

WebYog

Coding Round

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Problem Statement : Write a program in C/C++, Nodejs or Python that connects to a MySQL server and checks if the InnoDB plugin is enabled on it. If so, your program should print the total number of disk writes by MySQL.

Solution stack used : Node.js

Answers:

a. How should we run and test the project?

Ans. Please follow following steps to run this project:

1. Install all required software tools and packages mentioned in Ans (b).
2. Make sure MySQL Server is running on the system. [Following these instructions](#).
3. Open Node.js Command Prompt
4. Navigate to folder or location on system where program file "innoDB.js" is saved.
5. Type the following command on Node Command prompt
"node innoDB.js"
6. Status of InnoDB storage engine and disk writes will be displayed on the console.

b. What development tools did you do use to complete the project?

Ans. To run this project following are the prerequisites:

1. MySQL Server
Downloaded from : <http://dev.mysql.com/downloads/>
2. Node.js
Downloaded and installed from : nodejs.org
3. MySQL Plugin for Node.js
This can be installed from Node.js command prompt with following command
"npm install mysql"
Installation instructions available at :
<https://www.npmjs.com/package/mysql>
4. Notepad

c. How did you test & debug the project?

Ans. I tested and debugged the project by:

1. Running project when MySQL Server was running.
Result : Status of InnoDB engine and disk write status shown.

2. Running project when MySQL Server was not running.
Result: error thrown
Modification done: Added message for starting MySQL Server before running program.
3. Checking status of InnoDB Engine info and disk write status in MySQL console and matching it with received output on Node.js prompt.

d. What other features can you think of that will enhance the program?

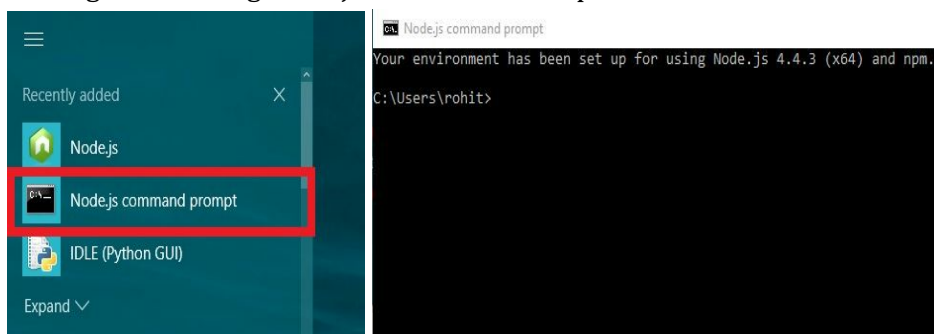
Ans. Going by the problem statement, I have covered almost all the feature required.

Other features that can be added to enhance the program are:

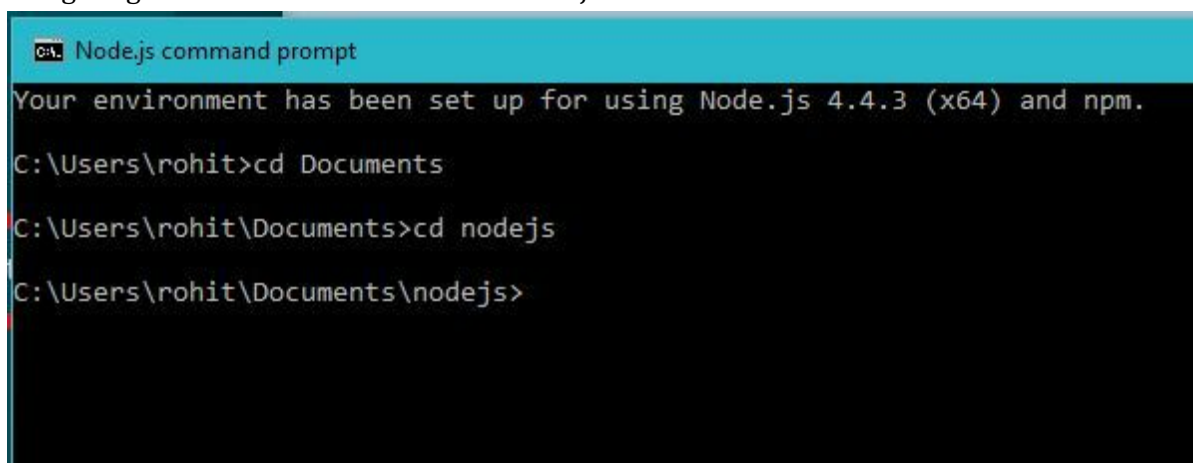
1. Pooling connections to enable status check on larger systems and to scale application.
2. Functionality for time based repetitive check for InnoDB status and disk_write status to get status of connection that will help in monitoring and to judge connection after attempting to reconnect following a connection loss.

