**Class 01 API**

Web Services/API’sAPI - Application Programming InterfaceAPIs are a method of communication between two or more systems3 Tier cient-server architecture  
client (Presentation Layer) + Application Layer/server (business layer/logic/code) + database server/data layerAny application that required data to travel over the web is most of the time going to be 3 tierClient - desktop/tablet/phone/website  
API’s dont have any UIWe as humans NEED a UI to interact with a systemSystems DONT need/use a UI to interact with other systemsJSON - JavaScript Object Notation - NOT a programming language, it does not have an OOP approach, it does not have a compiler. JSON is a subset of JavaScript.Keeping it simple - JSON is a file format that uses readable text by both humans and systems, it used to transmit data in attribute : value pairsJSON example:{  
  
“key”: “value”,  
“key”: “value”,  
“key”: “value”,  
“key”: “value”,  
“key”: “value”,  
“key”: “value” - last key and value pair does not need a comma ‘,’}Task:Draw a 3 tier application architecture with your groupsLabel the following:Producer (s)  
Consumer (s)  
API  
Layers  - Presentation, Application, Data layer  
Request  
Responses  
Define what language systems were developed in

What is API?

● It means connectivity.

API is the messenger that takes requests and tells a system what you want to do and then returns the response back to you.

● API is the acronym for Application Programming Interface (which is software intermediary) API that allows how applications to talk to each other.\*Machine that provides webpages is called web server, machine that serves file called file server\*client requests and web server responds.

\*each server has their specific protocol and web server protocol is http  
\*database server has RUN DMS protocol, file server has ftp protocol  
\*client program is program that end user can make requests through web.  
And logic/code is API;

3 tier client server architecture :  
1)Presentaton layer, 2)Application layer 3) Data layer  
UI(delta)=Presentation layer,   
Delta server/database=data layer,   
Code/Logic=Application layer,  
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\*Do you think companies want to reveal /expose their logic or database? —>No they need security so need API.  
Api translates and transmits data:request and response.  
Main purpose of API is to protect the logic,so no-one will see the database,it is method of communication, otherwise it is huge risk.API is located btw presentation layer and Application layer.

1.User enters input in UI(presentation layer),or sends request

2.Api takes the data < request>from the UI and translates to the Json format and also relieves the data < response> back for the server and translates it to Jason format and send it back to UI  
Json: Javascript Object notation is not a language but format that makes requests and responses understandable.JSON is a file format that uses readable text by both humans and systems, it is used to transmit data in attribute : value pairs

\*\*\*As Testers: We will be testing that request is properly sent and you get the right response\*\*\*When you test the API you don't need to work with UI.API is communication of systems.Systems:UI,Database and Presentation.