# Introduction to Node.js Exercises

## Create Node.js project

Prepare the "**package.json**" file and the IDE configurations.

## Create a module named "storage"

Create a module which is named "**storage**". The purpose of the module is to **store** key-value pairs where the key is always a string. Export from the module the following functions: "**put**", "**get**", "**update**", "**delete**", "**clear**", "**save**" and "**load**".

## Implement the "put" function

The "**put**" function should have two parameters – one for the key and one for the value. If the key is not a string, you should throw an error. If the key already **exists** in the storage, you should throw an error. Otherwise you should save the key-value pair in memory.

## Implement the "get" function

The "**get**" function should have one parameter – for the key. If the key is not a string, you should throw an error. If the key does not exist in the storage, you should throw an error. Otherwise the function should **return** the **value** corresponding to the provided key.

## Implement the "update" function

The "**update**" function should have two parameters – one for the key and one for the value. If the key is not a string, you should throw an **error**. If the key does not exist in the storage, you should throw an **error**. Otherwise you should **update** the **key-value pair** in memory.

## Implement the "delete" function

The "**delete**" function should have one parameter – for the key. If the key is not a string, you should throw an error. If the key does not exist in the storage, you should throw an error. Otherwise you should **delete** the **key-value pair** from the memory storage.

## Implement the "clear" function

The "**clear**" function should **delete** **all** saved key-value pairs **in** the **storage**.

## Implement the "save" function

The "**save**" function should **save** all key-value pairs **on a file** named "**storage.dat**". Use whatever format you like for saving the data. Every time the "save" function is called the file should the overridden and start from a blank state.

## Implement the "load" function

The "**load**" function should read a file named "**storage.dat**", parse the data, and load all the key-value pairs in memory. If the file does not exist yet, do nothing.

## Test the "storage" module through a node script

Create an "**index.js**" file and write some tests to see whether or not the storage module is working correctly.

For example – adding some key-value pairs, updating them, retrieving and printing them on the console, saving them on the file system, etc.