

Министерство науки и высшего образования Российской Федерации
ФЕДЕРАЛЬНОЕ ГОСУДАРСТВЕННОЕ АВТОНОМНОЕ ОБРАЗОВАТЕЛЬНОЕ УЧРЕЖДЕНИЕ ВЫСШЕГО
ОБРАЗОВАНИЯ

**«НАЦИОНАЛЬНЫЙ ИССЛЕДОВАТЕЛЬСКИЙ
УНИВЕРСИТЕТ ИТМО»**

ФАКУЛЬТЕТ СРЕДНЕГО ПРОФЕССИОНАЛЬНОГО ОБРАЗОВАНИЯ

**ОТЧЕТ
О ЛАБОРАТОРНОЙ РАБОТЕ № 6**

По теме: Создание интерфейсов к СУБД средствами php

По дисциплине: Основы проектирования баз данных

Специальность 09.02.07 «Информационные системы и программирование»

Дисциплина «Технологии разработки и защиты баз данных»

Преподаватель:

_____ Говоров А.И.

Дата: «__» _____ 20__ г.

Оценка _____

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Цель работы: овладеть практическими навыками разработки форм для вставки, выборки и редактирования данных.

Задание:

1. Изучить функции открытия соединения к базе данных средствами PHP.
2. Изучить основные функции для создания php-скрипта (на базе видео-уроков 1-7).
3. Создать сайт с использованием базовых возможностей PHP (в соответствии с содержанием видео-уроков 1-7).

На рисунках 1-3 изображены интерфейсы к таблицам пациентов, врачей и кабинетов клиники БД «Клиника». Интерфейс позволяет добавлять новые данные, изменять старые и удалять их. На рисунке 4 представлена главная страница, в которой пользователь выбирает тот или иной интерфейс к таблицам базы данных, а также представлены результаты нескольких запросов из 5 лабораторной работы.

ID	NAME	GENDER	DOB	ADDRESS	PHONE		
1	Patient 1	t	1990-12-20	Street 1 home 1 flat 1	1532789	Delete	Change
2	Patient 2	t	1990-10-20	Street 2 home 1 flat 1	1532718	Delete	Change
3	Patient 3	f	1969-01-01	Street 3 home 1 flat 1	1532234	Delete	Change
4	Patient 4	f	2001-02-20	Street 4 home 1 flat 1	3445119	Delete	Change
5	Patient 5	f	1988-12-20	Street 10 home 1 flat 1	1532727	Delete	Change
6	Patient 6	f	1970-04-13	Street 11 home 11 flat 1	3482328	Delete	Change
7	Patient 7	t	1964-11-10	Street 9 home 2 flat 1	4321000	Delete	Change
8	Patient 8	f	1994-09-05	Street 13 home 1 flat 1	3432899	Delete	Change
ID	name	gender	DoB	address	phone	create	

Рисунок 1 – интерфейс к таблице «patient»

ID	NAME	GENDER	DOB	EDUCATION	PROFESSION	PHONE	ADDRESS		
1	Doctor 1	t	1978-01-01	8 years	psychologist	1265522	Street 5 home 5 flz	Delete	Change
2	Doctor 2	f	1983-03-03	10 years	gynecologist	1234244	Street 6 home 6 flz	Delete	Change
3	Doctor 3	f	1989-04-01	6 years	optometrist	5623447	Street 7 home 7 flz	Delete	Change
4	Doctor 4	t	1967-09-02	12 years	endocrinologist	1238899	Street 8 home 8 flz	Delete	Change
5	Doctor 5	t	1977-01-01	8 years	psychologist	1265521	Street 5 home 5 flz	Delete	Change
6	Doctor 6	f	1982-03-03	10 years	gynecologist	1234243	Street 6 home 6 flz	Delete	Change
7	Doctor 7	f	1988-04-01	6 years	optometrist	5623446	Street 7 home 7 flz	Delete	Change
8	Doctor 8	t	1966-09-02	12 years	endocrinologist	1238898	Street 8 home 8 flz	Delete	Change
ID	name	gender	DoB	education	profession	phone	address	create	

Рисунок 2 – интерфейс к таблице «doctor»

