

El Mouataz Benmanssour

Modularization Concept:

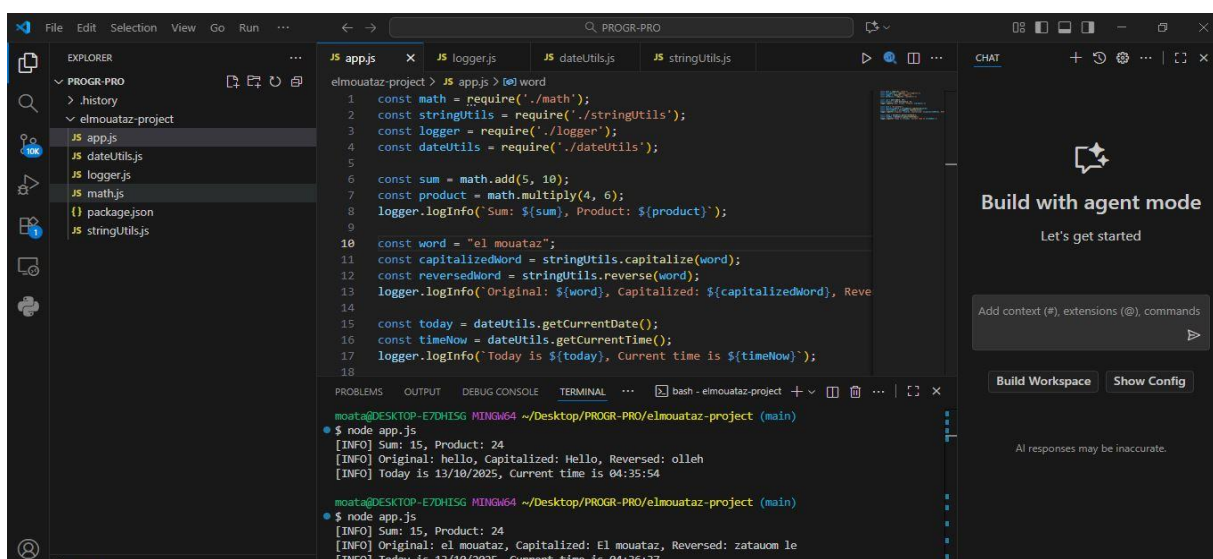
Modularization is a technique in software development where code is divided into separate modules or files, each responsible for a specific functionality. This improves code readability, maintainability, and reusability.

Project Structure Explanation:

- **math.js** → Contains math-related functions (add, multiply).
- **stringUtils.js** → Contains string manipulation functions (capitalize, reverse).
- **logger.js** → Provides standardized logging (logInfo, logError).
- **dateUtils.js** → Provides date and time utilities (getCurrentDate, getCurrentTime).
- **app.js** → Main file that imports all modules and uses their functions to perform tasks.

How Modules Work Together:

- app.js imports all modules using require.
- Each module exposes functions via module.exports.
- Functions from modules are called in app.js to perform tasks like calculations, string manipulations, logging, and date/time display.



```
File Edit Selection View Go Run ...  
PROGR-PRO  
  .history  
  elmouataz-project  
    JS app.js  
    JS dateUtils.js  
    JS logger.js  
    JS math.js  
    {} package.json  
    JS stringUtils.js  
JS app.js  
1 const math = require('./math');  
2 const stringUtils = require('./stringUtils');  
3 const logger = require('./logger');  
4 const dateUtils = require('./dateUtils');  
5  
6 const sum = math.add(5, 10);  
7 const product = math.multiply(4, 6);  
8 logger.logInfo('Sum: ${sum}, Product: ${product}');  
9  
10 const word = "el mouataz";  
11 const capitalizedWord = stringUtils.capitalize(word);  
12 const reversedWord = stringUtils.reverse(word);  
13 logger.logInfo(`Original: ${word}, Capitalized: ${capitalizedWord}, Reversed: ${reversedWord}`);  
14  
15 const today = dateUtils.getCurrentDate();  
16 const timeNow = dateUtils.getCurrentTime();  
17 logger.logInfo(`Today is ${today}, Current time is ${timeNow}`);  
18  
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL ...  
bash - elmouataz-project +  
moata@DESKTOP-E7DH1SG MINGW64 ~/Desktop/PROGR-PRO/elmouataz-project (main)  
$ node app.js  
[INFO] Sum: 15, Product: 24  
[INFO] Original: hello, Capitalized: Hello, Reversed: olleh  
[INFO] Today is 13/10/2025, Current time is 04:35:54  
moata@DESKTOP-E7DH1SG MINGW64 ~/Desktop/PROGR-PRO/elmouataz-project (main)  
$ node app.js  
[INFO] Sum: 15, Product: 24  
[INFO] Original: el mouataz, Capitalized: El mouataz, Reversed: zataum le  
[INFO] Today is 13/10/2025, Current time is 04:36:37
```