

LAMPIRAN

Lampiran - 1 : Listing Program

1. *router_api.Class.php*

```
<?php
/*****
 *
 * RouterOS PHP API Class v1.6
 * Author: Denis Basta
 * Contributors:
 * Nick Barnes
 * Ben Menking (ben [at] infotechsc
[dot] com)
 * Jeremy Jefferson (http://jeremyj.com)
 * Cristian Deluxe (djcrisiandeluxe [at]
gmail [dot] com)
 * Mikhail Moskalev (mmv.rus [at]
gmail [dot] com)
 *
 * http://www. Mikrotik.com
 * http://wiki.
Mikrotik.com/wiki/API_PHP_Class
 *
 *****/

Class RouterosAPI
{
    var $debug = false; // Show debug
information
    var $connected = false; // Connection
state
    var $port = 8728; // Port to connect to
(default 8729 for ssl)
    var $ssl = false; // Connect using SSL
(must enable api-ssl in IP/Services)
    var $timeout = 3; // Connection attempt
timeout and data read timeout
    var $attempts = 5; // Connection
attempt count
    var $delay = 3; // Delay between
connection attempts in seconds

    var $socket; // Variable for storing
socket resource
```

```
    var $error_no; // Variable for storing
connection error number, if any
    var $error_str; // Variable for storing
connection error text, if any

    /* Check, can be var used in foreach */
    public function isIterable($var)
    {
        return $var !== null
            && (is_array($var)
                || $var instanceof Traversable
                || $var instanceof Iterator
                || $var instanceof IteratorAggregate
            );
    }

    /**
     * Print text for debug purposes
     *
     * @param string $text Text to print
     *
     * @return void
     */
    public function debug($text)
    {
        if ($this->debug) {
            echo $text . "\n";
        }
    }

    /**
     *
     *
     * @param string $length
     *
     * @return void
     */
    public function encodeLength($length)
    {
        if ($length < 0x80) {
            $length = chr($length);
```

```

    } elseif ($length < 0x4000) {
        $length |= 0x8000;
        $length = chr(($length >> 8) & 0xFF)
        . chr($length & 0xFF);
    } elseif ($length < 0x200000) {
        $length |= 0xC00000;
        $length = chr(($length >> 16) &
0xFF) . chr(($length >> 8) & 0xFF) .
chr($length & 0xFF);
    } elseif ($length < 0x10000000) {
        $length |= 0xE0000000;
        $length = chr(($length >> 24) &
0xFF) . chr(($length >> 16) & 0xFF) .
chr(($length >> 8) & 0xFF) .
chr($length & 0xFF);
    } elseif ($length >= 0x10000000) {
        $length = chr(0xF0) . chr(($length >>
24) & 0xFF) . chr(($length >> 16) &
0xFF) . chr(($length >> 8) & 0xFF) .
chr($length & 0xFF);
    }

    return $length;
}

/**
 * Login to RouterOS
 *
 * @param string $ip Hostname (IP or
domain) of the RouterOS server
 * @param string $login The
RouterOS Username
 * @param string $password The
RouterOS password
 *
 * @return boolean If we are
connected or not
 */
public function connect($ip, $login,
$password)
{
    for ($ATTEMPT = 1; $ATTEMPT <=
$this->attempts; $ATTEMPT++) {
        $this->connected = false;
        $PROTOCOL = ($this->ssl ? 'ssl://' : ''
);

        $context =
stream_context_create(array('ssl' =>
array('ciphers' => 'ADH:ALL',
'verify_peer' => false,
'verify_peer_name' => false)));
        $this->debug('Connection attempt #' .
$ATTEMPT . ' to ' . $PROTOCOL . $ip
. ':' . $this->port . '...');
        $this->socket =
@stream_socket_client($PROTOCOL .
$ip . ':' . $this->port, $this->error_no,
$this->error_str, $this->timeout,
STREAM_CLIENT_CONNECT, $cont
ext);
        if ($this->socket) {
            socket_set_timeout($this->socket,
$this->timeout);
            $this->write('/login', false);
            $this->write('=name=' . $login, false);
            $this->write('=password=' .
$password);
            $RESPONSE = $this->read(false);
            if (isset($RESPONSE[0])) {
                if ($RESPONSE[0] == '!done') {
                    if (!isset($RESPONSE[1])) {
                        // Login method post-v6.43
                        $this->connected = true;
                        break;
                    } else {
                        // Login method pre-v6.43
                        $MATCHES = array();
                        if (preg_match_all('/[^\s]+/i',
$RESPONSE[1], $MATCHES)) {
                            if ($MATCHES[0][0] == 'ret' &&
strlen($MATCHES[0][1]) == 32) {
                                $this->write('/login', false);
                                $this->write('=name=' . $login,
false);
                                $this->write('=response=00' .
md5(chr(0) . $password . pack('H*',
$MATCHES[0][1])));
                                $RESPONSE = $this->read(false);
                                if (isset($RESPONSE[0]) &&
$RESPONSE[0] == '!done') {
                                    $this->connected = true;
                                    break;
                                }
                            }
                        }
                    }
                }
            }
        }
    }
}

```

```

    }
    }
    }
    }
    }
    fclose($this->socket);
}
sleep($this->delay);
}

if ($this->connected) {
    $this->debug('Connected...');
} else {
    $this->debug('Error...');
}
return $this->connected;
}

/**
 * Disconnect from RouterOS
 *
 * @return void
 */
public function disconnect()
{
    // let's make sure this socket is still
    valid. it may have been closed by
    something else
    if( is_resource($this->socket) ) {
        fclose($this->socket);
    }
    $this->connected = false;
    $this->debug('Disconnected...');
}

/**
 * Parse response from Router OS
 *
 * @param array $response Response
    data
 *
 * @return array Array with parsed
    data
 */
public function
parseResponse($response)
{

```

```

if (is_array($response)) {
    $PARSED = array();
    $CURRENT = null;
    $singlevalue = null;
    foreach ($response as $x) {
        if (in_array($x,
array('!fatal','!re','!trap'))) {
            if ($x == '!re') {
                $CURRENT =& $PARSED[];
            } else {
                $CURRENT =& $PARSED[$x][];
            }
        } elseif ($x != '!done') {
            $MATCHES = array();
            if (preg_match_all('/[^\=]+/i', $x,
$MATCHES)) {
                if ($MATCHES[0][0] == 'ret') {
                    $singlevalue = $MATCHES[0][1];
                }
                $CURRENT[$MATCHES[0][0]] =
(isset($MATCHES[0][1]) ?
$MATCHES[0][1] : "");
            }
        }
    }

    if (empty($PARSED) &&
!is_null($singlevalue)) {
        $PARSED = $singlevalue;
    }

    return $PARSED;
} else {
    return array();
}
}

/**
 * Parse response from Router OS
 *
 * @param array $response Response
    data
 *
 * @return array Array with parsed
    data
 */

