Projektowanie Aplikacji Internetowych

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PHP, cz. 2

Połączenie z bazą danych MySQL/MariaDB

Połączenie z bazą danych MySQL/MariaDB

- MySQLi Object-Oriented
- MySQL Procedural
- PDO - PHP Data Objects

Połączenie z bazą danych MySQL/MariaDB

- MySQLi Object-Oriented

```
<?php
$servername = "adres_IP";
$username = "login_do_bazy_danych";
$password = "hasło";

$link = new mysqli($servername, $username, $password);

if ($link->connect_error) {
    die("Błąd połączenia: " . $link->connect_error);
}
echo "Połączenie powiodło się!";

$link->close();
?>
```

Połączenie z bazą danych MySQL/MariaDB

- MySQL Procedural

```
<?php
$servername = "adres_IP";
$username = "login_do_bazy_danych";
$password = "hasło";

$link = mysqli_connect($servername, $username,
$password);

if (!$link) {
    die("Błąd połączenia: " . mysqli_connect_error());
}
echo "Połączenie powiodło się!";

mysqli_close($link);
?>
```

Połączenie z bazą danych MySQL/MariaDB

- PDO - PHP Data Objects

```
<?php
$servername = "adres_IP";
$username = "login_do_bazy_danych";
$password = "hasło";

try {
    $link = new
PDO("mysql:host=$servername;dbname=myDB", $username,
$password);
    echo "Połączenie powiodło się!";
    }
catch(PDOException $e)
    {
    echo "Błąd połączenia: " . $e->getMessage();
    }
$link = null;
?>
```

http://pl.wikibooks.org/wiki/PHP/Biblioteka_PDO

Wybrane funkcje dla MySQLi

mysqli_connect()

```
$link = mysqli_connect("localhost", "login", "hasło",
"baza_danych");

if (!$link) {
    die("Błąd połączenia: " . mysqli_connect_error());
}
echo "Połączenie powiodło się!";

mysqli_close($link);
```

Wybrane funkcje dla MySQLi

mysqli_close()

```
mysqli_close($link);

$q=mysqli_query($link, "select * from tester");

while ($tabl = mysqli_fetch_array($q)){
echo $tabl['ID'];
}
```

Wybrane funkcje dla MySQLi

mysqli_affected_rows()

```
echo mysqli_affected_rows($link);
echo "<br>";
mysqli_query($link,"select * from tester;");
echo mysqli_affected_rows($link);
echo "<br>";
mysqli_query($link,"insert into tester values (null,
'abc');");
echo mysqli_affected_rows($link);
echo "<br>";
mysqli_query($link,"insert into bledna_nazwa (null,
'abc');");
echo mysqli_affected_rows($link);
echo "<br>";
```

```
0
3
1
-1
```

Wybrane funkcje dla MySQLi

mysqli_autocommit()

```
mysqli_autocommit($link,FALSE);

mysqli_query($link,"delete from tester;");

//mysqli_commit($link);

//mysqli_query($link,"rollback;");
//mysqli_rollback($link);
```

Wybrane funkcje dla MySQLi

mysqli_commit()

```
mysqli_autocommit($link,FALSE);

mysqli_query($link,"delete from tester;");

mysqli_commit($link); //mysqli_query($link,"commit;");
```

Wybrane funkcje dla MySQLi

mysqli_connect_errno()
mysqli_connect_error()

```
$link=mysqli_connect("localhost", "aniewiarowski1",
"haslo", "aniewiarowski_baza");

if (! $link) {
echo "Błąd połączenia: " . mysqli_connect_errno() . ", " .
mysqli_connect_error();
}
```

Błąd połączenia: 1045, Access denied for user 'aniewiarowski1'@'localhost' (using password: YES)

Wybrane funkcje dla MySQLi

mysqli_error()
mysqli_errno()

```
$q=mysqli_query($link,"insert into tester values
(123,456,789)");

if (! $q) {
echo mysqli_error($link) . ", " . mysqli_errno($link);
}

echo "<br>";

if (! mysqli_query($link,"select * from testerrrr")) {
echo mysqli_error($link) . ", " . mysqli_errno($link);
}
```

Column count doesn't match value count at row 1, 1136
Table 'aniewiarowski_baza.testerrrr' doesn't exist, 1146

Wybrane funkcje dla MySQLi

mysqli_fetch_array()

```
mysql> desc uzytkownicy;
+-------+-------------+------+-----+---------+----------------+
| Field | Type        | Null | Key | Default | Extra          |
+-------+-------------+------+-----+---------+----------------+
| ID_u  | int(11)     | NO   | PRI | NULL    | auto_increment |
| login | varchar(20) | YES  |     | NULL    |                |
| haslo | varchar(32) | YES  |     | NULL    |                |
+-------+-------------+------+-----+---------+----------------+
```

```
<pre>
<?php
$q=mysqli_query($link,"select * from uzytkownicy;");

while ($tabl = mysqli_fetch_array ($q)) {
echo "{$tabl['login']} {$tabl['imie']} {$tabl['nazwisko']}
{$tabl['haslo']} \n";
}

?>
</pre>
```

```
alex    202cb962ac59075b964b07152d234b70
anka    202cb962ac59075b964b07152d234b70
michal   202cb962ac59075b964b07152d234b70
```

Wybrane funkcje dla MySQLi

mysqli_fetch_array()

```
<pre>
<?php
$q=mysqli_query($link,"select * from uzytkownicy;");

while ($tabl = mysqli_fetch_array ($q)) {
echo "{$tabl['0']} {$tabl['1']} {$tabl[2]} {$tabl[3]} \n";
}

?>
</pre>
```

```
5 alex 202cb962ac59075b964b07152d234b70
6 anka 202cb962ac59075b964b07152d234b70
7 michal 202cb962ac59075b964b07152d234b70
```

Wybrane funkcje dla MySQLi

mysqli_fetch_assoc()

```
<pre>
<?php
$q=mysqli_query($link,"select * from uzytkownicy;");

while ($tabl = mysqli_fetch_assoc ($q)) {
echo "{$tabl['login']} {$tabl['haslo']} {$tabl[0]} \n";
}

?>
</pre>
```

```
alex 202cb962ac59075b964b07152d234b70
anka 202cb962ac59075b964b07152d234b70
michal 202cb962ac59075b964b07152d234b70
```

Wybrane funkcje dla MySQLi

mysqli_fetch_row()

```
<pre>
<?php
$q=mysqli_query($link,"select * from uzytkownicy;");

while ($tabl = mysqli_fetch_row ($q)) {
echo "{$tabl['login']} {$tabl['0']} {$tabl[1]} \n";
}

?>
</pre>
```

```
5 alex
6 anka
7 michal
```

