Intellect design

: JD

1 node

2 express middle-ware, well versed with JSON concept and modules

3 use of async libraries

4 understanding of node dependencies and security issues

5 mongo

6 unit test automation tools like JEST, MOCHa/chai.

JSON  
JavaScript object notation

JSON is a syntax for storing and exchanging data.

JSON is text, written with JavaScript object notation/

## **Why use JSON?**

Since the JSON format is text only, it can easily be sent to and from a server, and used as a data format by any programming language.

JavaScript has a built in function to convert a string, written in JSON format, into native JavaScript objects:

JSON.parse()

So, if you receive data from a server, in JSON format, you can use it like any other JavaScript object

**data types for values:**

* a string
* a number
* an object (JSON object)
* an array
* a boolean
* null

JSON values **cannot**be one of the following data types:

* a function
* a date
* undefined

## **JSON is Unlike XML Because**

* JSON doesn't use end tag
* JSON is shorter
* JSON is quicker to read and write
* JSON can use arrays

The biggest difference is:

 XML has to be parsed with an XML parser. JSON can be parsed by a standard JavaScript function.

## **Why JSON is Better Than XML**

XML is much more difficult to parse than JSON.  
JSON is parsed into a ready-to-use JavaScript object.

For AJAX applications, JSON is faster and easier than XML:

Using XML

* Fetch an XML document
* Use the XML DOM to loop through the document
* Extract values and store in variables

Using JSON

* Fetch a JSON string
* JSON.Parse the JSON string

4 understanding of node dependencies and security issues

Related to npm

**7) What is npm?**

npm stands for Node Package Manager. npm provides following two main functionalities:

* Online repositories for node.js packages/modules which are searchable on [search.nodejs.org](http://search.nodejs.org/)
* Command line utility to install packages, do version management and dependency management of Node.js packages.

The package manager makes it easier for programmers to publish and share source code of Node.js libraries and is designed to simplify installation, updating and uninstallation of libraries

* 1. **What is global installation of dependencies?**

Globally installed packages/dependencies are stored in **<user-directory>**/npm directory. Such dependencies can be used in CLI (Command Line Interface) function of any node.js but can not be imported using require() in Node application directly. To install a Node project globally use -g flag.

C:\Nodejs\_WorkSpace>npm install express -g

* 1. **What is local installation of dependencies?**

By default, npm installs any dependency in the local mode. Here local mode refers to the package installation in node\_modules directory lying in the folder where Node application is present. Locally deployed packages are accessible via require(). To install a Node project locally following is the syntax.

C:\Nodejs\_WorkSpace>npm install express

* 1. **How to check the already installed dependencies which are globally installed using npm?**

Use the following command:

C:\Nodejs\_WorkSpace>npm ls -g

Once you have identified the right package that you want to install, you can use the mentioned command i.e. npm install <package name>.

Here you have two, actually three, options.

###### 1. use –save-dev

e.g. npm install should --save-dev

You will use this option when you want to download a package for developers , such as grunt, gulp, then use this option. Thus, when you are distributing your code to production, these dependencies will not be available.

As an example, let say, you want to use grunt as your task runner. This package is required for development purpose. Thus, you should use –save-dev here.

npm install grunt --save-dev

The above command will save grunt dependency under **devDependencies**section of your package.json, shown below:

{

"name": "TMSPA",

"version": "1.0.0",

"description": "Single page application for TM",

"main": "index.html",

"scripts": {

..

"author": "Codebased",

..

..,

**"devDependencies": {**

**"gulp": "^3.8.11"**

**}**

}

###### 2. Use –save flag

You will use this option when you want to save a package dependency for distribution. Item such as angularjs, or any other module that is is required at run time by your program, you will use –save switch.

npm install angularjs --save

Now my package.json looks like this:

{

"name": "TMSPA",

"version": "1.0.0",

"description": "Single page application for TM",

...,

**"dependencies":{**

**"angularjs": "^1.4."**

**},**

"devDependencies": {

"gulp": "^3.8.11"

}

}

###### 3. Use nothing

If you call npm install command without any flag then it will install package. However, there is no way the package.json will be updated with your dependencies.

This option is not recommended because there is no way others will get to know about the dependencies that your module has.

* 1. **What is Package.json?**

package.json is present in the root directory of any Node application/module and is used to define the properties of a package.

**12) Name some of the attributes of package.json?**

Following are the attributes of Package.json

* **name** - name of the package
* **version** - version of the package
* **description** - description of the package
* **homepage** - homepage of the package
* **author** - author of the package
* **contributors** - name of the contributors to the package
* **dependencies** - list of dependencies. npm automatically installs all the dependencies mentioned here in the node\_module folder of the package.
* **repository** - repository type and url of the package
* **main** - entry point of the package
* **keywords** - keywords

**13 ) How to uninstall a dependency using npm?**

Use following command to uninstall a module.

C:\Nodejs\_WorkSpace>npm uninstall dependency-name

**14) How to update a dependency using npm?**

Update package.json and change the version of the dependency which to be updated and run the following command.

C:\Nodejs\_WorkSpace>npm update

**JEST :**

Jest is used by Facebook to test all JavaScript code including React applications. It generated test reports as gulp also