```

```

public function
parseResponse4Smarty($response)
{
    if (is_array($response)) {
        $PARSED = array();
        $CURRENT = null;
        $singlevalue = null;
        foreach ($response as $x) {
            if (in_array($x,
array('!fatal','!re','!trap'))) {
                if ($x == '!re') {
                    $CURRENT =& $PARSED[];
                } else {
                    $CURRENT =& $PARSED[$x][];
                }
            } elseif ($x != '!done') {
                $MATCHES = array();
                if (preg_match_all('/[^\=]+/i', $x,
$MATCHES)) {
                    if ($MATCHES[0][0] == 'ret') {
                        $singlevalue = $MATCHES[0][1];
                    }
                    $CURRENT[$MATCHES[0][0]] =
(isset($MATCHES[0][1]) ?
$MATCHES[0][1] : "");
                }
            }
        }
        foreach ($PARSED as $key =>
$value) {
            $PARSED[$key] = $this-
>arrayChangeKeyName($value);
        }
        return $PARSED;
        if (empty($PARSED) &&
!is_null($singlevalue)) {
            $PARSED = $singlevalue;
        }
        } else {
            return array();
        }
    }

/**
 * Change "-" and "/" from array key to
" "
 *

```

```

* @param array $array Input array
*
* @return array Array with changed
key names
*/
public function
arrayChangeKeyName(&$array)
{
    if (is_array($array)) {
        foreach ($array as $k => $v) {
            $tmp = str_replace("-", "_", $k);
            $tmp = str_replace("/", "_", $tmp);
            if ($tmp) {
                $array_new[$tmp] = $v;
            } else {
                $array_new[$k] = $v;
            }
        }
        return $array_new;
    } else {
        return $array;
    }
}

/**
 * Read data from Router OS
 *
 * @param boolean $parse Parse the
data? default: true
 *
 * @return array Array with parsed or
unparsed data
 */
public function read($parse = true)
{
    $RESPONSE = array();
    $receiveddone = false;
    while (true) {
        // Read the first byte of input which
gives us some or all of the length
// of the remaining reply.
        $BYTE = ord(fread($this->socket, 1));
        $LENGTH = 0;
        // If the first bit is set then we need to
remove the first four bits, shift left 8
// and then read another byte in.

```

```

// We repeat this for the second and
third bits.
// If the fourth bit is set, we need to
remove anything left in the first byte
// and then read in yet another byte.
if ($BYTE & 128) {
    if (($BYTE & 192) == 128) {
        $LENGTH = (($BYTE & 63) << 8)
+ ord(fread($this->socket, 1));
    } else {
        if (($BYTE & 224) == 192) {
            $LENGTH = (($BYTE & 31) << 8)
+ ord(fread($this->socket, 1));
            $LENGTH = ($LENGTH << 8) +
ord(fread($this->socket, 1));
        } else {
            if (($BYTE & 240) == 224) {
                $LENGTH = (($BYTE & 15) << 8)
+ ord(fread($this->socket, 1));
                $LENGTH = ($LENGTH << 8) +
ord(fread($this->socket, 1));
                $LENGTH = ($LENGTH << 8) +
ord(fread($this->socket, 1));
            } else {
                $LENGTH = ord(fread($this-
>socket, 1));
                $LENGTH = ($LENGTH << 8) +
ord(fread($this->socket, 1));
                $LENGTH = ($LENGTH << 8) +
ord(fread($this->socket, 1));
                $LENGTH = ($LENGTH << 8) +
ord(fread($this->socket, 1));
            }
        }
    } else {
        $LENGTH = $BYTE;
    }
}

```

```
$_ = "";
```

```

// If we have got more characters to
read, read them in.
if ($LENGTH > 0) {
    $_ = "";
    $retlen = 0;
    while ($retlen < $LENGTH) {

```

```

        $storead = $LENGTH - $retlen;
        $_ .= fread($this->socket, $storead);
        $retlen = strlen($_);
    }
    $RESPONSE[] = $_;
    $this->debug('>>> [' . $retlen . ']' .
$LENGTH . '] bytes read.');
```

```

// If we get a !done, make a note of it.
if ($_ == "!done") {
    $receiveddone = true;
}

```

```

$STATUS = socket_get_status($this-
>socket);
if ($LENGTH > 0) {
    $this->debug('>>> [' . $LENGTH . ']' .
$STATUS['unread_bytes'] . ']' . $_);
}

```

```

if ((!$this->connected &&
!$STATUS['unread_bytes']) || ($this-
>connected &&
!$STATUS['unread_bytes'] &&
$receiveddone)) {
    break;
}
}

```

```

if ($parse) {
    $RESPONSE = $this-
>parseResponse($RESPONSE);
}

```

```

return $RESPONSE;
}

```

```

/**
 * Write (send) data to Router OS
 *
 * @param string $command A string
with the command to send
 * @param mixed $param2 If we set
an integer, the command will send this
data as a "tag"

```

```

*      If we set it to boolean true, the
function will send the comand and finish
*      If we set it to boolean false, the
function will send the comand and wait
for next command
*      Default: true
*
* @return boolean  Return false if no
command especified
*/
public function write($command,
$param2 = true)
{
    if ($command) {
        $data = explode("\n", $command);
        foreach ($data as $com) {
            $com = trim($com);
            fwrite($this->socket, $this-
>encodeLength(strlen($com)) . $com);
            $this->debug('<<< [' . strlen($com) . ']'
. $com);
        }

        if (gettype($param2) == 'integer') {
            fwrite($this->socket, $this-
>encodeLength(strlen('.tag=' . $param2))
. '.tag=' . $param2 . chr(0));
            $this->debug('<<< [' . strlen('.tag=' .
$param2) . ']' . '.tag=' . $param2);
        } elseif (gettype($param2) ==
'boolean') {
            fwrite($this->socket, ($param2 ?
chr(0) : ""));
        }

        return true;
    } else {
        return false;
    }
}

/**
 * Write (send) data to Router OS
 *

```

2. koneksi.php

```

* @param string $com  A string with
the command to send
* @param array $arr  An array with
arguments or queries
*
* @return array  Array with parsed
*/
public function comm($com, $arr =
array())
{
    $count = count($arr);
    $this->write($com, !$arr);
    $i = 0;
    if ($this->isIterable($arr)) {
        foreach ($arr as $k => $v) {
            switch ($k[0]) {
                case "?":
                    $el = "$k=$v";
                    break;
                case "~":
                    $el = "$k~$v";
                    break;
                default:
                    $el = "=$k=$v";
                    break;
            }

            $last = ($i++ == $count - 1);
            $this->write($el, $last);
        }
    }

    return $this->read();
}

/**
 * Standard destructor
 *
 * @return void
 */
public function __destruct()
{
    $this->disconnect();
}
}

```

```
<?php $API-
>connect($_SESSION['ip'],$_SESSION
[' User'],$_SESSION['pass']) ?>
```

3. config.php

```
<?php
session_start();
require('api-
Class/routeros_api.Class.php');
$API = new RouterosAPI();
if (require 'koneksi.php') {

$ARRAY = $API ->
comm("/ip/Address/print");
$total = count($ARRAY);
$resource = $API ->
comm("/system/resource/getall");
$getinfo = count($resource);
$ARRAY = $API->comm("/ip/dhcp-
server/lease/getall");
$total = count($ARRAY);
```

```
for ($y=0; $y < $getinfo ; $y++) {
$info = $resource[$y];
$merk = $info['board-name'];
$cpu_load = $info['cpu-load'];
$free_memory = $info['free-memory'];
$total_memory = $info['total-memory'];
$hdd_space = $info['free-hdd-space'];
$total_hdd = $info['total-hdd-space'];
}
$API->disconnect();
} else {
}
?>
```

