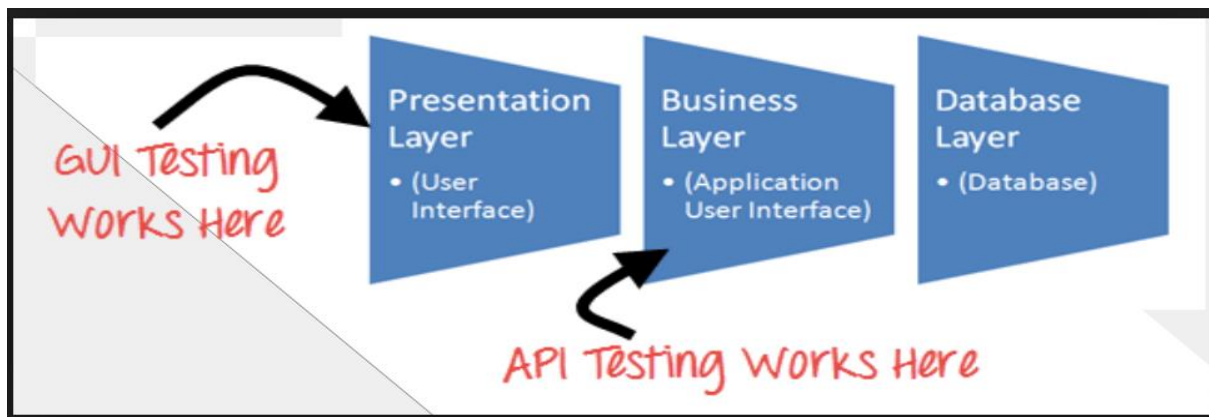# Web Service introduction

API testing

➢ API testing is a type of software testing where application programming interfaces (APIs) are tested to determine if they meet expectations for **functionality, reliability, performance, and security**.

➢ Testing the application in Source code layer (Business layer) is called API testing

➢ Testing interface between two Application is also called API testing

➢ Testing done without browser is called API testing

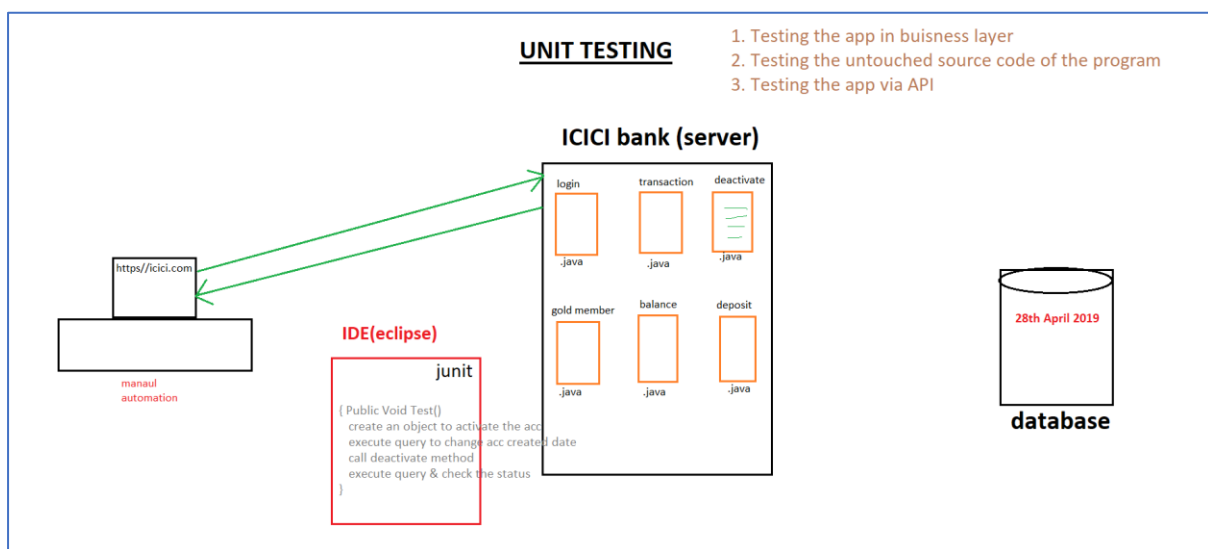## SOA [Service Oriented Architecture]

API testing Types

Types of API testing

1. Whitebox testing/ Unit Testing

2. Web service Testing

    2.1 Soap Web service API-testing

    2.2 RESTFUL Web service API-testing

Unit Testing [White Box testing or Unit API testing]

- Testing the business logic of the source code using another program is called unit testing

- White Box testing is also called as unit testing

- In order to automate unit test case, we have to go for Unit testing tools like Junit / TestNG / PyDev

- Few java developers say Unit testing is also part of API Unit testing.

EG: Antivirus application, device drivers, JDBC, WebDriver.

Web service

- Web Services is the mechanism or the medium of communication through which two applications / machines will exchange the data irrespective of their underline technology.

- Web services help 2 application exchange information with each other when application running in same or different platform.

- Any service available on web is called webservice.

- All Web services are API, but all APIs are not webservice.

- Web service help us to share the functionality of one application to any other application **without sharing the source code & database data**.

Why Web Service Testing?

- ➢ The purpose of *Web Service Testing* is to verify that all of the APIs exposed by your application is working as expected WRT **functionality, performance & security.**

- ➢ All web services are exposed via API

- ➢ Testing request and response of the API is called webservice testing

- ➢ Webservice provider has to test all the APIs in order to make sure all the functionality which is exposed via web service is working.