Wybrane funkcje dla MySQLi

mysqli_fetch_row()

```
<pre>
<?php
$q=mysqli_query($link,"select * from uzytkownicy;");

while ($tabl = mysqli_fetch_row ($q)) {
foreach ($tabl as $r=>$k)
echo "$r:$k | ";
echo "\n";
}

?>
</pre>
```

```
0:5 | 1:alex | 2:202cb962ac59075b964b07152d234b70 |
0:6 | 1:anka | 2:202cb962ac59075b964b07152d234b70 |
0:7 | 1:michal | 2:202cb962ac59075b964b07152d234b70 |
```

Wybrane funkcje dla MySQLi

mysqli_fetch_row()

```
<pre>
<?php
$q=mysqli_query($link,"select * from uzytkownicy;");
foreach (mysqli_fetch_row ($q) as $t => $k) {
echo "$t: $k \n";
}
?>
</pre>
```

```
0: 5
1: alex
2: 202cb962ac59075b964b07152d234b70
```

Wybrane funkcje dla MySQLi

mysqli_fetch_lengths()

```
<pre>
<?php
$q=mysqli_query($link,"select * from uzytkownicy;");

$row = mysqli_fetch_row($q);

foreach (mysqli_fetch_lengths($q) as $t => $k) {
echo "$t: $k \n";
}
?>
</pre>
```

```
0: 1
1: 4
2: 32
```

Wybrane funkcje dla MySQLi

mysqli_fetch_object()

```
<pre>
<?php
$q=mysqli_query($link,"select * from uzytkownicy;");

while ($obj = mysqli_fetch_object($q)){
echo $obj->login . "\n";
}

?>
</pre>
```

```
alex
anka
michal
```

Wybrane funkcje dla MySQLi

mysqli_fetch_object()

```
<pre>
<?php

class user {

public static function pobierz_uzytkownika($id) {

$link = new mysqli("localhost", "aniewiarowski", "xxxxx",
"aniewiarowski_baza");
        if ($wynik = $link->query("select * from uzytkownicy where ID_u =
$id ;")) {
            return $wynik->fetch_object('user');
        }
}

}

$u = user::pobierz_uzytkownika('6');
echo $u->login;

?>
</pre>
```

Wybrane funkcje dla MySQLi

mysqli_fetch_object()

```
<pre>
<?php

class user {

public static function pobierz_uzytkownika($id) {

$link = mysqli_connect("localhost", "aniewiarowski", "xxxxxx",
"aniewiarowski_baza");
        if ($wynik = mysqli_query($link,"select * from uzytkownicy where
ID_u = $id ;")) {
            return mysqli_fetch_object($wynik,'user');

        }
}

}
echo user::pobierz_uzytkownika('6')->login;

?>
</pre>
```

Wybrane funkcje dla MySQLi

mysqli_field_count()

```
<pre>
<?php

mysqli_query($link, "select ID_u from uzytkownicy;");
echo mysqli_field_count($link);

?>
</pre>
```

1

Wybrane funkcje dla MySQLi

mysqli_num_fields()

```
<pre>
<?php

$q=mysqli_query($link, "select ID_u from uzytkownicy;");
echo mysqli_num_fields($q);

?>
</pre>
```

1

Wybrane funkcje dla MySQLi

mysqli_free_result()

```
<?php

$q=mysqli_query($link, "select * from uzytkownicy;");

mysqli_free_result($q);

while ($tabl = mysqli_fetch_array($q)){
echo $tabl['login'] . "\n";
}

?>
```

Warning: mysqli_fetch_array() [function.mysqli-fetch-array]: Couldn't fetch mysqli_result in **/home/imk-prac/aniewiarowski/**[redacted] on line **13**

Wybrane funkcje dla MySQLi

mysqli_get_server_info()

```
<?php

echo mysqli_get_server_info($link);

?>
```

5.1.73, 50173

Wybrane funkcje dla MySQLi

mysqli_insert_id()

```
<pre>
<?php

mysqli_query($link, "insert into uzytkownicy (ID_u, login, haslo)
values (null, 'jola', md5('123'))");
echo mysqli_insert_id($link)."\n";
mysqli_query($link, "insert into uzytkownicy (login, haslo)
values ('joanna', md5('123'))");
echo mysqli_insert_id($link)."\n";
mysqli_query($link, "insert into uzytkownicy (ID_u, login, haslo)
values (123,'wladyslaw', md5('123'))");
echo mysqli_insert_id($link)."\n";
mysqli_query($link, "insert into uzytkownicy (ID_u, login, haslo)
values (123,'wladyslaw', md5('123'))");
echo mysqli_insert_id($link)."\n";

?>
</pre>
```

```
8
9
123
123
```

Wybrane funkcje dla MySQLi

mysqli_num_rows()

```
<pre>
<?php

$q=mysqli_query($link, "select * from uzytkownicy;");
echo mysqli_num_rows($q). "\n";

while ($tabl=mysqli_fetch_array($q)){
echo $tabl['login'] . "\n";
}

?>
</pre>
```

```
6
alex
anka
michal
jola
joanna
wladyslaw
```

Wybrane funkcje dla MySQLi

mysqli_ping()

```
<pre>
<?php

if (mysqli_ping($link))
  {
  echo "Połączenie jest ok! " . mysqli_ping($link);
  }
else
  {
  echo "Błąd!!! ". mysqli_error($link);
  }

  mysqli_close($link);

?>
</pre>
```

```
Połączenie jest ok! 1
```

Wybrane funkcje dla MySQLi

mysqli_real_escape_string()

```
$_POST['login']="andrzej'";
$_POST['haslo']="123";
?>

<pre>
<?php

$_POST['login'] = mysqli_real_escape_string($link, $_POST['login']);
$_POST['haslo'] = mysqli_real_escape_string($link, $_POST['haslo']);

mysqli_query($link, "insert into uzytkownicy (login, haslo)
values ('{$_POST['login']}', md5('{$_POST['haslo']}'))");


?>
</pre>
```

Wybrane funkcje dla MySQLi

mysqli_real_escape_string()

```
$_POST['login']="tomasz'";
$_POST['haslo']="123";
?>

<pre>
<?php

//$_POST['login'] = mysqli_real_escape_string($link, $_POST['login']);
//$_POST['haslo'] = mysqli_real_escape_string($link, $_POST['haslo']);

mysqli_query($link, "insert into uzytkownicy (login, haslo)
values ('{$_POST['login']}', md5('{$_POST['haslo']}'))");

echo mysqli_error($link);

?>
</pre>
```