4. login.php

```
<?php session_start(); ?>
<!DOCTYPE html>
<html>
<head>
<title>Login | ManTik</title>
<!-- Mobile Specific Metas -->
<meta name="viewport"
content="width=device-width, initial-
scale=1, maximum-scale=1">
<!-- Google Font -->
<link
href="https://fonts.googleapis.com/css?f
amily=Poppins:300,400,500,600,700"
rel="stylesheet">
<link
href="https://fonts.googleapis.com/css?f
amily=Nunito:200,300,400,600,700"
rel="stylesheet">
<!-- Icon Font -->
<link rel="stylesheet"
href="fonts/ionicons/css/ionicons.css">
<!-- Text Font -->
```

```
<link rel="stylesheet"
href="fonts/font.css">
<!-- Bootstrap CSS -->
<link rel="stylesheet"
href="css/bootstrap.css">
<!-- Normal style CSS -->
<link rel="stylesheet"
href="css/style.css">
<!-- Normal media CSS -->
<link rel="stylesheet"
href="css/media.css">
</head>
```

```
<body>

<!-- Header start -->
<div Class="header-wrap">
<div Class="clearfix">
<div Class="logo">
<a href="index.php">
<h1>Manajemen Mikrotik </h1>
</a>
</div>
```

```

</div>
</div>
<!-- Header end -->
<main Class="cd-main">
  <section Class="cd-section index7
visible">
    <div Class="cd-content style7">
      <div Class="login-box">
        <div Class="login-form-slider">
          <!-- login slide start -->
          <div Class="login-slide slide">
            <div Class="login-header">
              <div Class="sign-up-txt">
                <h1>Login</h1>
              </div>
            </div>
            <form action="cek_login.php"
method="post" Class="padding-40px">
              <div Class="form-group User-
name-field">
                <input type="text" name="ip"
Class="form-control" placeholder="Ip
Address"

oninvalid="setCustomValidity('Tolong
Masukkan Ip Address') required>
                <div Class="field-icon"><i
Class="ion-home"></i></div>
                </div>
                <div Class="form-group User-
name-field">
                  <input type="text" name="
Username" Class="form-control"
placeholder=" Username"

oninvalid="setCustomValidity('Tolong
Masukkan Username') required>
                  <div Class="field-icon"><i
Class="ion-person"></i></div>
                  </div>

```

5. cek_login.php

```

<?php
// mengaktifkan session pada php
session_start();

```

```

<div Class="form-group margin-
bottom-30px forgot-password-field">
  <input type="password"
name="password" Class="form-control"
placeholder="Password"

oninvalid="setCustomValidity('Tolong
Masukkan Password') required>
  <div Class="field-icon"><i
Class="ion-locked"></i></div>
  </div>
  <div Class="form-group sign-in-
btn">
    <input type="submit"
Class="submit" value="Masuk">
  </div>
</form>
</div>
<!-- login slide end -->
</div>
</div>
</section>
</main>
<div id="cd-loading-bar" data-
scale="1"></div>
<!-- JS File -->
<script src="js/modernizr.js"></script>
<script type="text/javascript"
src="js/jquery.js"></script>
<script type="text/javascript"
src="js/popper.min.js"></script>
<script type="text/javascript"
src="js/bootstrap.js"></script>
<script
src="js/velocity.min.js"></script>
<script type="text/javascript"
src="js/script.js"></script>
</body>
</html>

```

```

//Menghubungkan ke API MIKROTIK
$input_ip = $_POST['ip'];
$input_User = $_POST[' Username'];

```

```

$input_pass = $_POST['password'];
//Jika $ip sama dengan $_SESSION ip
maka Berhasil login
if ($input_ip != "") {
    $_SESSION['ip'] = $input_ip;
    $_SESSION[' User'] = $input_ User;
    $_SESSION['pass'] = $input_pass;
    echo "<script>alert('Berhasil
Login');window.location='../index.php'<
/script>";
}else{

```

6. index.php

```

<?php
error_reporting(0);
require('api-
Class/routeros_api.Class.php');
session_start();
if ( $_SESSION["ip"] == "") {
    echo "<script>window.location =
'login/login.php';</script>";
}
require 'header.php';
require 'navbar.php';
require 'card.php';

?>

```

```

<div Class="col-lg-12">
    <div Class="card">
        <div Class="card-header">
            <h4>Grafik Rx Tx Internet</h4>

        </div>
        <div Class="card-body"
style="overflow: auto;">
            <iframe src="grafik/index.php"
id="iFrame1" style="width:
100%;height: 500px; overflow:
auto;"></iframe>
        </div>
    </div>
</div>

<div Class="col-12">
    <div Class="card">

```

```

//Jika salah maka gagal login
echo "<script>alert('Masukan IP atau
Username Dan Password Dengan Benar
!');

```

```

window.location='login.php?pesan=gag
al data tidak ditemukan'</script>";
}

```

```

?>

```

```

<div Class="card-header">
    <h4>Interface</h4>
</div>
<div Class="card-body">
    <table Class="table table-striped"
id="table1">
        <thead>

            <tr>
                <th>Nama</th>
                <th>Port</th>
                <th>Type</th>
                <th>Status</th>
                <th>Non_Aktif</th>
                <th>Aktif</th>
                <th>Ubah</th>
            </tr>
        </thead>
        <tbody>
            <?php
                error_reporting(0);
                $API = new RouterosAPI();
                if (require 'koneksi.php') {

                    $interface = $API ->
comm('/interface/print');
                    // print_r($interface);
                    $count_interface =
count($interface);
                    // $API->disconnect();
                    for ($i=0; $i < $count_interface ;
$i++) {
                        $iface = $interface[$i];

```

```

$name = $iface['name'];
$port = $iface['default-name'];
$type = $iface['type'];
$id = $iface['.id'];
$status = $iface['disabled'];

?>
<tr>
<td><?php echo $name; ?></td>
<td><?php if ($port == "") {
    echo "Bridge";
} else {
    echo $port;
}
?></td>
<td><?php echo $type; ?></td>
<td><?php if ($status == "false") {
    echo "<p style='color:green;'>
Enable </p>";
} else {
    echo "<p style = 'color:red;'>
Disable</p>";
} ?></td>
<td> <a href='action-
interface.php?id="<?php echo $id;
?>"><button
    Class='btn btn-danger mb-2'><i
Class="fa fa-
times"></i></button></a></td>
<td> <a href='action-interface-
2.php?id="<?php echo $id; ?>'><button
    Class='btn btn-primary mb-2'><i
Class="fa fa-
check"></i></button></a></td>
<td>
<form action="edit-iface.php"
method="post">
<div Class="col-lg-12">
<div Class="form-group">
<label>Nama : </label>
<br>
<input type="text" name="id"
value="<?php echo $id; ?>" hidden="">
<input type="text" Class="form-
control" name="name"
value="<?php echo $name; ?>">
</div>

```

```

</div>

<div Class="col-12 d-flex justify-
content-end">
<button type="submit" Class="btn
btn-primary me-1 mb-
1">Ubah</button>
<button type="reset" Class="btn
btn-light-secondary me-1 mb-
1">Reset</button>
</div>
</form>
</td>
</tr>
<?php } } ?>
</tbody>
</table>
</div>
</div>
</div>

