Practical No:3

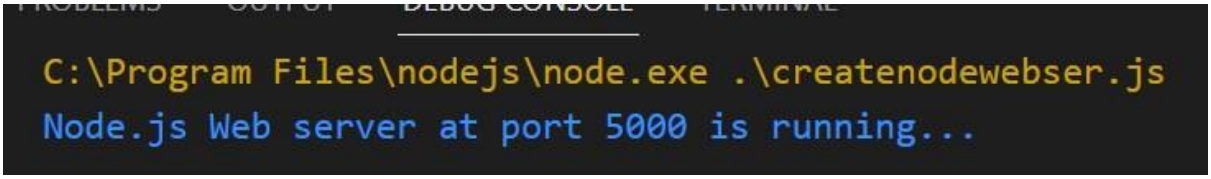
1)Create an HTTP Server and perform operations on it.

Using File Handling demonstrate all basic file operations (Create, write, read, delete). **Http servlet**

```
var http=require('http');
var server =http.createServer(function(req,res)
{

   res.write("Hello Server");
   res.end();
});
server.listen(5000);
console.log('Node.js Web server at port 5000 is running...')
```

Output:

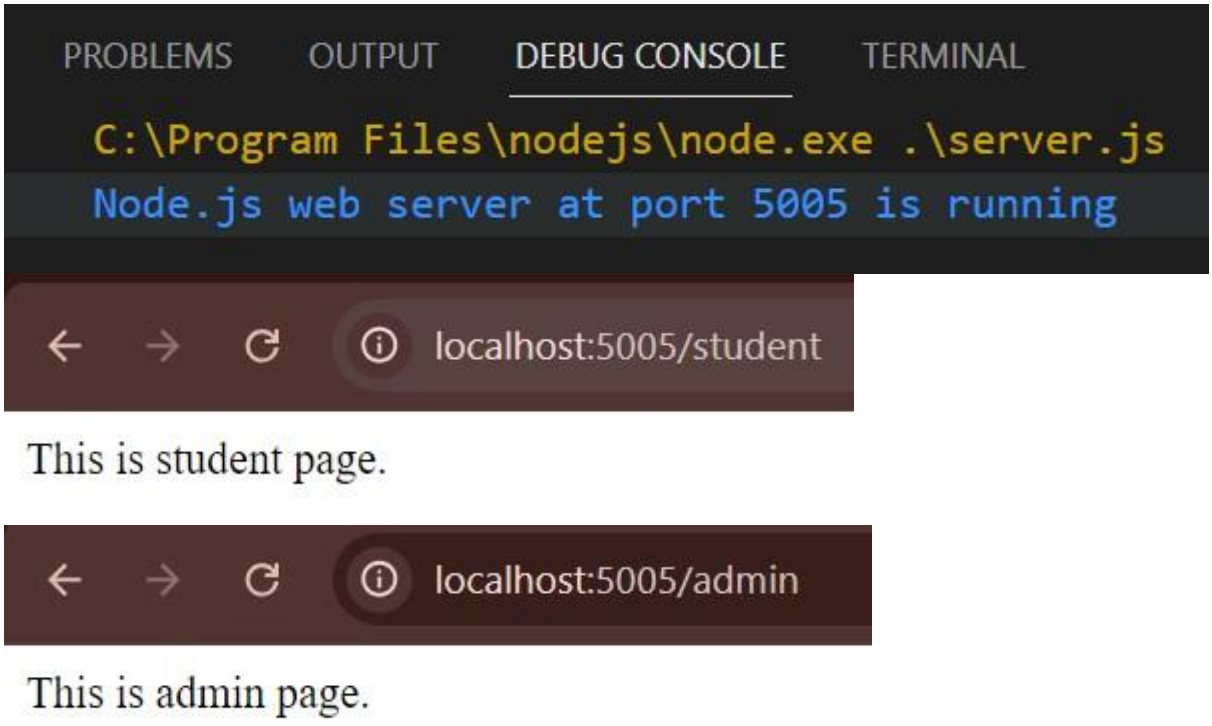


Url Routing

```
var http=require('http'
var server=http.createServer(function(req,res)
{

   if(req.url == '/')
   {
      res.writeHead(200,{ 'Content-Type':'text/html' });
         res.write('<html><body><p>This is home page.</p></body></html>');
res.end();
   }
   else if(req.url =="/student")
   {
      res.writeHead(200,{'Content-Type':'text/html'});
      res.write('<html><body><p>This is student page.</p></body></html>');
res.end();
   }
   else if(req.url =="/admin")
   {
      res.writeHead(200,{'Content-Type':'text/html'});
      res.write('<html><body><p>This is admin page.</p></body></html>');
res.end();
   }
else
   {
      res.end('Invalid request!');
   }
});
server.listen(4001 console.log('Node.js web server at port 4001 is running')
```

Output:



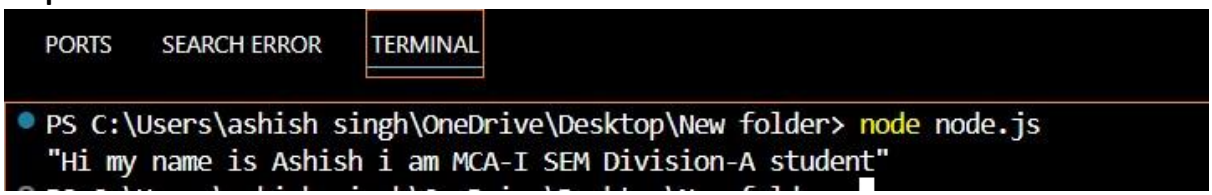
1.Read File readfile.js

```
var fs=require('fs');
fs.readFile('input.txt',function(err,data)
{
   if(err)throw err;
   console.log(data.toString());
})
```

Input.txt

```
"Hi my name is Ashish i am MCA-I SEM Division-A student"
```

Output:



2.Write operation

writefile.js

```
var fs=require('fs');
fs.writeFile('test.txt','Hello World!',function(err)
{
if(err)
      console.log(err);
   else
   console.log('Write operation complete.');