You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '123'))' at line 2

Wybrane funkcje dla MySQLi

mysqli_real_escape_string()

```
$_POST['login']="tosia'";
$_POST['haslo']="123";
?>


<pre>
<?php

foreach ($_POST as $k=>$r) {$_POST[$k] = mysqli_real_escape_string($link,
$r);}
foreach ($_GET as $k=>$r) {$_GET[$k] = mysqli_real_escape_string($link, $r);}

mysqli_query($link, "insert into uzytkownicy (login, haslo)
values ('{$_POST['login']}', md5('{$_POST['haslo']}'))");

echo mysqli_error($link);

?>
</pre>
```

Wybrane funkcje dla MySQLi

mysqli_select_db()

```
<pre>
<?php

mysqli_select_db($link, "abc_baza");

?>
</pre>
```

Wybrane funkcje dla MySQLi

mysqli_query()

```
<form method=post>
<textarea name=sql></textarea> <input type=submit value=ok>
</form>
<?
if (isset($_POST['sql'])) {
if (stripos($_POST['sql'], "drop ") >-1 || stripos($_POST['sql'], "delete ") >-1)
{die("nie mogę wykonać polecenia");}

$pyt = mysqli_query($link, $_POST['sql']);
echo "<style>table, tr, th, td {border: 1px solid
black;border-collapse:collapse}</style>";
echo "<table>";
while ($tabl = mysqli_fetch_assoc($pyt)) {
echo "<tr>";
foreach ($tabl as $kol => $val) {echo "<td>{$val}</td>";}
echo "</tr>";
}
echo "</table>";
} //if
?>
```

show tables

ok

adjectiveswithpositions
adjpositions
adjpositiontypes
casedwords
dict
lexdomains
lexlinks
linktypes
morphmaps
morphology

drop table uzytkownicy

ok

nie mogę wykonać polecenia

desc uzytkownicy

ok

ID_u	int(11)	NO	PRI	auto_increment
login	varchar(20)	YES		
haslo	varchar(32)	YES		

Kodowanie znaków strona WWW – baza danych

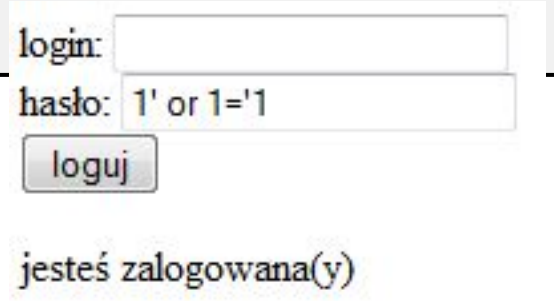
```
<? header('Content-Type: text/html; charset=utf-8'); ?>

<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />

<?
class db {
public $link="";
 function __construct($db, $user, $pass) {

$this->link=mysqli_connect("localhost",$user, $pass, $db) or die ("Błąd
połączenia z bazą danych.");

$this->query("SET character_set_results = 'utf8', character_set_client =
'utf8', character_set_connection = 'utf8', character_set_database = 'utf8',
character_set_server = 'utf8'");

   }

function query($q) {
    return   mysqli_query($this->link, $q);
}

    } //class
?>
```

Logowanie do systemu

```
<form method=post>
login: <input type=text name=login><br>
hasło: <input type=text name=haslo><br>
<input type=submit value=loguj>
</form>

<?
$link= mysqli_connect("localhost", "XX", "Hasło", "XX_baza") or die ("błąd
połączenia: " . mysqli_connect_error ());

$pyt = mysqli_query($link, "select count(*) cnt from users where
login='{$_POST['login']}' and pass='{$_POST['haslo']}'" );

if (! $pyt) {echo mysqli_error($link); exit;}

$tabl= mysqli_fetch_assoc($pyt);
if ( $tabl['cnt'] ) {echo "jesteś zalogowana(y)";} else {echo "błędny login
lub hasło!";}
?>
```

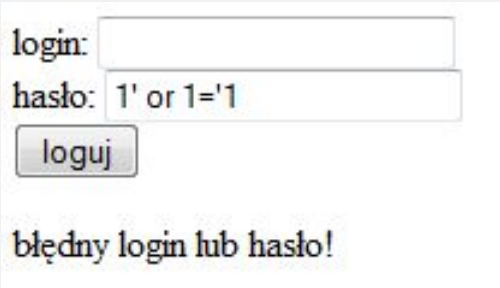
Logowanie do systemu – SQL injection

```
<form method=post>
login: <input type=text name=login><br>
hasło: <input type=text name=haslo><br>
<input type=submit value=loguj>
</form>

<?
$link= mysqli_connect("localhost", "XX", "Hasło", "XX_baza") or die ("błąd
połączenia: " . mysqli_connect_error ());

$pyt = mysqli_query($link, "select count(*) cnt from users where
login='{$_POST['login']}' and pass='{$_POST['haslo']}'" );

if (! $pyt) {echo mysqli_error($link); exit;}

$tabl= mysqli_fetch_assoc($pyt);
if ( $tabl['cnt'] ) {echo "jesteś zalogowana(y)";} else {echo "błędny login
lub hasło!";}
?>
```



Logowanie do systemu – SQL injection – zabezpieczenie logowania

```
<form method=post>
login: <input type=text name=login><br>
hasło: <input type=text name=haslo><br>
<input type=submit value=loguj>
</form>

<?
$link= mysqli_connect("localhost", "XX", "Hasło", "XX_baza") or die ("błąd
połączenia: " . mysqli_connect_error ());

$_POST['login'] = mysqli_real_escape_string($link, $_POST['login']);
$_POST['haslo'] = mysqli_real_escape_string($link, $_POST['haslo']);

$pyt = mysqli_query($link, "select count(*) cnt from users where
login='{$_POST['login']}' and pass='{$_POST['haslo']}'" );

if (! $pyt) {echo mysqli_error($link); exit;}

$tabl= mysqli_fetch_assoc($pyt);
if ( $tabl['cnt'] ) {echo "jesteś zalogowana(y)";} else {echo "błędny login
lub hasło!";}
?>
```