```

```

<div Class="row">
<div Class="col-lg-12 ">
<div Class="card">
<div Class="card-header">
<h4>Informasi Mikrotik </h4>
</div>
<div Class="card-body">

<?php

```

```

$API = new RouterosAPI();

if (require 'koneksi.php') {
$ARRAY = $API ->
comm("/ip/Address/print");
$total = count($ARRAY);
$resource = $API ->
comm("/system/resource/getall");
$getinfo = count($resource);

for ($y=0; $y < $getinfo ; $y++) {
    $info = $resource[$y];
    $merk = $info['board-name'];
    $cpu_load = $info['cpu-load'];
    $free_memory = $info['free-memory'];
}

```

```

$total_memory = $info['total-memory'];
$hdd_space = $info['free-hdd-space'];
$total_hdd = $info['total-hdd-space'];
echo "<div id='infonya'> <center><h4>
Mikrotik Model :
".$merk."</h4></center>
<center> <h4> Total Disk :
".formatSizeUnits($total_memory)."</h
4></center>
<center> <h4> Total Memory :
".formatSizeUnits($total_hdd)."</h4></
center>
</div>";
}
// echo "<h4>Koneksi OK</h4>";
}else{
echo "Koneksi Gagal";
} ?>
</div>
</div>
</div>
</section>
</div>
<?php
function formatSizeUnits($bytes)
{
if ($bytes >= 1073741824)
{
$bytes = number_format($bytes /
1073741824, 2) . ' GB';
}
elseif ($bytes >= 1048576)
{
$bytes = number_format($bytes /
1048576, 2) . ' MB';
}
elseif ($bytes >= 1024)
{
$bytes = number_format($bytes /
1024, 2) . ' KB';
}
elseif ($bytes > 1)
{
$bytes = $bytes . ' bytes';
}
elseif ($bytes == 1)

```

```

{
$bytes = $bytes . ' byte';
}
else
{
$bytes = '0 bytes';
}

```

```

return $bytes;
}
?>

```

```

<?php
require 'footer.php';
?>

7. navbar.php
<div id="app">
<div id="sidebar" Class="active">
<div Class="sidebar-wrapper active">
<div Class="sidebar-header">
<div Class="d-flex justify-content-
between">
<div Class="logo">
<h4>Manajemen Mikrotik </h4>
</div>
<div Class="toggler">
<a href="#" Class="sidebar-hide d-
xl-none d-block"><i Class="bi bi-x bi-
middle"></i></a>
</div>
</div>
</div>
<div Class="sidebar-menu">
<ul Class="menu">
<li Class="sidebar-title">Menu</li>

<li Class="sidebar-item ">
<a href="index.php" Class='sidebar-
link'>
<i Class="bi bi-grid-fill"></i>
<span>Dashboard</span>
</a>
</li>
<li Class="sidebar-item has-sub">
<a href="#" Class='sidebar-link'>
<i Class="bi bi-stack"></i>
<span>DHCP</span>

```

```

</a>
<ul Class="submenu ">
  <li Class="submenu-item ">
    <a href="dhcp-lease.php">DHCP
Leases</a>
  </li>
  <li Class="submenu-item ">
    <a href="dhcp-setup.php">DHCP
Setup</a>
  </li>
  <li Class="submenu-item ">
    <a href="dhcp-server.php">DHCP
Server</a>
  </li>
</ul>
</li>

```

```

<li Class="sidebar-item has-sub">
  <a href="#" Class='sidebar-link'>
    <i Class="bi bi-broadcast"></i>
    <span>Hotspot</span>
  </a>
  <ul Class="submenu ">
    <li Class="submenu-item ">
      <a href="hotspot-
setup.php">Hotspot Server</a>
    </li>
    <li Class="submenu-item ">
      <a href="hs- Userprof.php"> User
Profile</a>
    </li>
    <li Class="submenu-item ">
      <a href="hs-prof.php">Hotspot
Profile</a>
    </li>
    <li Class="submenu-item ">
      <a href="hs- User.php"> User</a>
    </li>
    <li Class="submenu-item ">
      <a href="hs-active.php"> User
Active</a>
    </li>
    <li Class="submenu-item ">
      <a
href="cookie.php">Cookies</a>
    </li>
  </ul>

```

```

</li>
<li Class="sidebar-item has-sub">
  <a href="#" Class='sidebar-link'>
    <i Class="bi bi-geo-alt-fill"></i>
    <span>Address</span>
  </a>
  <ul Class="submenu ">
    <li Class="submenu-item ">
      <a href="Address.php">Address
List</a>
    </li>
  </ul>
</li>

```

```

<li Class="sidebar-
title">Queues</li>

```

```

<li Class="sidebar-item ">
  <a href="que-simple.php"
Class='sidebar-link'>
    <i Class="bi bi-speedometer"></i>
    <span> Simple Queues</span>
  </a>
</li>
<li Class="sidebar-
title">System</li>

<li Class="sidebar-item ">
  <a href="admin.php"
Class='sidebar-link'>
    <i Class="bi bi-person"></i>
    <span>Administrator</span>
  </a>
</li>
<li Class="sidebar-item ">
  <a href="reboot.php"
Class='sidebar-link'>
    <i Class="bi bi-power"></i>
    <span>Reboot</span>
  </a>
</li>

<li Class="sidebar-item ">
  <a href="logout.php"
Class='sidebar-link'>

```

```

        <i Class="bi bi-box-arrow-
right"></i>
        <span>Log Out</span>
        </a>
    </li>
</ul>
</div>
<button Class="sidebar-toggler btn
x"><i data-feather="x"></i></button>

```

8. *dhcp-active.php*

```

<?php
session_start();
require('api-
Class/routeros_api.Class.php');
$API = new RouterosAPI();
$id = $_GET['id'];
if (require 'koneksi.php') {
    $active = $API->write('/ip/dhcp-
server/lease/make-static', false);
    $API->write("=.id=" . $id, true);
    $internet = $API-> read();
}

```

```

$API -> comm("/ip/dhcp-
server/lease/set",array(

```

9. *dhcp-release.php*

```

<?php
session_start();
require('api-
Class/routeros_api.Class.php');
require 'header.php';
require 'navbar.php';
require 'card.php';
?>
<div Class="col-12">
    <div Class="card">
        <div Class="card-header">
            <h4>DHCP Leases</h4>
        </div>
        <div Class="card-body jmlh">
            <table id="table1" Class="table"
style="width:100%">
                <thead>
                    <tr>
                        <th></th>
                        <th>ID</th>
                        <th>Host Name</th>

```

```

    </div>
</div>
<div id="main">
    <header Class="mb-3">
        <a href="#" Class="burger-btn d-
block d-xl-none">
            <i Class="bi bi-justify fs-3"></i>
        </a>
    </header>

```

```

".id" => $id,
"Address-lists" => "internet"
));

$API->disconnect();
echo "<script>alert(' User Berhasil Di
Aktifkan');
window.location = 'dhcp-
lease.php';</script>
";
}
?>

```

```

<th>Address</th>
<th>Mac Address</th>
<th>Server</th>
<th>Expired</th>
<th>Status</th>
<th>Dynamic</th>
<th>Action</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<?php

