage Databases x databases-auth.000webhost.com x 000webhost File Manager x +

databases-auth.000webhost.com/db_import.php?db=id14073997_kitabantu

Apps Bookmarks ASISTEN KULIAH TTS CI Jepun Study Kerja ChatBot ChatBot Dan lain-lain STT

phpMyAdmin

Recent Favorites

New

id14073997_kitabantu 1

information_schema

Server: localhost:3306 » Database: id14073997_kitabantu

Structure SQL Search Query Export Import 2 Operations Routines Events Triggers Designer

Importing into the database "id14073997_kitabantu"

File to import:

File may be compressed (gzip, bzip2, zip) or uncompressed.
A compressed file's name must end in `.[format].[compression]`. Example: `.sql.zip`

☒ Browse your computer: Choose File kitabantu.sql 3 (Max: 16MiB) You may also drag and drop a file on any page.

☐ Select from the web server upload directory `/var/lib/phpMyAdmin/upload/`: There are no files to upload!

Character set of the file: utf-8

4 Klik Go

Edit base_url #1

- Buka File Manager – public_html – application – klik kanan config.php - Edit

The screenshot shows the 000webhost File Manager interface. The left sidebar displays a directory tree with 'public_html' (1) expanded, showing 'application' and 'config' (2). The 'application' folder is expanded, and 'config.php' (3) is selected. A right-click context menu is open over 'config.php', with the 'Edit' option (4) highlighted. The main table lists files with columns for Name, Size, Date, and Permissions. The file 'config.php' is highlighted in red.

Name	Size	Date	Permissions
autoload.php	4.0 kB	2020-06-13 23:24:00	-rw-r--r--
config.php	18.0 kB	2020-06-13 23:24:00	-rw-r--r--
constant.php		2020-06-13 23:24:00	-rw-r--r--
database.php		2020-06-13 23:24:00	-rw-r--r--
doctypes.php		2020-06-13 23:24:00	-rw-r--r--
foreign_chars.php		2020-06-13 23:24:00	-rw-r--r--
hooks.php		2020-06-13 23:24:00	-rw-r--r--
index.html		2020-06-13 23:24:00	-rw-r--r--
memcached.php		2020-06-13 23:24:00	-rw-r--r--

Edit base_url #2

Edit file

/public_html/application/config/config.php

```
13 |  
14 | WARNING: You MUST set this value!  
15 |  
16 | If it is not set, then CodeIgniter will try guess the protocol and path  
17 | your installation, but due to security concerns the hostname will be set  
18 | to $_SERVER['SERVER_ADDR'] if available, or localhost otherwise.  
19 | The auto-detection mechanism exists only for convenience during  
20 | development and MUST NOT be used in production!  
21 |  
22 | If you need to allow multiple domains, remember that this file is still  
23 | a PHP script and you can easily do that on your own.  
24 |  
25 |  
26 | $config['base_url'] = 'https://kitabantudaftarrelawan.000webhostapp.com/';  
27 |  
28 | /*  
29 | -----  
30 | Index File  
31 | -----  
32 |  
33 | Typically this will be your index.php file, unless you've renamed it to  
34 | something else. If you are using mod_rewrite to remove the page set this  
35 | variable so that it is blank.  
36 |  
37 | */  
38 | $config['index_page'] = 'index.php';
```

Copas nama website

SAVE & CLOSE

SAVE

application – klik kanan database.php - Edit



Home – Website Settings - General

The screenshot shows the 000webhost website settings page for a site named 'kitabantudaftarrelawan'. The browser's address bar shows the URL '000webhost.com/members/website/kitabantudaftarrelawan/settings'. The page has a dark sidebar on the left with navigation links: Home, Website Settings (selected), Statistics, Security, Cron Jobs, Redirects, and Logs. The main content area is titled 'All websites > Kitabantudaftarrelawan' and contains three settings sections: 'FTP Detailed Information', 'Website Name', and 'Password'. The 'FTP Detailed Information' section includes a toggle for 'FTP transfer' (currently ON), 'Host Name' (files.000webhost.com), 'Port' (21), 'Username' (kitabantudaftarrelawan), and 'Password' (same as your website password). The 'Website Name' section shows the current name 'kitabantudaftarrelawan.000webhostapp.com'. The 'Password' section has a 'Change Password' button. A red rectangular box highlights the 'FTP Detailed Information' section, with red text overlaid that reads: 'Jika nanti diminta password proyek, gunakan password saat login' and 'Nama alamat website'.