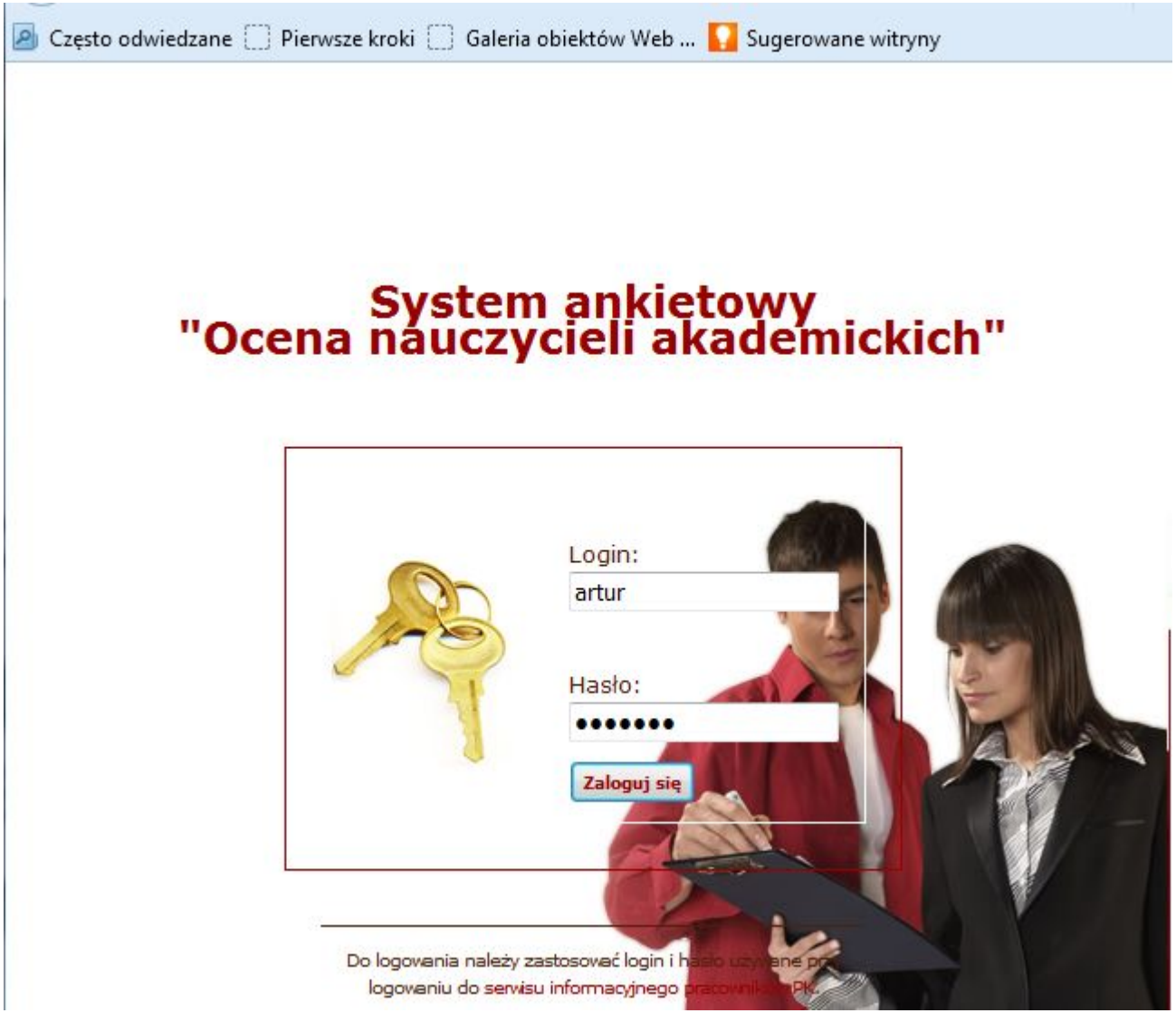
Logowanie do systemu - zabezpieczenie logowania

Funkcja md5 – JavaScript

```
https://web.mck.pk.edu.pl/~aniewiarowski/lab/PAI/md5.js
```

Logowanie do systemu - zabezpieczenie logowania

Przykłady braku zabezpieczenia protokołem ***https***

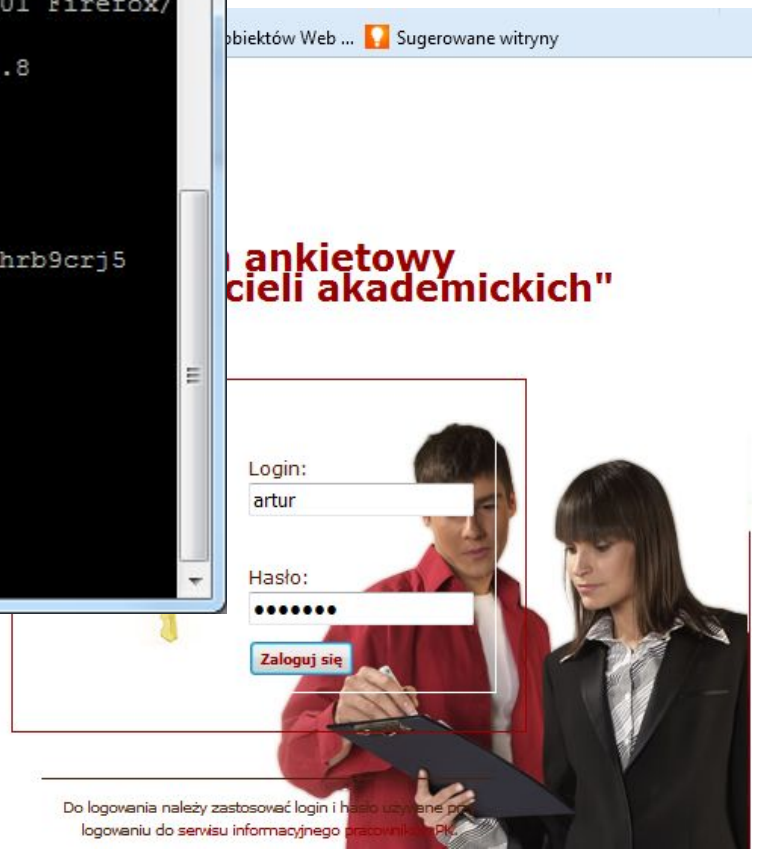


Logowanie do systemu - zabezpieczenie logowania

Przykłady braku zabezpieczenia protokołem ***https***

root@localhost:~

```
[root@localhost ~]# tcpflow -i eno2 src host 10.0.0.3 and dst port 80 -c
tcpflow[3347]: listening on eno2
010.000.000.003.64491-149.156.132.053.00080: POST /pracownik/logowanie.php HTTP/
1.1
Host: ankiety.pk.edu.pl
User-Agent: Mozilla/5.0 (Windows NT 6.1; WOW64; rv:41.0) Gecko/20100101 Firefox/
41.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: pl,en-US;q=0.7,en;q=0.3
Accept-Encoding: gzip, deflate
Content-Type: application/x-www-form-urlencoded; charset=UTF-8
Referer: http://ankiety.pk.edu.pl/pracownik/login.php
Content-Length: 25
Cookie: _ga=GA1.3.1245974602.1422113417; PHPSESSID=5n2gdcmbp83jd77humhrb9crj5
Connection: keep-alive
Pragma: no-cache
Cache-Control: no-cache

login=artur&haslo=haselko
```