```

```

error_reporting(0);

$API = new RouterosAPI();

if (require 'koneksi.php') {

$ARRAY = $API->comm("/ip/dhcp-
server/lease/getall");

```

```

$total = count($ARRAY);

/*print_r($ARRAY);*/

for ($i = 0; $i < $total; $i++) {
    $dhcp = $ARRAY[$i];

    $addr = $dhcp['Address'];
    $maca = $dhcp['mac-Address'];
    $server = $dhcp['server'];
    $aaddr = $dhcp['last-seen'];
    $amaca = $dhcp['dynamic'];
    $status = $dhcp['status'];
    $id = $dhcp['.id'];
    $host = $dhcp['host-name'];

    ?>
    <tr>
        <td style="color: red;"><?php if
($amaca == "true") {
    echo "D";
    }else{
    echo " ";
    } ?></td>
        <td><?php echo $id; ?> </td>
        <td> <?php echo $host; ?></td>
        <td> <?php echo $addr; ?></td>
        <td> <?php echo $maca; ?> </td>
        <td> <?php echo $server; ?> </td>
        <td> <?php echo $aaddr; ?> </td>
        <td> <?php echo $status; ?> </td>
        <td> <?php echo $amaca; ?> </td>
        <td> <a href='delete-
leases.php?id="<?php echo $id; ?>"

```

10. dhcp-server.php

```

<?php
session_start();
require('api-
Class/routeros_api.Class.php');
require 'header.php';
require 'navbar.php';
require 'card.php';

?>
<div Class="col-12">
    <div Class="card">
        <div Class="card-header">

```

```

            onclick="javascript: return
confirm('Apakah Anda Yakin Ingin
Menghapus User <?php echo $addr ; ?>
?)"><button
                Class='btn btn-danger mb-
2'>Remove</button></a></td>
            <td> <a href='dhcp-
active.php?id="<?php echo $id;
?'><button
                Class='btn btn-primary mb-
2'>Active</button></a></td>
        </tr>
        <?php } } ?>
    </tbody>
</table>
</div>
</div>
</div>
</div>
</div>
</div>
</section>
</div>
<script type="text/javascript">
var otomatis = setInterval(
    function() {
        $('#jmlh').load('dhcp-lease.php
#jmlh').fadeIn("slow");
    }, 1000);
</script>
<?php
    require 'footer.php';
    ?>

```

```

        <h4>DHCP Server</h4>
    </div>
    <div Class="card-body">
        <table id="table1" Class="table"
style="width:100%">
            <thead>
                <tr>
                    <th>Name</th>
                    <th>Interface</th>
                    <th>Leases Time</th>
                    <th>Address Pool</th>
                    <th>Status</th>

```

```

        <th>Disable</th>
        <th>Enable</th>
        <th>Action</th>
    </tr>
</thead>
<tbody>
    <?php
        error_reporting(0);
        $API = new RouterosAPI();
        if (require 'koneksi.php') {
            $ARRAY = $API->comm("/ip/dhcp-
            server/print");
            $total = count($ARRAY);
            // print_r($ARRAY);
            for ($i=0; $i < $total ; $i++) {
                $dhcp = $ARRAY[$i];
                $nama = $dhcp['name'];
                $iface = $dhcp['interface'];
                $time = $dhcp['lease-time'];
                $pool = $dhcp['Address-pool'];
                $status = $dhcp['disabled'];
                $id = $dhcp['.id'];
                ?>
                <tr>
                    <td><?php echo $nama; ?></td>
                    <td><?php echo $iface; ?></td>
                    <td><?php echo $time; ?></td>
                    <td><?php echo $pool; ?></td>
                    <td><?php if ($status == "true") {
                        echo "<p Class='btn btn-danger'>Non-
                        active</p>";
                    } else {
                        echo "<p Class='btn btn-
                        success'>Active</p>";
                    } ?></td>
                    <td> <a href='action-
                    dhcp.php?id="<?php echo $id;
                    ?>"><button Class='btn btn-danger mb-
                    2'><i

```

11. dhcp-setup.php

```

<?php
session_start();
require('api-
Class/routeros_api.Class.php');
require 'header.php';

```

```

        Class="fa fa-
        times"></i></button></a></td>
        <td> <a href='action-dhcp-
        2.php?id="<?php echo $id; ?>'><button
        Class='btn btn-primary mb-2'><i
        Class="fa fa-
        check"></i></button></a></td>
        <td> <a href='delete-
        dhcp.php?id="<?php echo $id; ?>"
        onclick="javascript: return
        confirm('Apakah Anda Yakin Ingin
        Menghapus User <?php echo $addr ; ?>
        ?)'><button
        Class='btn btn-danger mb-2'><i
        Class="fa fa-
        trash"></i></button></a></td>
    </tr>
    <?php } } ?>
</tbody>
</table>

</div>
</div>
</div>
</section>
</div>
<script type="text/javascript">
var otomatis = setInterval(
    function() {
        $('#jmlh').load('dhcp-lease.php
        #jmlh').fadeIn("slow");
    }, 1000);
</script>
<?php
    require 'footer.php';
    ?>

```

```

require 'navbar.php';
require 'card.php';

?>
<div Class="col-12">

```

```

<div Class="card">
  <div Class="card-header">
    <h4>Dhcp Setup</h4>
  </div>
  <div Class="card-body">
    <form Class="form" method="post"
action="add-dhcp-config.php">
      <div Class="row">
        <div Class="col-md-6 col-12">
          <div Class="form-group">
            <label>Server Name</label>
            <input type="text" name="name"
Class="form-control"
placeholder="Server Name">
          </div>
        </div>

        <div Class="col-md-6 col-12">
          <div Class="form-group">
            <label>DHCP Address
Space</label>
            <input type="text" name="addr"
Class="form-control"
placeholder="Contoh 192.168.1.0/24">
          </div>
        </div>

        <div Class="col-md-6 col-12">
          <div Class="form-group">
            <label>Gateway</label>
            <input type="text"
name="Gateway" Class="form-control"
placeholder="Contoh 192.168.1.1">
          </div>
        </div>

        <div Class="col-md-6 col-12">
          <div Class="form-group">
            <label>Ranges</label>
            <input type="text" name="range"
Class="form-control"
placeholder="Contoh 192.168.1.2-
192.168.1.254">
          </div>
        </div>

        <div Class="col-12 d-flex justify-
content-end">
          <button type="submit" Class="btn
btn-primary me-1 mb-
1">Submit</button>
          <button type="reset" Class="btn
btn-light-secondary me-1 mb-
1">Reset</button>
        </div>
      </div>
    </form>
  </div>
</div>

  <div Class="col-md-6 col-12">
    <div Class="form-group">
      <label for="first-name-
column">Interface</label>
      <select name="iface" Class="form-
control">
        <option>---Isi Interface---
      </option>
      <?php
        error_reporting(0);
        $API = new RouterosAPI();
        if (require 'koneksi.php') {
          $interface = $API ->
comm('/interface/print');
          // print_r($interface);
          $count_interface =
count($interface);
          // $API->disconnect();
          for ($i=0; $i < $count_interface ;
$i++) {
            $iface = $interface[$i];
            $name = $iface['name'];
            $port = $iface['default-name'];
            $type = $iface['type'];
            ?>
            <option value="<?php echo $name;
?>"><?php echo $name ?></option>
            <?php } } ?>
          </select>
        </div>
      </div>
    </div>
  </div>

