

## Лабораторная работа №3

**Цель работы:** освоить основные возможности СУБД OrientDB.

**Ход работы:**

1. Подключаемся к серверам БД:

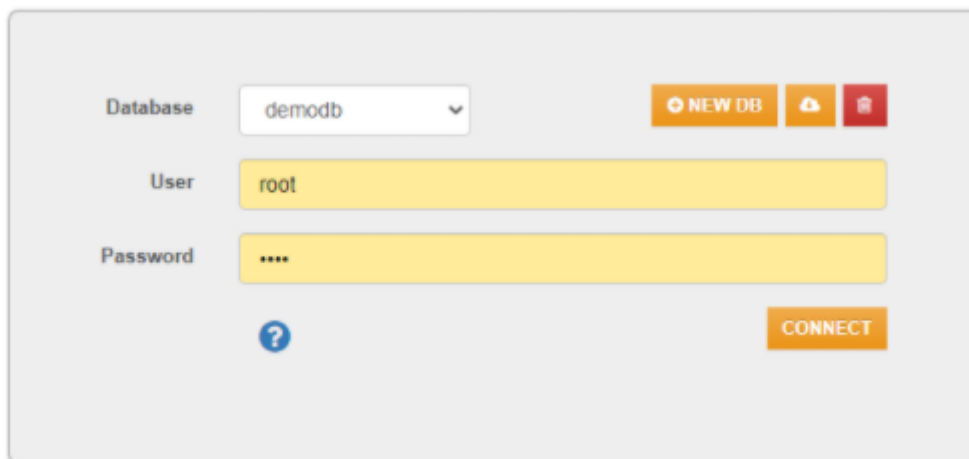
The screenshot shows a connection form for OrientDB. It includes a 'Database' dropdown menu set to 'demodb', a 'User' text field with 'root', and a 'Password' text field with masked characters '\*\*\*\*'. To the right of the 'Database' field are three buttons: 'NEW DB' (orange), a cloud icon (orange), and a trash icon (red). Below the 'Password' field is a blue circular button with a question mark. A large orange 'CONNECT' button is located at the bottom right of the form.

Рис.1 – Подключение к серверам.

2. Создадим новую БД и назовем ее «test»:

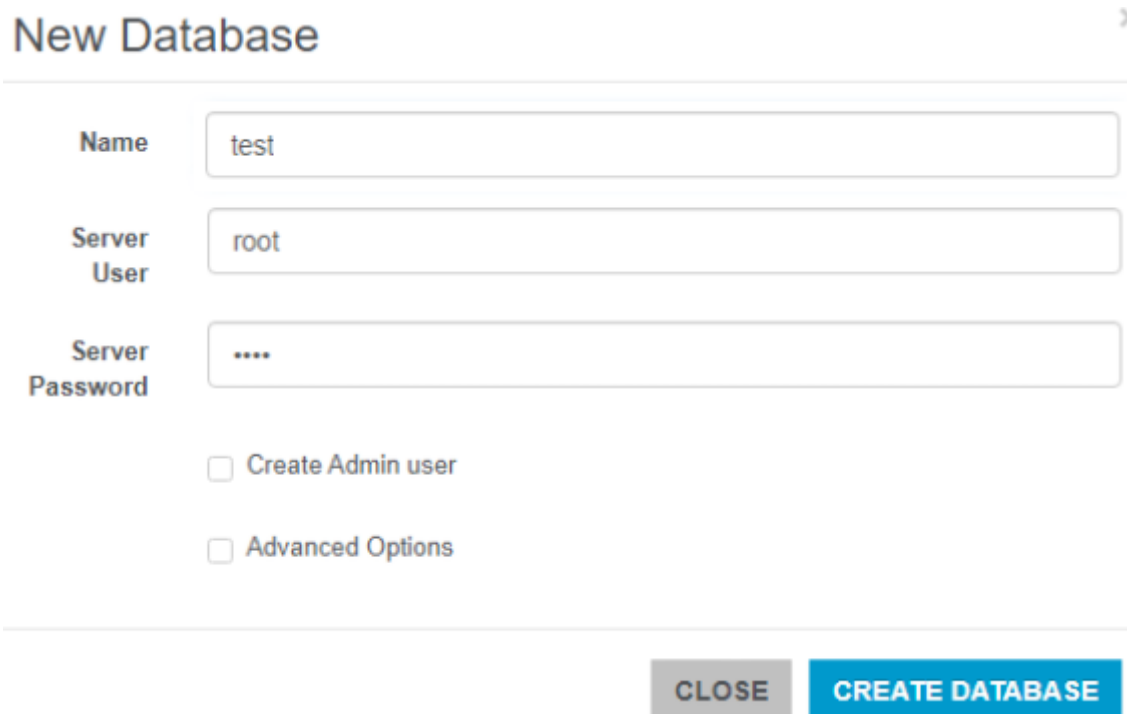
The screenshot shows the 'New Database' dialog box. It has a title bar with a close button (X). The form contains three input fields: 'Name' with 'test', 'Server User' with 'root', and 'Server Password' with '\*\*\*\*'. Below these fields are two checkboxes: 'Create Admin user' and 'Advanced Options', both of which are unchecked. At the bottom right, there are two buttons: a grey 'CLOSE' button and a blue 'CREATE DATABASE' button.