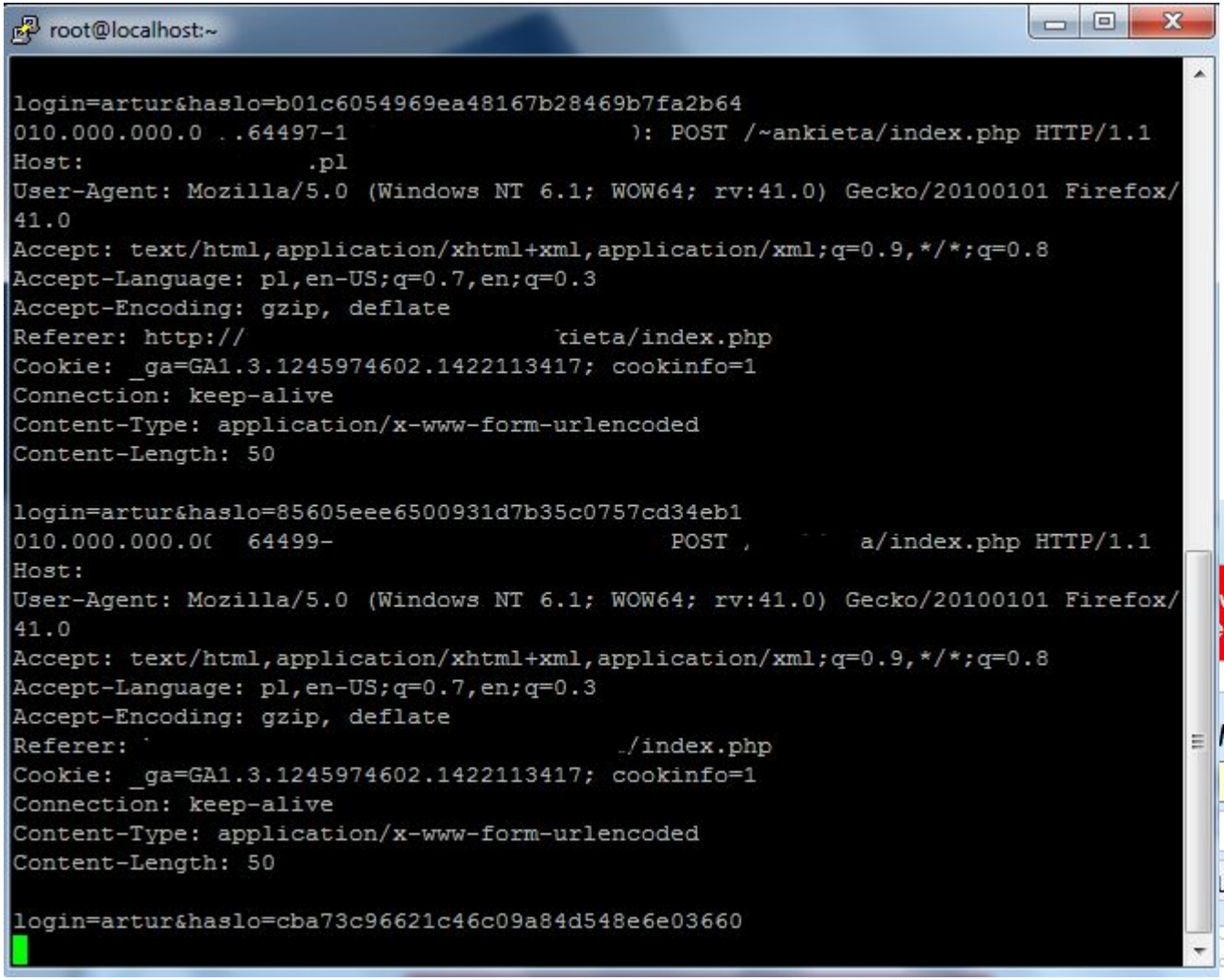


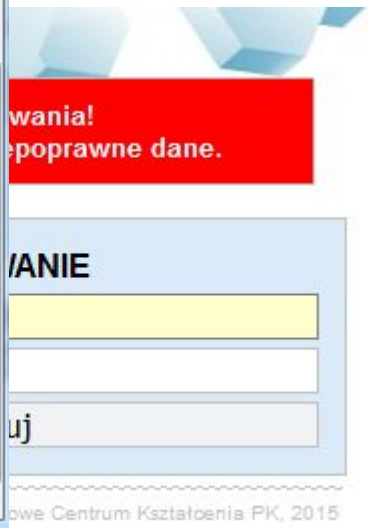
Logowanie do systemu - zabezpieczenie logowania

Przykłady braku zabezpieczenia protokołem ***https***

Logowanie do systemu - zabezpieczenie logowania

Przykłady braku zabezpieczenia protokołem ***https***





Inne funkcje haszujące w JavaScript

https://code.google.com/p/crypto-js/

Hashers

The Hasher Algorithms

MD5

MD5 is a widely used hash function. It's been used in a variety of security applications and is also commonly used to check the integrity of files. Though, MD5 is not collision resistant, and it isn't suitable for applications like SSL certificates or digital signatures that rely on this property.

```
<script src="http://crypto-js.googlecode.com/svn/tags/3.1.2/build/rollups/md5.js"></script>
<script>
    var hash = CryptoJS.MD5("Message");
</script>
```

SHA-1

The SHA hash functions were designed by the National Security Agency (NSA). SHA-1 is the most established of the existing SHA hash functions, and it's used in a variety of security applications and protocols. Though, SHA-1's collision resistance has been weakening as new attacks are discovered or improved.

```
<script src="http://crypto-js.googlecode.com/svn/tags/3.1.2/build/rollups/sha1.js"></script>
<script>
    var hash = CryptoJS.SHA1("Message");
</script>
```

Inne funkcje haszujące w JavaScript

https://code.google.com/p/crypto-js/

SHA-2

SHA-256 is one of the four variants in the SHA-2 set. It isn't as widely used as SHA-1, though it appears to provide much better security.

```
<script src="http://crypto-js.googlecode.com/svn/tags/3.1.2/build/rollups/sha256.js"></script>
<script>
    var hash = CryptoJS.SHA256("Message");
</script>
```