```

```

</div>
</div>
</section>
</div>
<script type="text/javascript">
var otomatis = setInterval(
function() {
    12. hotspot-setup.php
<?php
session_start();
require('api-
Class/routeros_api.Class.php');
require 'header.php';
require 'navbar.php';
require 'card.php';

?>
<div Class="col-12">
<div Class="card">
<div Class="card-header">
<h4>Hotspot Servers</h4>
</div>
<div Class="card-body">

<button type="button" Class="btn btn-
outline-success mb-2" data-bs-
toggle="modal"
data-bs-target="#inlineForm">
<i Class="fa fa-plus-square"></i>
</button>
<button type="button" Class="btn btn-
outline-success mb-2" data-bs-
toggle="modal"
data-bs-target="#ssidForm">
<i>SSID WiFi</i>
</button>
<!-- SSID Form Modal-->
<div Class="modal fade text-left"
id="ssidForm" tabindex="-1"
role="dialog" aria-
labelledby="myModalLabel33"
aria-hidden="true">
<div Class="modal-dialog modal-
dialog-centered modal-dialog-
scrollable" role="document">
<div Class="modal-content">

```

```

$('#jmlh').load('dhcp-lease.php
#jmlh').fadeIn("slow");
}, 1000);
</script>
<?php
require 'footer.php';
?>

<div Class="modal-header">
<h4 Class="modal-title"
id="myModalLabel33"> Ubah SSID
WiFi </h4>
<button type="button"
Class="close" data-bs-dismiss="modal"
aria-label="Close">
<h3 style="color: red;">X</h3>
</button>
</div>
<div Class="modal-body">
<form Class="form" method="post"
action="edit_ssidWifi.php">
<div Class="row">
<div Class="col-md-12 col-12">
<div Class="form-group">
<label>SSID WiFi</label>
<?php
error_reporting(0);
$API = new RouterosAPI();
if (require 'koneksi.php') {
$SSID = $API ->
comm('/interface/wireless/print');
//print_r($ip_pool);
$SSID_WiFi = count($SSID);
for($x=0; $x < $SSID_WiFi;
$x++){
    $wifi = $SSID[$x];
    $xid = $wifi['.id'];
    $xssid = $wifi['ssid'];
    }
    ?>
    <input type="text" name="id"
value="<?php echo $xid; ?>" hidden>
    <input type="text" name="ssid"
Class="form-control"
value="<?php echo $xssid ;?>">
    <?php } ;?>

```



```

        <option>---Isi Interface---
    </option>
    <?php
        error_reporting(0);
        $API = new RouterosAPI();
        if (require 'koneksi.php') {
            $interface = $API ->
comm('/interface/print');
        // print_r($interface);
        $count_interface =
count($interface);
        // $API->disconnect();
        for ($i=0; $i < $count_interface ;
        $i++) {
            $iface = $interface[$i];
            $name = $iface['name'];
            $port = $iface['default-name'];
            $type = $iface['type'];
            ?>
            <option value="<?php echo
$name; ?>"><?php echo $name
?></option>
            <?php }} ?>

        </select>
        </div>
    </div>
    <div Class="col-md-6 col-12">
        <div Class="form-group">
            <label for="first-name-
column">Profile</label>
            <select name="profile"
Class="form-control">
                <option>---Isi Profile---
    </option>
            <?php
                error_reporting(0);
                $API = new RouterosAPI();
                if (require 'koneksi.php') {
                    $profile = $API ->
comm('/ip/hotspot/profile/print');
                // print_r($profile);
                $count_profile = count($profile);
                // $API->disconnect();
                for ($y=0; $y < $count_profile ;
                $y++) {
                    $yface = $profile[$y];
                    $ynome = $yface['name'];
                    ?>
                    <option value="<?php echo
$ynome; ?>"><?php echo $ynome
?></option>
                    <?php }} ?>
                </select>
            </div>
        </div>
        <div Class="col-md-6 col-12">
            <div Class="form-group">
                <label>DNS Server</label>
                <input type="text"
name="dns_server" Class="form-
control"
                placeholder="Contoh : 8.8.8.8">
            </div>
        </div>
        <div Class="col-md-6 col-12">
            <div Class="form-group">
                <label> Username</label>
                <input type="text" name="
Username" Class="form-control"
                placeholder="Contoh : admin">
            </div>
        </div>
        <div Class="col-md-6 col-12">
            <div Class="form-group">
                <label>Password</label>
                <input type="text"
name="password" Class="form-control"
                placeholder="password">
            </div>
        </div>
        <div Class="col-12 d-flex justify-
content-end">
            <button type="submit" Class="btn
btn-primary me-1 mb-
1">Submit</button>
            <button type="reset" Class="btn
btn-light-secondary me-1 mb-
1">Reset</button>
        </div>
    </div>
</form>

```



```

</div>
<script type="text/javascript">
var otomatis = setInterval(
    function() {
        $('#jmlh').load('dhcp-lease.php
#jmlh').fadeIn("slow");

```

13. Address.php

```

<?php
session_start(); //Memulai sesi pengguna
require('api-
Class/routeros_api.Class.php');
//memasukkan dan menjalankan API
Mikrotik
require 'header.php'; //memasukkan
header.php
require 'navbar.php'; //memasukkan
navbar.php
require 'card.php'; //memasukkan
card.php

```

```

?>
<div Class="col-12">
<div Class="card">
<div Class="card-header">
<h4>Address</h4>
</div>
<div Class="card-body">

<button type="button" Class="btn btn-
outline-success mb-2" data-bs-
toggle="modal"
    data-bs-target="#inlineForm">
    <i Class="fa fa-plus-square"></i>
</button>

```

```

<!--login form Modal -->
<div Class="modal fade text-left"
id="inlineForm" tabindex="-1"
role="dialog"
    aria-labelledby="myModalLabel33"
    aria-hidden="true">
    <div Class="modal-dialog modal-
dialog-centered modal-dialog-
scrollable" role="document">
        <div Class="modal-content">
        <div Class="modal-header">

```

```

}, 1000);
</script>
<?php
    require 'footer.php';
?>

```

```

        <h4 Class="modal-title"
id="myModalLabel33"> Add Address
List </h4>
        <button type="button"
Class="close" data-bs-dismiss="modal"
aria-label="Close">
            <i data-feather="x"></i>
        </button>
    </div>
    <form action="add-Address.php"
method="post">
        <div Class="modal-body">
            <label>Address: </label>
            <div Class="form-group">
                <input type="text"
placeholder="Contoh 192.168.1.1/24"
name="ip"
                    Class="form-control">
            </div>
            <label>Interface</label>
            <div Class="form-group">
                <select name="interface"
Class="form-control">
                    <?php
                        error_reporting(0); //pelaporan jika
terjadi kesalahan
                        $API = new RouterosAPI();
//membuat variabel agar bisa
berkomunikasi dengan Mikrotik
                        if (require 'koneksi.php') { //jika
terhubung dengan koneksi.php maka
hasilnya didalam
                            $interface = $API ->
comm('/interface/print'); //variable untuk
mengkoneksikan dengan lokasi yang ada
di perangkat Mikrotik

                            $count_interface =
count($interface); //variable untuk