Welcome to 000webhost x Website Settings x 000webhost File Manag x Website list x Database Error x databases-auth.000web x + -

000webhost.com/members/website/kitabantudaftarrelawan/settings

Apps Bookmarks ASISTEN KULIAH TTS CI Jepun Study Kerja ChatBot ChatBot Dan lain-lain STT

My Sites Power Store Help 000webhost powered by HOSTINGER Upgrade nasw2509

All websites > Kitabantudaftarrelawan

kitabantudaftarrelawan
Current site | Free

< Home
Website Settings
General
Statistics
Security
Cron Jobs
Redirects
Logs

FTP Detailed Information
Here you can set preferences to manage access to your website files.
By disabling this feature you will not be able to access the Web File Manager.

FTP transfer OFF ☒ ON
Host Name: files.000webhost.com
Port: 21
Username: kitabantudaftarrelawan
Password: same as your website password

Website Name
You can change the name of your website here

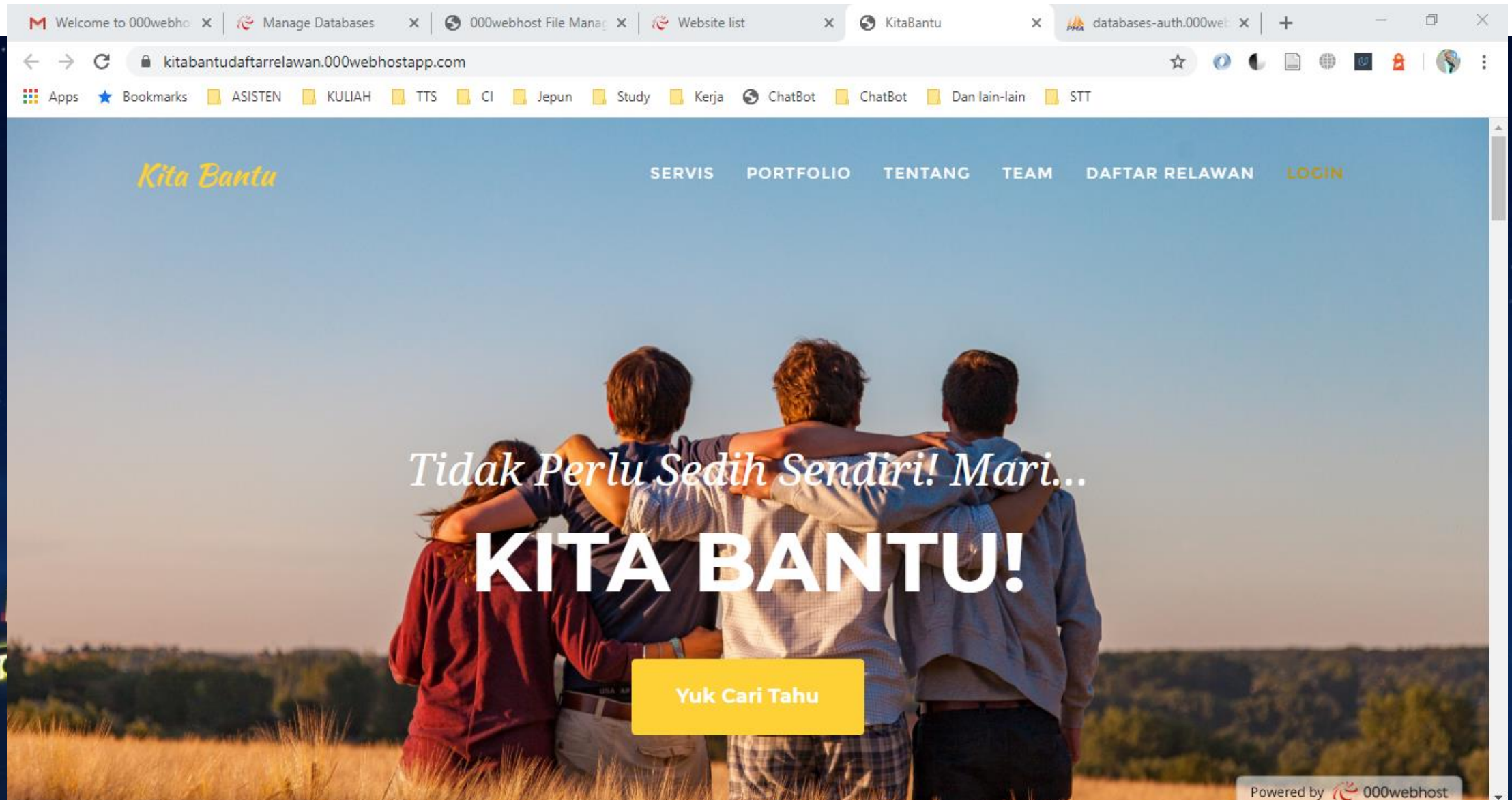
kitabantudaftarrelawan.000webhostapp.com

Password
Change your website password here. This is also FTP password.