SHA-512 is largely identical to SHA-256 but operates on 64-bit words rather than 32.

```
<script src="http://crypto-js.googlecode.com/svn/tags/3.1.2/build/rollups/sha512.js"></script>
<script>
    var hash = CryptoJS.SHA512("Message");
</script>
```

CryptoJS also supports SHA-224 and SHA-384, which are largely identical but truncated versions

SHA-3

SHA-3 is the winner of a five-year competition to select a new cryptographic hash algorithm where

NOTE: I made a mistake when I named this implementation SHA-3. It should be named Keccak[c= an instance of the Keccak algorithm, which NIST selected as the winner of the SHA-3 competition, hashes identical to Keccak.

```
<script src="http://crypto-js.googlecode.com/svn/tags/3.1.2/build/rollups/sha3.j
<script>
    var hash = CryptoJS.SHA3("Message");
</script>
```

SHA-3 can be configured to output hash lengths of one of 224, 256, 384, or 512 bits. The default is

```
<script src="http://crypto-js.googlecode.com/svn/tags/3.1.2/build/rollups/sha3.j
<script>
    var hash = CryptoJS.SHA3("Message", { outputLength: 512 });
    var hash = CryptoJS.SHA3("Message", { outputLength: 384 });
    var hash = CryptoJS.SHA3("Message", { outputLength: 256 });
    var hash = CryptoJS.SHA3("Message", { outputLength: 224 });
</script>
```

RIPEMD-160

```
<script src="http://crypto-js.googlecode.com/svn/tags/3.1.2/build/rollups/ripemd160.js"></script>
<script>
    var hash = CryptoJS.RIPEMD160("Message");
</script>
```

The Hasher Input

The hash algorithms accept either strings or instances of CryptoJS.lib.WordArray. A WordArray object represents an array of 32-bit words. When you pass a string, it's automatically converted to a WordArray encoded as UTF-8.

The Hasher Output

The hash you get back isn't a string yet. It's a WordArray object. When you use a WordArray object in a string context, it's automatically converted to a hex string.

```
<script src="http://crypto-js.googlecode.com/svn/tags/3.1.2/build/rollups/sha256.js"></script>
<script>
    var hash = CryptoJS.SHA256("Message");

    alert(typeof hash); // object

    alert(hash); // 2f77668a9dfbf8d5848b9eeb4a7145ca94c6ed9236e4a773f6dcafa5132b2f91
</script>
```

You can convert a WordArray object to other formats by explicitly calling the toString method and passing an encoder.

```
<script src="http://crypto-js.googlecode.com/svn/tags/3.1.2/build/rollups/sha256.js"></script>
<script src="http://crypto-js.googlecode.com/svn/tags/3.1.2/build/components/enc-base64-min.js"></script>
<script>
    var hash = CryptoJS.SHA256("Message");

    alert(hash.toString(CryptoJS.enc.Base64)); // L3dmip37+NWEi57rSnFFypTG7ZI25Kdz9tyvpRMrL5E=

    alert(hash.toString(CryptoJS.enc.Latin1)); // /wf►►ûøO►►►ëJqEE►£í►6ä§söÜ¯¥+/►

    alert(hash.toString(CryptoJS.enc.Hex)); // 2f77668a9dfbf8d5848b9eeb4a7145ca94c6ed9236e4a773f6dcafa5132b2f91
</script>
```

Inne funkcje haszujące w JavaScript

https://code.google.com/p/crypto-js/

Rabbit

Rabbit is a high-performance stream cipher and a finalist in the eSTREAM Portfolio. It is one of the four designs selected after a 3 1/2-year process where 22 designs were evaluated.

```
<script src="http://crypto-js.googlecode.com/svn/tags/3.1.2/build/rollups/rabbit.js"></script>
<script>
    var encrypted = CryptoJS.Rabbit.encrypt("Message", "Secret Passphrase");

    var decrypted = CryptoJS.Rabbit.decrypt(encrypted, "Secret Passphrase");
</script>
```

RC4, RC4Drop

RC4 is a widely-used stream cipher. It's used in popular protocols such as SSL and WEP. Although remarkable for its simplicity and speed, the algorithm's history doesn't inspire confidence in its security.

```
<script src="http://crypto-js.googlecode.com/svn/tags/3.1.2/build/rollups/rc4.js"></script>
<script>
    var encrypted = CryptoJS.RC4.encrypt("Message", "Secret Passphrase");

    var decrypted = CryptoJS.RC4.decrypt(encrypted, "Secret Passphrase");
</script>
```

It was discovered that the first few bytes of keystream are strongly non-random and leak information about the key. We can defend against this attack by discarding the initial portion of the keystream. This modified algorithm is traditionally called RC4-drop.

By default, 192 words (768 bytes) are dropped, but you can configure the algorithm to drop any number of words.

```
<script src="http://crypto-js.googlecode.com/svn/tags/3.1.2/build/rollups/rc4.js"></script>
<script>
    var encrypted = CryptoJS.RC4Drop.encrypt("Message", "Secret Passphrase");

    var encrypted = CryptoJS.RC4Drop.encrypt("Message", "Secret Passphrase", { drop: 3072/4 });

    var decrypted = CryptoJS.RC4Drop.decrypt(encrypted, "Secret Passphrase", { drop: 3072/4 });
</script>
```

Logowanie do systemu

md5 – zabezpieczenie logowania

```
<script src=https://torus.uck.pk.edu.pl/~aniewiarowski/md5.js></script>

<form method=post>

login: <input type=text name=login><br>
hasło: <input type=text id=haslo><br>
<input type=hidden name=haslo id=haslo_id>
<input type=submit
onClick="document.getElementById('haslo').disabled='disabled';document.getEle
mentById('haslo_id').value=hex_md5(document.getElementById('haslo').value)"
value=loguj>
</form>
```

Logowanie do systemu

md5 – dodatkowy md5 – zabezpieczenie logowania

```
<script src=https://torus.uck.pk.edu.pl/~aniewiarowski/md5.js></script>

<form method=post>

login: <input type=text name=login><br>
hasło: <input type=text id=haslo><br>
<input type=hidden name=haslo id=haslo_id>
<input type=hidden name=los id=los value="<?echo rand(-10000,10000); ?>">

<input type=submit
onClick="document.getElementById('haslo').disabled='disabled';document.getEle
mentById('haslo_id').value=hex_md5(document.getElementById('los').value + ''
+ hex_md5(document.getElementById('haslo').value))" value=loguj>
</form>
```