```

menghitung jumlah element atau array yang ada dalam *Mikrotik*

```

    for ($i=0; $i < $count_interface ;
    $i++) {
        $iface = $interface[$i];
        $name = $iface['name'];
        $port = $iface['default-name'];
        $type = $iface['type'];
        ?>
        <option value="<?php echo
$name; ?>"><?php echo $name
?></option>
        <?php } } ?>
    </select>
</div>
</div>
<div Class="modal-footer">
    <button type="button" Class="btn
btn-light-secondary" data-bs-
dismiss="modal">
        <i Class="bx bx-x d-block d-sm-
none"></i>
        <span Class="d-none d-sm-
block">Close</span>
    </button>
    <button type="submit" Class="btn
btn-primary ml-1">
        <i Class="bx bx-check d-block d-
sm-none"></i>
        <span Class="d-none d-sm-
block">Submit</span>
    </button>
</div>
</form>
</div>
</div>
</div>
<table id="table1" Class="table"
style="width:100%">
    <thead>
    <tr>
        <th>Interface Address</th>
        <th>Ip Address</th>
        <th>Status</th>
        <th>Non-Aktif</th>
        <th>Aktif</th>

```

```

        <th>Aksi</th>
        <th>Edit</th>
    </tr>
</thead>
<tbody>
    <?php
    error_reporting(0);
    $API = new RouterosAPI();
    if (require 'koneksi.php') {
        $ARRAY = $API ->
    comm("/ip/Address/print");
    $total = count($ARRAY);

    for ($i = 0; $i < $total; $i++) {
        $addr = $ARRAY[$i];
        $id = $addr['.id'];
        $ UserActive = $addr['Address'];
        $interface = $addr['interface'];
        $stats = $addr['disabled'];
        ?>
        <tr>
            <td> <?php echo $interface; ?></td>
            <td><?php echo $ UserActive; ?>
        </td>
            <td><?php if ($stats == "true") {
                echo "<p Class='btn btn-danger'> Non
                Active</p>";
            }else{echo "<p Class='btn btn-
                success'> Active</p>";} ?></td>
            <td> <a href='action-
                Address.php?id="<?php echo $id;
                ?>"><button Class='btn btn-danger mb-
                2'><i
                    Class="fa fa-
                    times"></i></button></a></td>
            <td> <a href='action-Address-
                2.php?id="<?php echo $id; ?>"><button
                Class='btn btn-primary mb-2'><i
                Class="fa fa-
                check"></i></button></a></td>
            <td><a href="delete-
                Address.php?id="<?php echo $id; ?>"
                Class="btn btn-danger"
                onclick="javascript: return
                confirm('Apakah Anda Yakin Ingin
                Menghapus Address <?php echo $
                UserActive ; ?> ?>)"><i

```



```

        if (require 'koneksi.php') {
            $ User = $API -> comm('/
User/getall');
            //print_r($servers);
            $ Users = count($ User);
            $x=0;
            $aktif = $ User[$x];
            $id = $aktif['id'];
            $ User_admin = $aktif['name'];

            ?>
            <input type="text" name="id"
value="<?php echo $id ;?>" hidden>
            <input type="text"
placeholder="Pengguna" name="
Username" Class="form-control"
value="<?php echo $ User_admin;
?>" disabled>
        </div>
        <label>Sandi Baru </label>
        <div Class="form-group">
            <input type="password"
placeholder="Sandi Baru"
name="new_password" Class="form-
control">
        </div>

```

15. *logout.php*

```

<?php

session_start();

echo "<script>>window.location =
'login/login.php';</script>";

```

```

        <label>Ulangi Sandi Baru </label>
        <div Class="form-group">
            <input type="password"
placeholder="Ulangi Sandi Baru"
name="confirm_password"
            Class="form-control">
        </div>
        <div Class="modal-footer">
            <button type="submit" Class="btn
btn-primary ml-1">
                <i Class="bx bx-check d-block d-
sm-none"></i>
                <span Class="d-none d-sm-
block">Simpan</span>
            </button>
        </div>
        <?php };>
    </div>
</form>
</div>
</div>

<?php
require 'footer.php';
?>

```

```

?>

```



KARTU MONITORING BIMBINGAN
 MAHASISWA PROGRAM STUDI TEKNIK INFORMATIKA
 FAKULTAS TEKNIK
 UNIVERSITAS MUHAMMADIYAH PAREPARE

PROPOSAL

Mahasiswa : NIRWAN	Pembimbing I : ADE HASTUTI, ST.,S.Kom.,MT.
NIM : 219280004	Pembimbing II : MUGHAFIR YUNUS, ST.,MT.
Judul Skripsi : IMPLEMENTASI LOAD BALANCING 4 JALUR SMK NEGERI 2 PINRANG MENGGUNAKAN METODE NTH & APLIKASI SPEEDTEST	

ARAHAN PEMBIMBING I	HARI/TGL & PARAF PEMBIMBING	ARAHAN PEMBIMBING II	HARI/TGL & PARAF PEMBIMBING
Konsultasi 1 Pembuatan Proposal		Konsultasi 1 Aksi format penulisan	
Konsultasi 2 Penyusunan kerangka load balancing Metode Nth		Konsultasi 2 Perbaikan bab 1	
Konsultasi 3 acc		Konsultasi 3 Perbaikan bab 4	
Konsultasi 4		Konsultasi 4 Perbaikan bab III	
Konsultasi 5		Konsultasi 5 Aca	

Lanjut ke halaman sebelah...

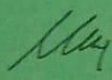
Perhatian :

1. Mahasiswa wajib konsultasi minimal 5 kali
2. Kartu ini wajib dibawa oleh mahasiswa di setiap konsultasi dan diisi oleh Pembimbing
3. Kartu ini wajib dilampirkan pada laporan skripsi dan menjadi salah satu persyaratan untuk ikut seminar proposal/ujian skripsi
4. Kartu ini dicetak di atas kertas karton berwarna hijau muda dan dicetak timbal balik

Lanjutan

ARAHAN PEMBIMBING I	HARI/TGL & PARAF PEMBIMBING	ARAHAN PEMBIMBING II	HARI/TGL & PARAF PEMBIMBING
Konsultasi 6		Konsultasi 6	
Konsultasi 7		Konsultasi 7	
Konsultasi 8		Konsultasi 8	
Konsultasi 9		Konsultasi 9	
Konsultasi 10		Konsultasi 10	

Mengetahui
Ketua Program Studi


Marlina, S.Kom., M.Kom.
NBM. 1162 680

Parepare, 03 Januari 2023

Mahasiswa


NIRWAN
NIM. 219280004

Perhatian :

1. Mahasiswa wajib konsultasi minimal 5 kali
2. Kartu ini wajib dibawa oleh mahasiswa setiap konsultasi dan diisi oleh Pembimbing
3. Kartu ini wajib dilampirkan pada laporan skripsi dan menjadi salah satu persyaratan untuk ikut seminar proposal/ujian skripsi
4. Kartu ini dicetak di atas kertas karton berwarna hijau muda dan dicetak timbal balik