});
```

```
test.txt
1   Hello World!
```

Test.txt Hello World!

Output:

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS  SEARCH ERROR
C:\Program Files\nodejs\node.exe .\writingfile.js
Write operation complete.
```

3.Using open Method

```
var fs=require('fs');
fs.open('input.txt','r',function(err,fd)
{   if(err)
  {
    return console.error(err);
  }
  var buffr = new Buffer.alloc(10240);
  fs.read(fd,buffr,0,buffr.length,0,function(err,bytes)
  {
    if(err)throw err;

    if(bytes>0)
    {
      console.log(buffr.slice(0,bytes).toString());
    }
    fs.close(fd,function(err)
    {
      if(err)throw err;
    });
  });
});
```

Output:

```
PORTS  SEARCH ERROR  TERMINAL
PS C:\Users\ashish singh\OneDrive\Desktop\New folder> node node.js
"Hi my name is Ashish i am MCA-I SEM Division-A student"
```

4.Delete unlinkmethod.js

```
var fs=require('fs');
fs.unlink('test.txt',function()
{
```

```
  console.log('delete operation complete.');
});
```

output:

```
PS D:\WT> node delete.js
delete operation complete.
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS  SEARCH ERROR
  C:\Program Files\nodejs\node.exe .\unlinkmethod.js
  write operation complete.
```

5.Append File Content

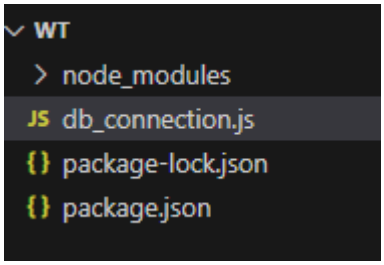
```
var fs = require('fs');
fs.appendFile('test.txt','Hello world!',function(err)
{
if(err)
      console.log(err);
   else
   console.log('Append operation complete');
});
```

Output:

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS  SEARCH ERROR
  C:\Program Files\nodejs\node.exe .\appendfile.js
  Append operation complete
```

1) Create an application to establish a connection with the MySQL database and perform basic database operations on it.