Logowanie do systemu

md5 – dodatkowy md5 – zabezpieczenie logowania

```
$pyt = mysqli_query($link, "select count(*) cnt from users where
login='{$_POST['login']}' and md5(concat( '{$_POST['los']}' ,
pass))='{$_POST['haslo']}'" );
```

Logowanie do systemu

md5 – dodatkowy md5 + sesja – zabezpieczenie logowania

```
<?
session_start();

?>
<script src=https://torus.uck.pk.edu.pl/~aniewiarowski/md5.js></script>

<form method=post>

login: <input type=text name=login><br>
hasło: <input type=text id=haslo><br>
<input type=hidden name=haslo id=haslo_id>

<input type=submit
onClick="document.getElementById('haslo').disabled='disabled';document.getEle
mentById('haslo_id').value=hex_md5(document.getElementById('los').value + ''
+ hex_md5(document.getElementById('haslo').value))" value=loguj>
</form>

<input type=hidden name=los id=los value="<?
$los = md5(rand(-10000,10000));
echo $los;
?>">
```

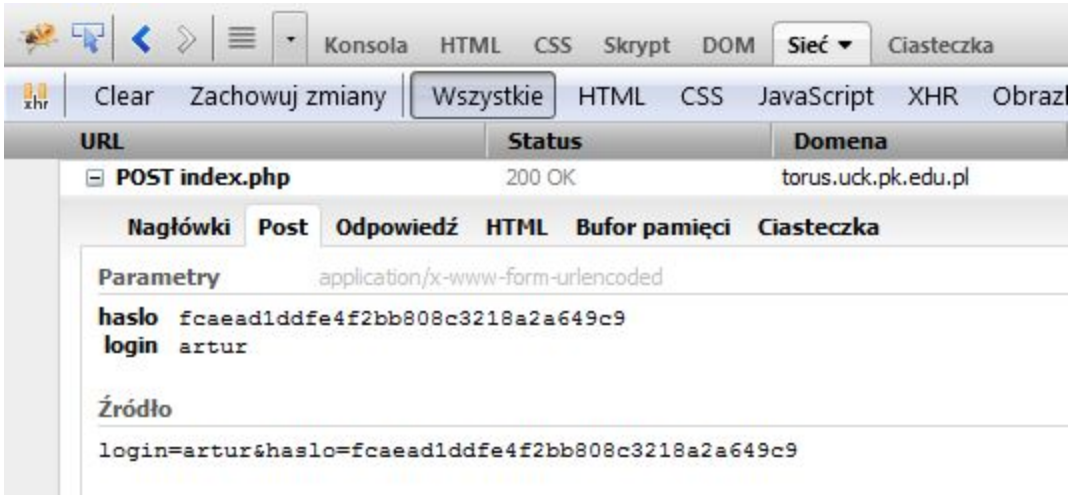
Logowanie do systemu

md5 – dodatkowy md5 + sesja – zabezpieczenie logowania

```
<?
if (isset($_POST['login'])) {
$link= mysqli_connect("localhost", "XX", "Hasło", "XX_baza") or die ("błąd
połączenia: " . mysqli_connect_error ());

$_POST['login'] = mysqli_real_escape_string($link, $_POST['login']);
$_POST['haslo'] = mysqli_real_escape_string($link, $_POST['haslo']);

$pyt = mysqli_query($link, "select count(*) cnt from users where
login='{$_POST['login']}' and md5(concat( '{$_SESSION['los']}' ,
pass))='{$_POST['haslo']}'" );

if (! $pyt) {echo mysqli_error($link); exit;}

$tabl= mysqli_fetch_assoc($pyt);
if ( $tabl['cnt'] ) {echo "jesteś zalogowana(y)"; $_SESSION['los'] =
md5(rand(-10000,10000));
} else {
echo "błędny login lub hasło!"; $_SESSION['los'] = $los; }
} else {
$_SESSION['los'] = $los;
}
?>
```

Logowanie do systemu

md5 – dodatkowy md5 + sesja – zabezpieczenie logowania



Logowanie do systemu

Logi – błędy logowania użytkowników

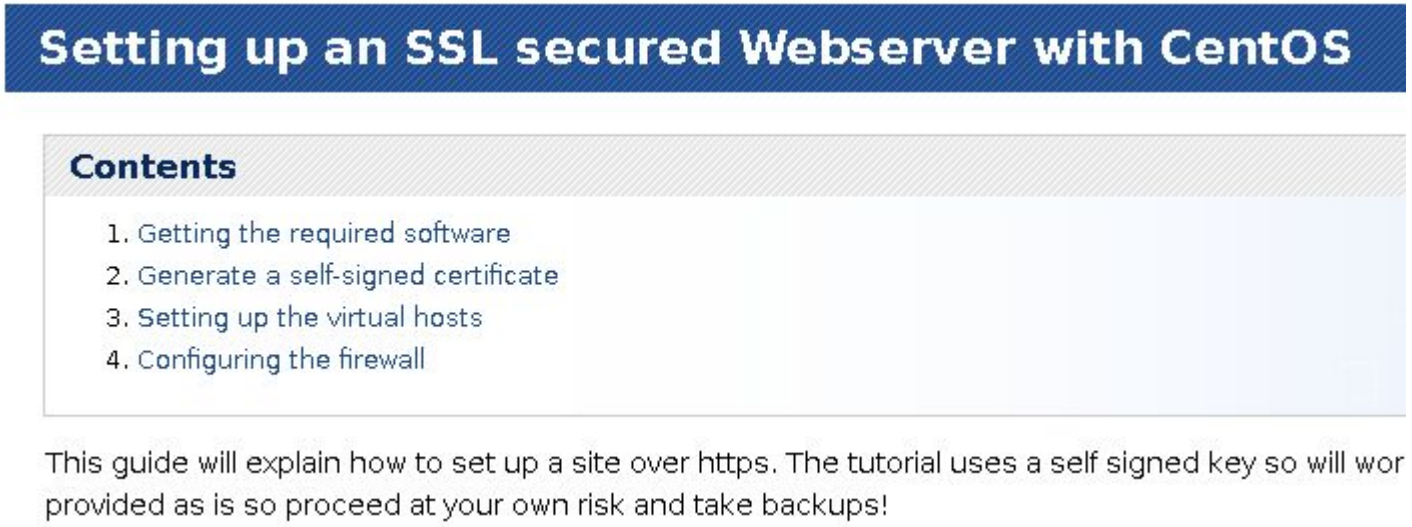
```
<?
if (isset($_POST['login'])) {
$link= mysqli_connect("localhost", "XX", "Hasło", "XX_baza") or die ("błąd połączenia: " .
mysqli_connect_error ());

$_POST['login'] = mysqli_real_escape_string($link, $_POST['login']);
$_POST['haslo'] = mysqli_real_escape_string($link, $_POST['haslo']);

$pyt = mysqli_query($link, "select count(*) cnt from users where login='{$_POST['login']}'
and md5(concat( '{$_SESSION['los']}' , pass))='{$_POST['haslo']}'" );

if (! $pyt) {echo mysqli_error($link); exit;}

$tabl= mysqli_fetch_assoc($pyt);
if ( $tabl['cnt'] ) {echo "jesteś zalogowana(y)";} else {echo "błędny login lub hasło!";

mysqli_query($link, "insert into logi (IPhost, login) values ('{$_SERVER['REMOTE_ADDR']}
({$_SERVER['REMOTE_HOST']})', '{$_POST['login']}')");

} //błędne hasło

 } //post login

?>
```