KARTU MONITORING BIMBINGAN
MAHASISWA PROGRAM STUDI TEKNIK INFORMATIKA
FAKULTAS TEKNIK
UNIVERSITAS MUHAMMADIYAH PAREPARE

SKRIPSI

Mahasiswa : NIRWAN	Pembimbing I : ADE HASTUTI ST.,S.Kom.,MT.
NIM : 219280004	Pembimbing II : MUGHAFIR YUNUS, ST.,MT.
Judul Skripsi : APLIKASI MANAJEMEN BANDWIDTH DAN INTERNET GATEWAY MIKROTIK BERBASIS WEB	

ARAHAN PEMBIMBING I	HARI/TGL & PARAF PEMBIMBING	ARAHAN PEMBIMBING II	HARI/TGL & PARAF PEMBIMBING
Konsultasi 1 1. tambah dari url 2. tambah dari password 3. Abstrak 4. Tahap tahap dari desktop 09/08/2023		Konsultasi 1 Konsultasi Penguasaan Aplikasi 02/02/2023	
Konsultasi 2 1. perbaikan abstrak 2. Penambahan review Jurnal 015/08/2023		Konsultasi 2 Penambahan fitur pada aplikasi dan dokumen 07/02/2023	
Konsultasi 3 Acc 15/08/2023		Konsultasi 3 Perubahan dan Penambahan pada dokumen ke-2 08/09/2023	
Konsultasi 4		Konsultasi 4 Acc 12/08/2023	
Konsultasi 5		Konsultasi 5	

Lanjut ke halaman sebelah...

Perhatian :

1. Mahasiswa wajib konsultasi minimal 5 kali
2. Kartu ini wajib dibawa oleh mahasiswa disetiap konsultasi dan diisi oleh Pembimbing
3. Kartu ini wajib dilampirkan pada laporan skripsi dan menjadi salah satu persyaratan untuk ikut seminar proposal/ujian skripsi
4. Kartu ini dicetak di atas kertas karton berwarna hijau muda dan dicetak timbal balik

Lampiran

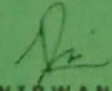
ARAHAN PEMBIMBING 1	HARI/TGL & PARAF PEMBIMBING 1	ARAHAN PEMBIMBING 2	HARI/TGL & PARAF PEMBIMBING 2
Konsultasi 6		Konsultasi 6	
Konsultasi 7		Konsultasi 7	
Konsultasi 8		Konsultasi 8	
Konsultasi 9		Konsultasi 9	
Konsultasi 10		Konsultasi 10	

Mengetahui
Ketua Program Studi

Marlina, S.Kom., M.Kom.
NBM. 1162 680

Parepare, 01 Juni 2023

Mahasiswa


NIRWAN
NIM. 219280004

Perhatian :

1. Mahasiswa wajib konsultasi minimal 5 kali
2. Kartu ini wajib ditanda oleh mahasiswa setiap konsultasi dan diisi oleh Pembimbing
3. Kartu ini wajib dilampirkan pada laporan skripsi dan menjadi salah satu persyaratan untuk ikut seminar proposal/ujian skripsi
4. Kartu ini dicetak di atas kertas karton berwarna hijau muda dan dicetak timbal balik

KARTU MONITORING BIMBINGAN
 MAHASISWA PROGRAM STUDI TEKNIK INFORMATIKA
 FAKULTAS TEKNIK
 UNIVERSITAS MUHAMMADIYAH PAREPARE

SKRIPSI

Nama : NIRWAN	Pembimbing I : Ade Hastuti, ST., S.Kom., MT
NIM : 218280005	Pembimbing II : Mughaffir Yunus, ST., MT
Judul : APLIKASI MANAJEMEN BANDWIDTH DAN INTERNET GATEWAY MIKROTIK BERBASIS WEB	

ARAHAN PEMBIMBING I	HARI/TGL & PARAF PEMBIMBING	ARAHAN PEMBIMBING II	HARI/TGL & PARAF PEMBIMBING
1. <i>Ubah Daftar Pustaka</i>	<i>Sabta / 26-08-2021</i> <i>HS</i>	Konsultasi 1 <i>Implementasi</i>	<i>RF</i>
2. <i>Uraian Uraian</i>	<i>Jumat / 17-09-2021</i> <i>HS</i>	Konsultasi 2	<i>RF</i>
3.		Konsultasi 3 <i>Acc</i> <i>Uraian Tutup</i>	<i>RF</i>
4.		Konsultasi 4	
5.		Konsultasi 5	

Lanjut ke halaman sebelah...

1. Mahasiswa wajib konsultasi minimal 5 kali.
 2. Mahasiswa wajib dibawa oleh mahasiswa disetiap konsultasi dan diisi oleh Pembimbing.
 3. Mahasiswa wajib dilampirkan pada laporan skripsi dan menjadi salah satu persyaratan untuk ikut seminar proposal/ujian skripsi.
 4. Kartu ini dicetak di atas kertas karton berwarna hijau muda dan dicetak timbal balik.

Lanjutan ...

ARAHAN PEMBIMBING I	HARI/TGL & PARAF PEMBIMBING	ARAHAN PEMBIMBING II	HARI/TGL & PARAF PEMBIMBING
Konsultasi 6		Konsultasi 6	
Konsultasi 7		Konsultasi 7	
Konsultasi 8		Konsultasi 8	
Konsultasi 9		Konsultasi 9	
Konsultasi 10		Konsultasi 10	

Parepare, 20 Maret 2024

Mengetahui
Ketua Program Studi


Marlina, S.Kom., M.Kom.
NBM. 1162 680

Mahasiswa


NIRWAN
NIM. 219280004

Perhatian :

1. Mahasiswa wajib konsultasi minimal 5 kali
2. Kartu ini wajib dibawa oleh mahasiswa disetiap konsultasi dan diisi oleh Pembimbing
3. Kartu ini wajib dilampirkan pada laporan skripsi dan menjadi salah satu persyaratan untuk ikut seminar proposal/ujian skripsi
4. Kartu ini dicetak di atas kertas karton berwarna hijau muda dan dicetak timbal balik



SERTIFIKAT

Nomor : 520/PRK/LB-TI/II.3.AU/D/2023

Diberikan Kepada :

Nirwan

NIM..219280004

Telah Menyelesaikan

PRAKTIKUM V

Laboratorium Teknik Informatika
Program Studi Teknik Informatika Fakultas Teknik
Universitas Muhammadiyah Parepare

Pada tanggal 16 Januari 2023 - 29 Maret 2023
Parepare, 15 Juni 2023

KETUA PRODI
TEKNIK INFORMATIKA



Marlina. S.kom., M.kom
NBM. 1162 680

KEPALA
LABORATORIUM



Ir. Untung Suwardoyo, S.Kom., MT., IPP.
NBM. 1288 973





**Nilai Praktikum laboratorium Teknik Informatika
Fakultas Teknik Universitas Muhammadiyah Parepare Tahun 2023**

MATERI	NILAI ANGKA
PENGOLAHAN CITRA DIGITAL	92,5
AUGMENTED DAN VIRTUAL REALITY	80
MIKROKONTROLER	85
PEMROGRAMAN MOBILE	95,5
RATA-RATA	88,25
NILAI HURUF	A