NUMBER	OPENS	CLOSES	PHONE		
1	10:30:00	17:45:00	1111111	Delete	Change
2	08:00:00	20:45:00	2222222	Delete	Change
3	09:15:00	20:45:00	3333333	Delete	Change
4	11:30:00	18:45:00	4444444	Delete	Change
5	09:15:00	20:45:00	5555555	Delete	Change
6	11:30:00	18:45:00	6666666	Delete	Change
7	09:15:00	20:45:00	7777777	Delete	Change
8	11:30:00	18:45:00	8888888	Delete	Change
number	start	end	phone	create	

Рисунок 3 – интерфейс к таблице «cabinet»



Рисунок 4 – интерфейс БД

Appointment ID, doctor name and patient name:

APPOINTMENT ID	DOCTOR NAME	PATIENT NAME
1	Doctor 2	Patient 1
2	Doctor 1	Patient 5
3	Doctor 6	Patient 2
4	Doctor 3	Patient 3
5	Doctor 5	Patient 8
6	Doctor 8	Patient 3
7	Doctor 7	Patient 7
8	Doctor 8	Patient 3

Рисунок 5 - результаты первого запроса

PATIENT ID	PATIENT NAME	HOW LONG NOT PAID
3	Patient 3	2 days
7	Patient 7	25 days

Bill was bigger than 1000 rubles:

BILL NUMBER	BILL SUM
2	3000
5	3000
7	3000

Рисунок 6 – результаты ещё 2 запросов

PATIENT ID	PATIENT NAME	PATIENT GENDER	PATIENT DOB	PATIENT ADDRESS	PATIENT PHONE
6	Patient 6	f	1970-04-13	Street 11 home 11 flat 1	3482328
4	Patient 4	f	2001-02-20	Street 4 home 1 flat 1	3445119

Doctors age at the day of the appointment:

DOCTOR NAME	DOCTOR AGE (AT DAY OF APPOINTMENT)
Doctor 3	30 years 10 mons 2 days
Doctor 7	31 years 10 mons 4 days
Doctor 2	36 years 10 mons 29 days
Doctor 6	37 years 10 mons 30 days
Doctor 1	42 years 1 mon 1 day
Doctor 5	43 years 1 mon 3 days
Doctor 8	53 years 5 mons 3 days
Doctor 8	53 years 5 mons 4 days

Рисунок 7 – результаты последних 2 запросов

Ниже представлен файл index.php

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title> CLINIC INTERFACE </title>
    <meta http-equiv="content-type" content="text/html; charset=utf-8">
```

```

        <link rel="stylesheet" href="style.css">
        <link rel="stylesheet"
href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.cs
s">
    </head>
    <body>
    <div class="container">
        <h1 class="header-h1"> CLINIC </h1>
        <ul>
            <form action="add.php" method="post">
                <button "btn btn-info" type="submit" name="pat">Patients</button>
                <button "btn btn-info" type="submit" name="doc">Doctors</button>
                <button "btn btn-info" type="submit" name="cab">Cabinets</button>
            </form>
        </ul>
    </div>
    <?php
$dbuser = 'postgres';
$dbpass = '1234';
$host = 'localhost';
$dbname = 'clinic';
$db = pg_connect("host = $host port = 5432 dbname = $dbname user = $dbuser
password = $dbpass");
echo '
<p> Appointment ID, doctor name and patient name: </p>
<table class="table table-striped" frame="border">
    <thead>
        <tr>
            <th> APPOINTMENT ID </th>
            <th> DOCTOR NAME </th>
            <th> PATIENT NAME </th>
        </tr>
    </thead>
    <tbody>
        <tr>
            <td><input type="text" class="form-control" value=" ' . $value
. ' " </td></tr>
        </tr>
    </tbody>
    </table>
    </div>
    </body>
    </html>
    </pre>

```

```

}
echo '</thead></table>'
';
echo '
</br></br>
<p> For how long did miosis patient not paid the bill: </p>
<table class="table table-striped" frame="border">
    <thead>
        <tr>
            <th> PATIENT ID </th>
            <th> PATIENT NAME </th>
            <th> HOW LONG NOT PAID </th>