Zabezpieczenie przed cofnięciem się wstecz po wylogowaniu

```
<?
header("Cache-Control: no-store, no-cache, must-revalidate");
header("Cache-Control: post-check=0, pre-check=0, max-age=0", false);
header("Pragma: no-cache");
?>
```

Połączenie szyfrowane

```
https://wiki.centos.org/HowTos/Https
```



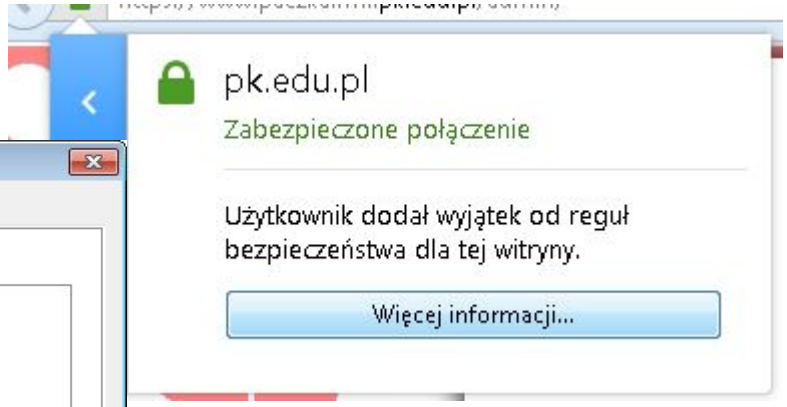
Setting up an SSL secured Webserver with CentOS

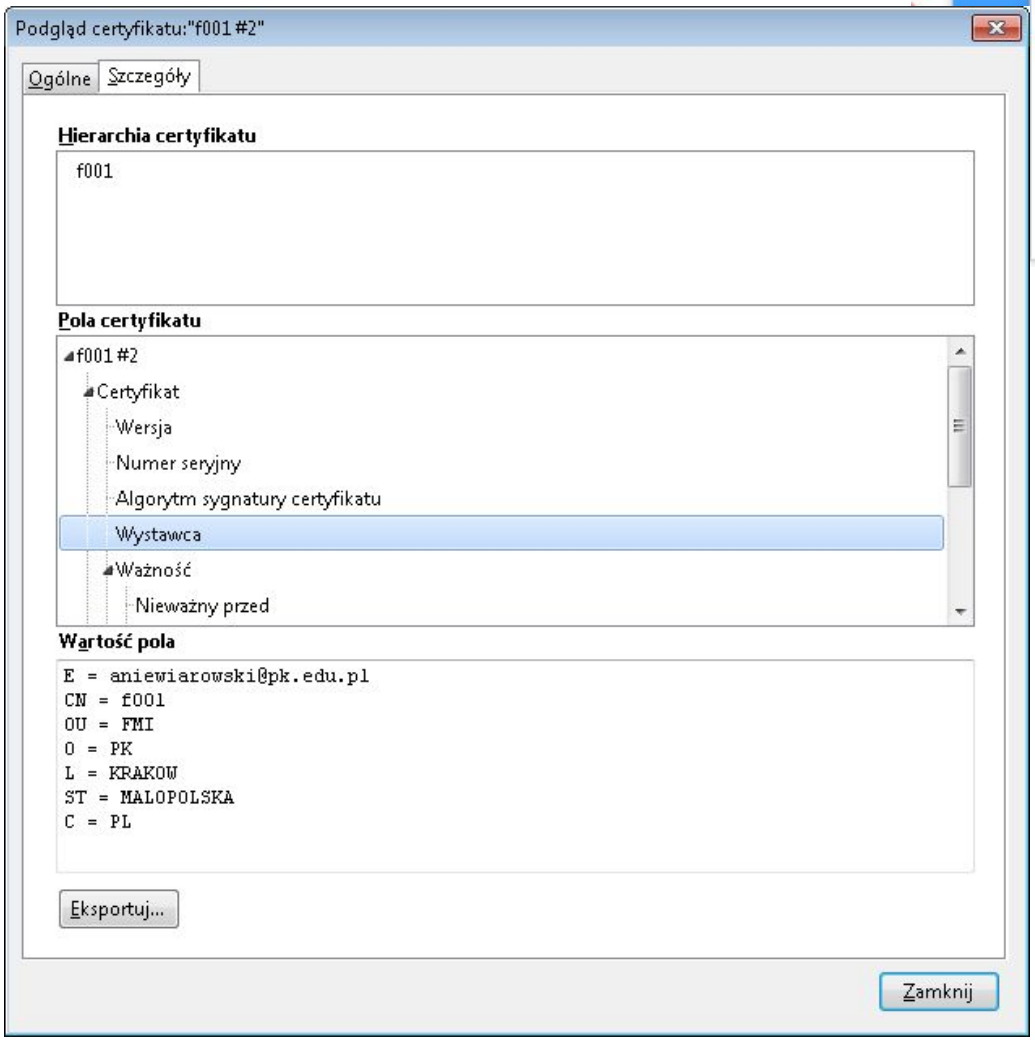
Contents

1. Getting the required software
2. Generate a self-signed certificate
3. Setting up the virtual hosts
4. Configuring the firewall

This guide will explain how to set up a site over https. The tutorial uses a self signed key so will wor
provided as is so proceed at your own risk and take backups!

Połączenie szyfrowane





Klasy

Klasy – tworzenie klas

```
<?php
class Student
{
public $name;
public $surname;
public function setFullName($name, $surname)
{
$this->name = $name;
$this->surname = $surname;
}
public function getFullName()
{
return $this->name.' '.$this->surname;
}
}  //class
```

C. D. N.