Рис.2 – Создание новой БД.

3. В нашей БД создадим класс «Student»:

Vertex Class: Student ✕

Name \*

Student

SuperClasses

V ✕

Alias

☐ Abstract

Number of Clusters

By default, OrientDB will create multiple clusters per each class (the number of clusters created is equals to the number of CPU's cores available on the server). All the records of a class are stored in the same cluster which has the same name as the class. For more details, visit the [docs](#)

SAVE

Рис. 3 - Создание класса «Student».

4. Создадим поля в классе «Student» и заполним их:

Student ? SAVE QUERY ALL NEW RECORD ?

Properties ?

NEW PROPE

Name	Type	Linked_Type	Linked_Class	Mandatory	Read_Only	Not_Null	Min	Max	Collate	Actions
address	STRING			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			default	RE NAME RE DROP
email	STRING			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			default	RE NAME RE DROP
name	STRING			<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3		default	RE NAME RE DROP
phone	INTEGER			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			default	RE NAME RE DROP

Рис. 4 - Создание полей в классе «Student».

METADATA			PROPERTIES			
@rid	@version	@class	telefon	adress	email	Name
#22.0	4	student	888888888888	abc	abc@gmail.com	Илья
#23.0	1	student	888888888888	abcd	abcd@yandex.ru	Петр

Рис. 5 – Заполнение класса «Student».

5. Создадим еще один класс посещаемости «Attendance» с полем количества пропусков и заполним его:

Vertex Class: Attendance ×

Name \*

SuperClasses

V ×

Alias

☐ Abstract

Number of Clusters

By default, OrientDB will create multiple clusters per each class (the number of clusters created is equals to the number of CPU's cores available on the server). All the records of a class are stored in the same cluster which has the same name as the class. For more details, visit the [docs](#)

SAVE

Рис. 6 – Создание класса «Attendance».

METADATA			PROPERTIES
@rid	@version	@class	Kolvoprop
#26:0	1	<span>Attendance</span>	2
#27:0	1	<span>Attendance</span>	5

Рис. 7 – Класс «Attendance».

6. Создадим класс связи между классами «Student» и «Attendance»:

Edge Class: StudentAttendance ×

Name \*

StudentAttendance

SuperClasses

E ×

From Vertex

STUDENT

To Vertex

ATTENDANCE

Alias

☐ Abstract

Number of Clusters

By default, OrientDB will create multiple clusters per each class (the number of clusters created is equals to the number of CPU's cores available on the server). All the records of a class are stored in the same cluster which has the same name as the class. For more details, visit the [docs](#)

SAVE

Рис. 8 – Создание класса связи.

7. Свяжем наши записи в классах:

METADATA			PROPERTIES	
@rid	@version	@class	in	out
#30.0	1	PropStud	#26.0	#22.0
#31.0	1	PropStud	#27.0	#23.0

Рис. 9 – Связи между классами «Student» и «Attendance».

METADATA			PROPERTIES					IN	OUT
@rid	@version	@class	telefon	adress	email	Name	Kolvoprop	PropStud	PropStud
#22.0	5	student	888888888888	abc	abc@gmail.com	Илья			#28.0
#23.0	2	student	888888888888	abcd	abcd@yandex.ru	Петр			#31.0
#26.0	2	PropAttendance					2	#26.0	
#27.0	2	PropAttendance					5	#31.0	

Рис. 10 – Все записи и связи между классами.

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