</tr>
';
$query = "select          a_patient,          mc_full_name,
age(clinic.payment.p_date_closed,clinic.payment.p_date_opened)
FROM clinic.payment, clinic.medical_card, clinic.appointment
WHERE a_diagnosis = 'miosis' AND a_patient = mc_id AND a_payment = p_id ORDER
BY mc_id";
$result1 = pg_query($db, $query);
while($result = pg_fetch_row($result1)) {
    echo '<tr>';
    foreach ($result as $value)
        echo '<td><input type="text" class="form-control" value="' . $value
        . '" </td>';
    echo '</tr>';
}
echo '</thead></table>'
';
echo '
</br></br>
<p> Bill was bigger than 1000 rubles: </p>
<table class="table table-striped" frame="border">
    <thead>
        <tr>
            <th> BILL NUMBER </th>
            <th> BILL SUM</th>

</tr>
';
$query = "select p_id, max(p_sum) from clinic.payment GROUP BY p_id having
max(p_sum) > 1000 ORDER BY p_id";
$result1 = pg_query($db, $query);
while($result = pg_fetch_row($result1)) {

```

```

        echo '<tr>';
        foreach ($result as $value)
            echo '<td><input type="text" class="form-control" value="' .
$value . '"' </td>';
        echo '</tr>';
    }
    echo '</thead></table>';
    echo '
</br></br>
<p> All registered patients, that did not have an appointment yet: </p>
<table class="table table-striped" frame="border">
    <thead>
        <tr>
            <th> PATIENT ID </th>
            <th> PATIENT NAME </th>
            <th> PATIENT GENDER </th>
            <th> PATIENT DOB</th>
            <th> PATIENT ADDRESS </th>
            <th> PATIENT PHONE </th>

        </tr>
    ';
    $query = "select distinct * from clinic.medical_card WHERE not mc_id =
any (SELECT a_patient FROM clinic.appointment)";
    $result1 = pg_query($db, $query);
    while($result = pg_fetch_row($result1)) {
        echo '<tr>';
        foreach ($result as $value)
            echo '<td><input type="text" class="form-control" value="' .
$value . '"' </td>';
        echo '</tr>';
    }
    echo '</thead></table>';
    echo '
</br></br>
<p> Doctors age at the day of the appointment: </p>
<table class="table table-striped" frame="border">
    <thead>
        <tr>
            <th> DOCTOR NAME </th>
            <th>DOCTOR AGE (AT DAY OF APPOINTMENT) </th>

        </tr>

```

```

        ';
        $query = "select d_full_name, age (clinic.appointment.a_date,
clinic.doctor.d_dob) from clinic.appointment,
        clinic.doctor WHERE a_doctor = d_id ORDER BY age";
        $result1 = pg_query($db, $query);
        while($result = pg_fetch_row($result1)) {
            echo '<tr>';
            foreach ($result as $value)
                echo '<td><input type="text" class="form-control" value="' .
$value . '" </td>';
            echo '</tr>';
        }
        echo '</thead></table>
        ';
    ?>
</body>
</html>

```

Ниже представлен файл add.php

```

<!DOCTYPE html>
<html lang="en">
<head>
    <title> CLINIC INTERFACE </title>
    <meta http-equiv="content-type" content="text/html; charset=utf-8">
    <link rel="stylesheet" href="style.css">
    <link rel="stylesheet"
href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.cs
s">
</head>
<body>
<?php
    $dbuser = 'postgres';
    $dbpass = '1234';
    $host = 'localhost';
    $dbname = 'clinic';

    $db = pg_connect("host = $host port = 5432 dbname = $dbname user = $dbuser
password = $dbpass");

    if (isset($_POST['pat'])) {
        echo '<p>PATIENTS</p>
        <table class="table table-striped" frame="border">
        <thead>

```



```

<tr>
    <th> ID </th>
    <th> NAME </th>
    <th> GENDER </th>
    <th> DOB </th>
    <th> ADDRESS </th>
    <th> PHONE </th>
</tr>

    ';

$query = "select * from clinic.medical_card";
$result = pg_query($db, $query);
$count = pg_num_rows($result);
for ($i = 1; $i <= $count; $i++) {
    echo '<tr>';

    $query = "select * from clinic.medical_card where mc_id = " . $i;
    $result = pg_query($db, $query);
    $result = pg_fetch_row($result);
    $temp = 1;
    foreach($result as $value) {
        ?>
        <form method="POST" action="insertfirst.php" >
            <td><input name="<?=$temp ?>" type="text" class="form-control"
                value="<?=$value?>" </td>
            <?php
                $temp++;
            }?>
            <td><button class="btn btn-danger"
type="submit" name="del">Delete</button> </td>
            <td><button class="btn btn-primary" type="submit"
name="ch">Change</button> </td>
        </form>
    </tr>