Screenshots

1. Finding and starting Node.js Command Prompt



2. Navigating to location of Source file - innoDB.js



3. Running the Source file to get status of InnoDB plugin and disk write status

```
Node.js command prompt
Your environment has been set up for using Node.js 4.4.3 (x64) and npm.

C:\Users\rohit>cd Documents

C:\Users\rohit\Documents>cd nodejs

C:\Users\rohit\Documents\nodejs>node innoDB.js
Successfully Connected with MySQL Server on ID:2
[ RowDataPacket { PLUGIN_NAME: 'InnoDB', PLUGIN_STATUS: 'ACTIVE' } ]
[ RowDataPacket { Variable_name: 'Key_writes', Value: '0' } ]
Successfully Disconnected with MySQL Server on ID:2

C:\Users\rohit\Documents\nodejs>
```

4. Testing : Running Source file when MySQL server is not running
Result: Error thrown

```
Node.js command prompt
Connection Error in connecting to MySQL Server on ID:Error: connect ECONNREFUSED 127.0.0.1:3306
    at Object.exports._errnoException (util.js:870:11)
    at exports._exceptionWithHostPort (util.js:893:20)
    at TCPConnectWrap.afterConnect [as oncomplete] (net.js:1061:14)
    -----
    at Protocol.enqueue (C:\Users\rohit\node_modules\mysql\lib\protocol\Protocol.js:141:48)
    at Protocol.handshake (C:\Users\rohit\node_modules\mysql\lib\protocol\Protocol.js:52:41)
    at Connection.connect (C:\Users\rohit\node_modules\mysql\lib\Connection.js:123:18)
    at Object.<anonymous> (C:\Users\rohit\Documents\nodejs\innoDB.js:41:12)
    at Module._compile (module.js:409:26)
    at Object.Module._extensions..js (module.js:416:10)
    at Module.load (module.js:343:32)
    at Function.Module._load (module.js:300:12)
    at Function.Module.runMain (module.js:441:10)
    at startup (node.js:139:18)
C:\Users\rohit\Documents\nodejs\innoDB.js:55
    throw err;
    ^
```

5. Testing : Checking the Status of InnoDB Engine and disk write status on MySQL console.

```
c:\wamp\bin\mysql\mysql5.6.17\bin\mysql.exe
Enter password: ****
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 2
Server version: 5.6.17 MySQL Community Server (GPL)

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Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> SELECT PLUGIN_NAME,PLUGIN_STATUS FROM information_schema.plugins where PLUGIN_NAME="INNODB";
+-----+-----+
| PLUGIN_NAME | PLUGIN_STATUS |
+-----+-----+
| InnoDB      | ACTIVE        |
+-----+-----+
1 row in set (0.10 sec)

mysql> SHOW STATUS WHERE Variable_Name="key_writes";
+-----+-----+
| Variable_name | Value |
+-----+-----+
| Key_writes    | 0     |
+-----+-----+
1 row in set (0.00 sec)
```

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