

Clarusway



Backend Workshop/ Teamwork -1-

Workshop

Subject: OOP and Nodejs

Learning Goals

- Having knowledge about backend and nodejs.
- Understand how real-life entities/objects can be transferred to the computer environment.

Introduction

As developers, we should also be able to express what we know. This study was prepared to support this purpose. Enjoy your work.

Practice Using the IDE in Lesson

We will use the VSCode you are familiar with. At the same time, we need to install Nodejs on our computer.

Lets start

1. In the table below specifies the key differences between a front-end and back-end development. Indicate at the beginning of each item whether it is suitable for the front end or the back end.

.....is refers to the client-side of an application.

.....includes everything that attributes to the visual aspects of a web application.

.....refers to the server-side of an application.

..... technologies are HTML, CSS, Bootstrap, jQuery, JavaScript, AngularJS, and React.js.

.....generally includes a web server that communicates with the database to serve the users' requests.

..... some framework examples are AngularJS, React.js, jQuery, Sass, etc.

.....consists of everything that happens behind the scenes and users cannot see and interact with.

.....is the part of a web application where users can see and interact.

.....technologies are Java, PHP, Python, C++, Node.js, etc.

.....some framework examples are Express, Django, Rails, Laravel, Spring, etc.

2. What is Nodejs? What can we do with Nodejs? Why use Nodejs?

3. Lets try to write code axplanid above

- Define a class named "person".
- Let this class have a constructor function that takes a "name" parameter,
- I can learn the name of the object with the function called "sayName".
- Define a class named "BankAccount" derived from the Person class.
- Let it have a private property named "balance".
- Let's have a constructor that takes "name" and "balance" parameters.
- Money can be added to the account with a method called "deposit".
- Money can be withdrawn from the account with a method called "withdraw".
- I can find out the total amount with the function called "balance".

Teamwork

Subject: SQL

Learning Goals

- To be able to write SQL statements that will perform the desired query.

Introduction

We use the SQL language when performing operations on relational databases. You can perform many different operations on the DB with SQL, but this work only includes querying.

Lets start

Write SQL statements that produce the desired output.

1. WRITE A QUERY THAT RETURNS TRACK NAME AND ITS COMPOSER FROM TRACKS TABLE

2. WRITE A QUERY THAT RETURNS ALL COLUMNS FROM TRACKS TABLE

3. WRITE A QUERY THAT RETURNS THE UNIQUE NAME OF COMPOSERS OF EACH TRACK

4. WRITE A QUERY THAT RETURNS UNIQUE ALBUMID, MEDIATYPEID FROM TRACKS TABLE

5. WRITE A QUERY THAT RETURNS TRACK NAME AND TRACKID OF 'Jorge Ben'

6. WRITE A QUERY THAT RETURNS ALL INFO OF THE INVOICES OF WHICH TOTAL AMOUNT IS GREATER THAN \$25

7. WRITE A QUERY THAT RETURNS ALL INFO OF THE INVOICES OF WHICH TOTAL AMOUNT IS LESS THAN \$15. JUST RETURN 5 ROWS

8. WRITE A QUERY THAT RETURNS ALL INFO OF THE INVOICES OF WHICH TOTAL AMOUNT IS GREATER THAN \$10. THEN SORT THE TOTAL AMOUNTS IN DESCENDING ORDER, LASTLY DISPLAY TOP 2 ROWS

9. WRITE A QUERY THAT RETURNS ALL INFO OF THE INVOICES OF WHICH BILLING COUNTRY IS NOT CANADA. THEN SORT THE TOTAL AMOUNTS IN ASCENDING ORDER, LASTLY DISPLAY TOP 10 ROWS

10. WRITE A QUERY THAT RETURNS INVOICEID, CUSTOMERID AND TOTAL DOLLAR AMOUNT FOR EACH INVOICE. THEN SORT THEM FIRST BY CUSTOMERID IN ASCENDING, THEN TOTAL DOLLAR AMOUNT IN DESCENDING ORDER.

11. WRITE A QUERY THAT RETURNS ALL TRACK NAMES THAT START WITH 'B' AND END WITH 'S'

12. WRITE A QUERY THAT RETURNS THE NEWEST DATE AMONG THE INVOICE DATES BETWEEN 2008 AND 2011

13. WRITE A QUERY THAT RETURNS THE FIRST AND LAST NAME OF THE CUSTOMERS WHO HAVE ORDERS FROM NORWAY AND BELGIUM

14. WRITE A QUERY THAT RETURNS THE TRACK NAMES OF 'ZAPPA'

15. HOW MANY TRACKS AND INVOICES ARE THERE IN THE DIGITAL MUSIC

STORE, DISPLAY SEPERATELY

16. HOW MANY COMPOSERS ARE THERE IN THE DIGITAL MUSIC STORE

17. HOW MANY TRACKS DOES EACH ALBUM HAVE, DISPLAY ALBUMID AND NUMBER OF TRACKS SORTED FROM HIGHEST TO LOWEST

18. WRITE A QUERY THAT RETURNS TRACK NAME HAVING THE MINIMUM AND MAXIMUM DURATION, DISPLAY SEPERATELY

19. WRITE A QUERY THAT RETURNS THE TRACKS HAVING DURATION LESS THAN THE AVERAGE DURATION

20. WRITE A QUERY THAT RETURNS THE TOTAL NUMBER OF EACH COMPOSER's TRACK.

21. WRITE A QUERY THAT RETURNS THE GENRE OF EACH TRACK.

22. WRITE A QUERY THAT RETURNS THE ARTIST's ALBUM INFO.

23. WRITE A QUERY THAT RETURNS THE MINIMUM DURATION OF THE TRACK IN EACH ALBUM. DISPLAY ALBUMID, ALBUM TITLE AND DURATION OF THE TRACK. THEN SORT THEM FROM HIGHEST TO LOWEST

24. WRITE A QUERY THAT RETURNS ALBUMS WHOSE TOTAL DURATION IS HIGHER THAN 60 MIN. DISPLAY ALBUM TITLE AND THEIR DURATIONS. THEN SORT THE RESULT FROM HIGHEST TO LOWEST

25. WRITE A QUERY THAT RETURNS TRACKID, TRACK NAME AND ALBUMID INFO OF THE ALBUM WHOSE TITLE ARE 'Prenda Minha', 'Heart of the Night' AND 'Out Of Exile'.

😊 **Thanks for Attending** 🙌

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