    <?php }

    if ($i = $count) {
        ?>
        <form method="POST" action="insertfirst.php" >

```

```

        <th><input type="text" class="form-control" value="ID" name="mc_id">
</th>

        <th><input type="text" class="form-control" value="name"
name="mc_full_name"> </th>

        <th> <input type="text" class="form-control"
value="gender"name="mc_gender"></th>

        <th> <input type="text" class="form-control" value="DoB"
name="mc_dob"> </th>

        <th> <input type="text" class="form-control" value="address"
name="mc_address"></th>

        <th><input type="text" class="form-control"
value="phone"name="mc_phone_num"> </th>

        <th> <input type="submit" class="btn btn-success" value="create"
name="sub"></th>

    </form>

<?php
}

}

elseif (isset($_POST['doc'])) {
    echo '

<p> DOCTORS: </p>

<table class="table table-striped" frame="border">
<thead>

    <tr>

        <th> ID </th>

        <th> NAME </th>

        <th> GENDER </th>

        <th> DOB </th>

        <th> EDUCATION </th>

        <th> PROFESSION </th>

        <th> PHONE </th>

        <th> ADDRESS </th>

    </tr>

';

$query = "select * from clinic.doctor";
$result = pg_query($db, $query);
$count = pg_num_rows($result);
for ($i = 1;$i <= $count; $i++) {
    echo '<tr>';

```

```

$query = "select * from clinic.doctor where d_id = " . $i;
$result = pg_query($db, $query);
$result = pg_fetch_row($result);
$temp = 1;
foreach($result as $value) {
    ?>
    <form method="POST" action="insertsecond.php" >
        <td><input name="<?= $temp ?>" type="text" class="form-
control"
            value="<?=$value?>" </td>
        <?php
            $temp++;
        }?>
        <td><button class="btn btn-danger" type="submit"
name="del">Delete</button> </td>
        <td><button class="btn btn-primary" type="submit"
name="ch">Change</button> </td>
    </form>
</tr>
<?php }
if ($i = $count) {
    ?>
    <tr>
        <form method = "post" action="insertsecond.php" >
            <th><input type="text" class="form-control" value="ID" name="d_id">
</th>
            <th><input type="text" class="form-control" value="name"
name="d_full_name"> </th>
            <th> <input type="text" class="form-control"
value="gender" name="d_gender"></th>
            <th> <input type="text" class="form-control" value="DoB" name="d_dob">
</th>
            <th> <input type="text" class="form-control" value="education"
name="d_education"> </th>
            <th> <input type="text" class="form-control" value="profession"
name="d_profession"> </th>
            <th><input type="text" class="form-control"
value="phone" name="d_phone_num"> </th>
            <th> <input type="text" class="form-control" value="address"
name="d_address"></th>

```

```

        <th> <input type="submit" class="btn btn-success" value="create"
name="sub"></th>

    </form>

</tr>

<?php
}
}

elseif (isset($_POST['cab'])) {
echo '

    <p> CABINETS: </p>

    <table class="table table-striped" frame="border">
    <thead>

    <tr>
    <th> NUMBER </th>
    <th> OPENS </th>
    <th> CLOSES </th>
    <th> PHONE </th>
    </tr>

    ';

$query = "select * from clinic.cabinet";
$result = pg_query($db, $query);
$count = pg_num_rows($result);
for ($i = 1;$i <= $count; $i++) {
    echo '<tr>';

    $query = "select * from clinic.cabinet where c_number = " . $i;
    $result = pg_query($db, $query);
    $result = pg_fetch_row($result);
    $temp = 1;
    foreach($result as $value) {
        ?>

        <form method="POST" action="insertthird.php" >

            <td><input name="<?=$temp ?>"type="text" class="form-
control"

                value="<?=$value?>" </td>

            <?php
                $temp++;

            }?>

```

```

                <td><button class="btn btn-danger" type="submit"
name="del">Delete</button> </td>

                <td><button class="btn btn-primary" type="submit"
name="ch">Change</button> </td>

