**Cross Section of a Node Application**

Ei tutorial e amra ekta choto node application er anatomy dekhbo.

Nodejs Practice folder e lesson-7 name ekta folder create korlam. Ei directory te amader Index.js file ta ache. Amra jani node diye amra ektai js file run korte pari. For e.g. ‘node index’ or ‘node app’. Eta ke bole node application er primary js file. File tar name amra ja Khushi dite pari. But convention holo ‘index.js’ or ‘app.js’ deya.

Amra first e terminal e cd Lesson-7 kore Index.js er directory te jabo. Erpor node Index kore Index.js file ta run korte pari.

Index.js file e first e dekhtesi kichu dependencies. Amra jani ekta node application holo oshonkho choto choto module er combination. Ekhane mathLibrary ebong quotesLibrary duitar konotai external library na. amari create kora duita js file. Dependency bolte bujhay kon kon file ba module ba library ami baire theke niye ashchi.

Erpor dekhtesti App object ba module scaffolding. Scaffolding bolte bujhay kathamo type er jinish.

App object er config namok property er moddhe configuration type jinishpotro dite hobe. Ekhane setInterval function er interval ta define kore disi.

Erpor app object er printAQuote method ta define korsi. Ei method ta ekta random quote console e print korbe.

Then app object er indefiniteLoop method ta define korsi. Ei function ta ekta setInterval chalabe. setInterval er shahajje printAQuote function ta continuously run hote thakbe.

At last indefiniteLoop method ta call kore disi.

Ei index.js file tai hooche amader ei node application er entry point. Ei file ta onnanno dorkari jinish niye ashe. But amader application run korar shomoy amra just nodejs index.js file ta dekhay dibo ‘node Index’ kore.

Index.js e first e mathLibrary name ekta library niye ashchi "Lesson-7/lib" folder er Math.js file theke. Math.js file ta ja export kore ta mathLibrary naomk variable er moddhe dhukaya deya deya hoise. Ekivabe quotesLibrary namok variable e “Lesson-7/lib/quotes” folder er ekta file theke export kora jinish niye vore deya hoise. Ekhane lokkhonio ‘quotes’ name kono file nai. ‘quotes’ hocche ekta folder. Ekhetre nodejs first e ‘quotes’ folder e jabe. Shekhane by default “index.js’ name jodi file thake sheta kei she nibe.

Ekhon dekhbo Math.js er moddhe ki ache. Ekhane ‘math’ name ekta object ache. Shetar ekta method getRandomNumber define kore disi. Ei method duita number ney min and max. ei method ba function er kaj hocche ei duita number er moddhe ekta random number ber kore dibe. Ekhane ‘min’ ebong ‘max’ parameter hishebe function er moddhe asche. But tarporo ami function bodyr moddhe alada local variable er moddhe ei duita value ke nilam. Eta ekta good practice. Ekhane amra minimum ebong maximum er value reassign korsi. So amra jodi min ebong max er value new local variable e na nitam ebong ‘min’ ebong ‘max’ er value jodi object ba array hoto tahole eta muted hoye jeto reassign er fole since they reference type.

Ekhon ‘quotes’ folder e rakha index.js file er kaj dekhbo. Firste file system module ke require kore ansi. ‘quotes’ name ekta scaffolding object nisi. Quotes.txt name ekta file kichu text rakhsi. readFileSync namok function er shahajje quotes.txt file er content ta read kore fellam. Txt file er content diye ekta quotes er array banaisi. Then shei array ta kei return kore dilam.

Ekhon Index.js e giye terminal e node Index korle 1 sec por por console e text print hote thakbe. printing er process ta choltei thakbe cz eta ekta infinite while loop er moddhe pore gese. Basically amader nodejs server jokhon amader server e run korbo tokhon ei jinishtai hoy. Amra jokhon http module use kore kono server create kori ebong tarpor jokhon kono port e listen kori tokhon oi listen ta ekta infinite loop chalu kore rakhe. Je loop ta kichukkhon por por event loop ke bole, “vai ami achi, tumi bondho hoiyo na… tumi ekhono loop korte thako. Ami kintu achi, thik ache?” jar karone node js server ta running thake always.

Nodejs server ta amra application er maddhome control korte pari, server ta start korte parbo, server ta off korte parbo. Infact amar server e jodi proper error handling na kori tahole node js server kono ekta error er karone purapuri close o hoye jete pare.