Change Password

Jika nanti diminta password proyek, gunakan password saat login
Nama alamat website

<https://kitabantudaftarrelawan.000webhostapp.com/>

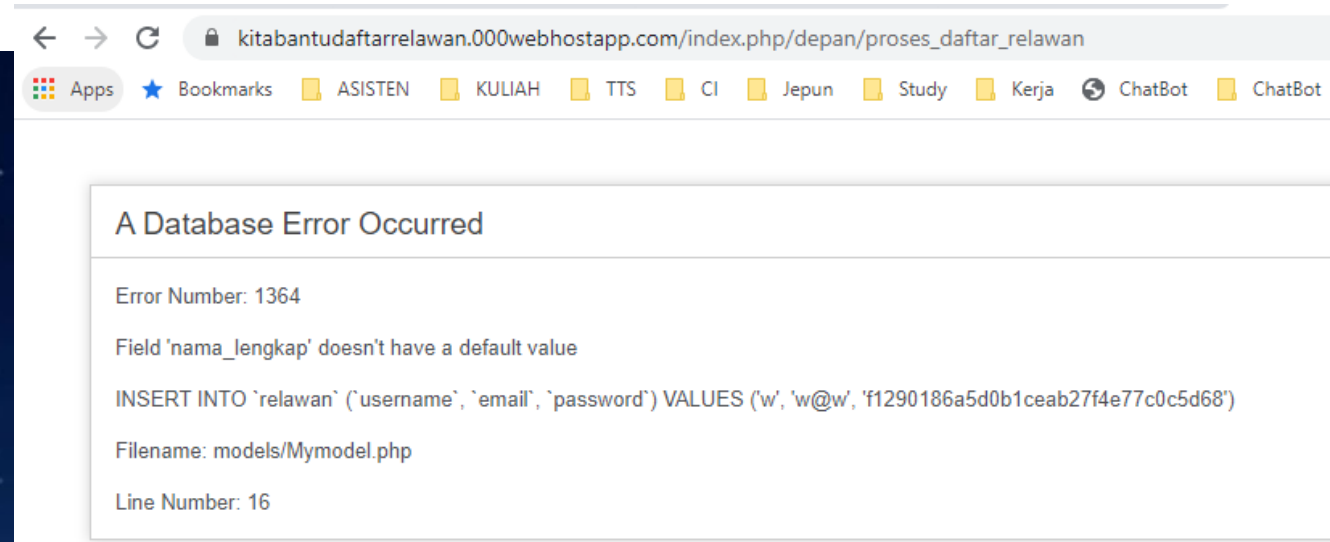




Memperbaiki Eror Setelah Hosting

Error Saat Daftar Relawan

- Error menyatakan bahwa nama_lengkap tidak memiliki nilai default
- Edit tabel relawan Beri Default NULL pada kolom: nama_lengkap, tempat_lahir, tanggal_lahir, alamat, no_hp, foto