            </form>

        </tr>

<?php }

if ($i = $count) {

    ?>

    <tr>

        <form method = "post" action="insertthird.php" >

            <th><input type="text" class="form-control" value="number"
name="c_number"> </th>

            <th><input type="text" class="form-control" value="start"
name="c_wt_start"> </th>

            <th> <input type="text" class="form-control"
value="end"name="c_wt_end"></th>

            <th> <input type="text" class="form-control" value="phone"
name="c_phone_num"> </th>

            <th> <input type="submit" class="btn btn-success"
value="create" name="sub"></th>

        </form>

    </tr>

</thead>

</table>

</body>

</html>

<?php

}

}

?>

```

Ниже представлен файл insertfirst.php

```
<?php
$dbuser = 'postgres';
$dbpass = '1234';
$host = 'localhost';
$dbname='clinic';
$db = pg_connect("host=$host port=5432 dbname=$dbname user=$dbuser
password=$dbpass");
if(isset($_POST['sub'])) {
    $query2 = "insert into clinic.medical_card values('$_POST[mc_id]',
'$_POST[mc_full_name]',
    '$_POST[mc_gender]',      '$_POST[mc_dob]',      '$_POST[mc_address]',
'$_POST[mc_phone_num]')";
    $result = pg_query($db, $query2);
}
if (isset($_POST['del'])) {
    $query = "delete from clinic.medical_card where mc_id = '$_POST[1]' ";
    $result = pg_query($db, $query);
}
if(isset($_POST['ch'])) {
    $query = "update clinic.medical_card set mc_full_name = '$_POST[2]',
mc_gender = '$_POST[3]',
    mc_dob = '$_POST[4]', mc_address = '$_POST[5]',
    mc_phone_num = '$_POST[6]' where mc_id = '$_POST[1]';
    $result = pg_query($db, $query);
}
?>
```

Ниже представлен файл insertsecond.php

```
<?php
$dbuser = 'postgres';
$dbpass = '1234';
$host = 'localhost';
$dbname='clinic';
$db = pg_connect("host=$host port=5432 dbname=$dbname user=$dbuser
password=$dbpass");
if(isset($_POST['sub'])) {
    $query2 = "insert into clinic.doctor values('$_POST[d_id]',
'$_POST[d_full_name]',
    '$_POST[d_gender]',      '$_POST[d_dob]',      '$_POST[d_education]',
'$_POST[d_profession]', '$_POST[d_phone_num]', '$_POST[d_address]')";
    $result = pg_query($db, $query2);
}
```

```

if (isset($_POST['del'])) {
    $query = "delete from clinic.doctor where d_id = '$_POST[1]' ";
    $result = pg_query($db, $query);
}
if(isset($_POST['ch'])) {
    $query = "update clinic.doctor set d_full_name = '$_POST[2]', d_gender
= '$_POST[3]',
    d_dob = '$_POST[4]', d_education= '$_POST[5]', d_profession =
'$_POST[6]', d_phone_num = '$_POST[7]',
    d_address = '$_POST[8]' where d_id = '$_POST[1]'";
    $result = pg_query($db, $query);
}
?>

```

Ниже представлен файл insertthird.php

```

<?php
$dbuser = 'postgres';
$dbpass = '1234';
$host = 'localhost';
$dbname='clinic';
$db = pg_connect("host=$host port=5432 dbname=$dbname user=$dbuser
password=$dbpass");
if(isset($_POST['sub'])) {
    $query2 = "insert into clinic.cabinet values('$_POST[c_number]',
'$_POST[c_wt_start]',
    '$_POST[c_wt_end]', '$_POST[c_phone_num]')";
    $result = pg_query($db, $query2);
}
if (isset($_POST['del'])) {
    $query = "delete from clinic.cabinet where c_number = '$_POST[1]' ";
    $result = pg_query($db, $query);
}
if(isset($_POST['ch'])) {
    $query = "update clinic.cabinet set c_wt_start = '$_POST[2]', c_wt_end
= '$_POST[3]',
    c_phone_num = '$_POST[4]' where c_number = '$_POST[1]'";
    $result = pg_query($db, $query);
}
?>

```

Вывод: в ходе выполнения лабораторной работы были освоены практические навыки разработки форм для вставки, выборки и редактирования данных.