Rest API:-

Before Discussion on Rest API. ,lets discuss about an API. An API for a website is code that allows two software programs to communicate with each another. The API spells out the proper way for a developer to write a program requesting services from an operating system or other application..

A RESTful API -- also referred to as a RESTful web service -- is based on representational state transfer (REST) technology, an architectural style and approach to communications often used in web services development.

A REST API is an application program interface (API) that ACT as an intermediate between the two Application and uses HTTP requests to GET, PUT, POST and DELETE data.

A RESTful API explicitly takes advantage of HTTP methodologies . They use GET to retrieve a resource; PUT to change the state of or update a resource, which can be an object, file or block; POST to create that resource; and DELETE to remove it.

In short you can say that An architectural style called **REST (Representational State Transfer)** advocates that web application should use HTTP as it was originally envisioned*.* Lookups should use GET requests. PUT, POST, and DELETE requests should be used for creation, mutation, and deletion.

Let’s explain this with an example, if we want to connect our code with a website for example let’s take example of IRCTC site and we want to know the number of tickets a particular user booked ,then first of all to get access in the portal we use the post method to deal with the user name and password then after verifying the user they give back a token and with the help of that token with the post method we can get the details of the tickets booked and can do the modification within a particular session.

**Unit Testing:-**

**Unit testing** is a software development process in which the smallest testable parts of an application, called units, are individually and independently scrutinized for proper operation. **Unit testing** can be done manually but is often automated.

Unit testing involves only those characteristics that are vital to the performance of the unit under test. This encourages developers to modify the [source code](http://searchsoa.techtarget.com/definition/source-code) without immediate concerns about how such changes might affect the functioning of other units or the program as a whole. Once all of the units in a program have been found to be working in the most efficient and error-free manner possible, larger components of the program can be evaluated by means of [integration testing](http://searchsoftwarequality.techtarget.com/definition/integration-testing).

Mocking is primarily used in unit testing. An object under test may have dependencies on other (complex) objects. To isolate the behaviour of the object you want to test you replace the other objects by mocks that simulate the behaviour of the real objects. This is useful if the real objects are impractical to incorporate into the unit test. If you instead want to verify that the object under test writes some specific data to the database you will have to mock the database. Your test would then incorporate assertions about what was written to the database mock.

To give an example: You can stub a database by implementing a simple in-memory structure for storing records. The object under test can then read and write records to the database stub to allow it to execute the test. This could test some behaviour of the object not related to the database and the database stub would be included just to let the test run.