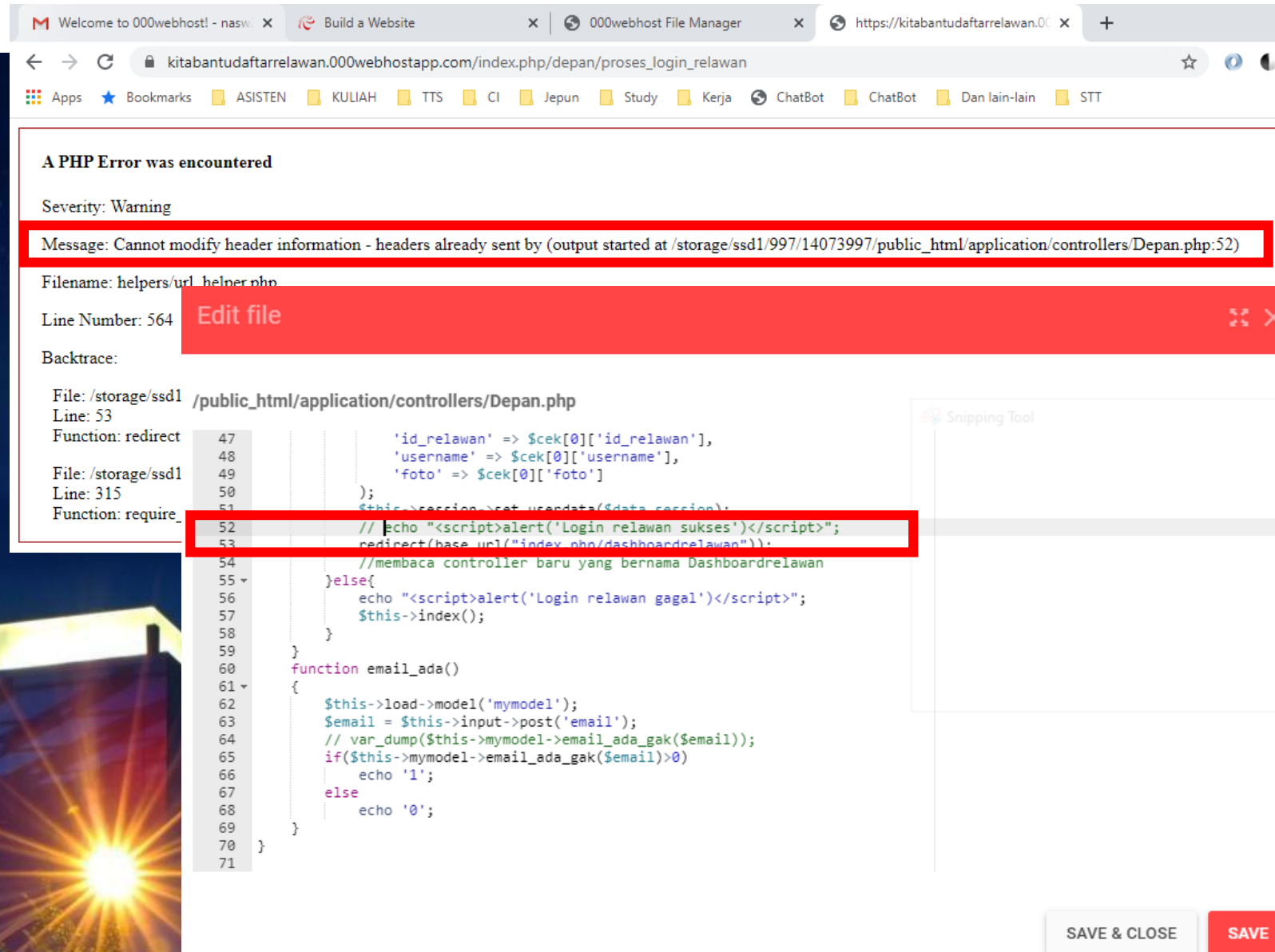
Server: localhost:3306 » Database: id14073997_kitabantu » Table: relawan

Name	Type	Length/Values	Default	Collation	Attributes	Null	Comments
nama_lengkap	VARCHAR	200	NULL	latin1_swedish_ci		<input checked="" type="checkbox"/>	
tempat_lahir	VARCHAR	200	NULL	latin1_swedish_ci		<input checked="" type="checkbox"/>	
tanggal_lahir	DATE		NULL			<input checked="" type="checkbox"/>	
alamat	TEXT		NULL	latin1_swedish_ci		<input checked="" type="checkbox"/>	
no_hp	VARCHAR	25	NULL	latin1_swedish_ci		<input checked="" type="checkbox"/>	
foto	VARCHAR	255	NULL	latin1_swedish_ci		<input checked="" type="checkbox"/>	

Preview SQL Save

Eror Setelah Sukses Login

- Eror menyatakan bahwa naada kesalahan pada controllers/Depan.php baris 52
- Solusi, tutupi baris 52 yang berisi pop up alert 'Login relawan sukses'



The screenshot shows a web browser window with the URL `https://kitabantudaftarrelawan.000webhostapp.com/index.php/depan/proses_login_relawan`. A red error message box is displayed, stating: "A PHP Error was encountered" with "Severity: Warning" and "Message: Cannot modify header information - headers already sent by (output started at /storage/ssd1/997/14073997/public_html/application/controllers/Depan.php:52)". Below the error message, the filename is listed as `helpers/url_helper.php`, the line number as 564, and the backtrace shows the error occurred in `/public_html/application/controllers/Depan.php` at line 53, function `redirect`. A red box highlights the code at line 52 in the editor: `// echo "<script>alert('Login relawan sukses')</script>";`. The code editor also shows the `redirect` function call and the `email_ada` function. At the bottom right, there are buttons for "SAVE & CLOSE" and "SAVE".

SAVE & CLOSE SAVE

Eror hapus relawan acara

- Proses hapus relawan sukses namun terdapat eror
- Belum ditemukan solusinya (>.<), atleast bisa ngehapus :D