1.Database Connection:




```
var mysql=require('mysql');
var con =mysql.createConnection({
   host:"localhost",
   user:"root",
   password:""
});
con.connect(function(err)
```

```
{
   if(err) throw err;
   console.log("connected!");
});
```

Output:

```
Node.js v20.17.0
PS C:\Users\Admin\Desktop\WT> npm install mysql

added 11 packages in 2s
PS C:\Users\Admin\Desktop\WT> node db_connection.js
connected!
```

2.create database

```
var mysql = require("mysql");
var con = mysql.createConnection
({
   host:"localhost",
   user:"root",
   password:""
});
con.connect(function(err)
{
   if(err)
   throw err;
   console.log("Connected...!");
con.query("CREATE DATABASE mydb",function(err,result)
{
   if(err)throw err;
   console.log("Database Created"); });});});
```

Output:

```
PS C:\Users\ashish singh\Downloads\nodejs> node node17.js
Connected
Database created
```

3.Create table

```
var mysql = require("mysql");
var con = mysql.createConnection
({
   host:"localhost",
   user:"root",
   password:"",
   database:"mydb"
});
con.connect(function(err)
{
   if(err)throw err;
   console.log("Connected...!");
```

```
  var sql="CREATE TABLE customer(id int AUTO_INCREMENT primary key customer_name
VARCHAR(25),address VARCHAR(105))"
con.query(sql,function(err,result)
{
  if(err)throw err;
  console.log("Table Created");
});
}
```

Output:

```
PS C:\Users\ashish singh\Downloads\nodejs> node node18.js
Connected
table created
```

4 .Insert

```
var mysql = require("mysql");
var con = mysql.createConnection
({
  host:"localhost",
  user:"root",
  password:"",
  database:"mydb"
});
con.connect(function(err)
{
  if(err)throw err;
  console.log("Connected...!");
  var sql='Insert into customers values("ashish","titwala")'
con.query(sql,function(err,result)
{
  if(err)throw err;
  console.log("Value inserted");});});});
```

Output:

```
PS C:\Users\ashish singh\Downloads\nodejs> node node20.js
Connected
inserted data
```

5.Display

```
var mysql = require("mysql");
var con = mysql.createConnection
```

```
({
   host:"localhost",
   user:"root",
   password:"",
   database:"mydb"
});
con.connect(function(err)
{
   if(err)throw err;
   console.log("Connected...!");
   var sql='select *from customers'
con.query(sql,function(err,result)
{
   if(err)throw err;
   console.log(result);});});
```

Output:

```
PS C:\Users\ashish singh\Downloads\nodejs> node node21.js
Connected
[
  RowDataPacket { id: 1, customer_name: 'ashish ', address: 'titwala' }
]
```

6.Delete

```
var mysql = require("mysql");
var con = mysql.createConnection
({
   host:"localhost",
   user:"root",
   password:"",
   database:"mydb"
});
con.connect(function(err)
{
   if(err)throw err;
   console.log("Connected...!");
   var sql='delete from customers where address="titwala"'
con.query(sql,function(err,result)
{
   if(err)throw err;
   console.log("value deleted");});});
```

Output:

```
PS C:\Users\ashish singh\Downloads\nodejs> node node23.js
Connected
 delete record
```

7.Update:

```
var mysql = require("mysql");
var con = mysql.createConnection
({
  host:"localhost",
  user:"root",
  password:"",
  database:"mydb47"
});
con.connect(function(err)
{
  if(err)throw err;
  var sql='update customers set address="kalyan" where name="ashish"'
con.query(sql,function(err,result)
{
  if(err)throw err;
  console.log("value updated");
});});
```

Output:

```
PS C:\Users\ashish singh\Downloads\nodejs> node node22.js
Connected
0record updated
```