IT140P

Module 5 Lecture
REST Approach on Emerging Platform Technology

Suggested: Xamarin Mobile Technology

COURSE OBJECTIVE:

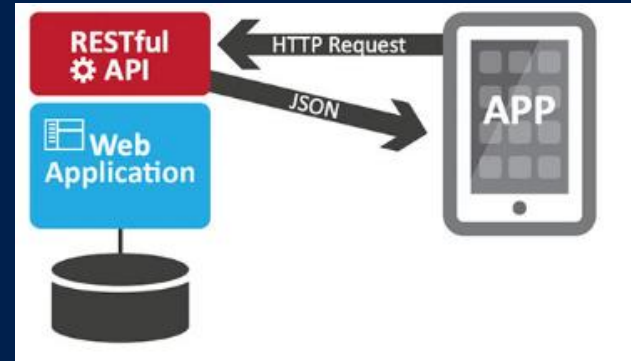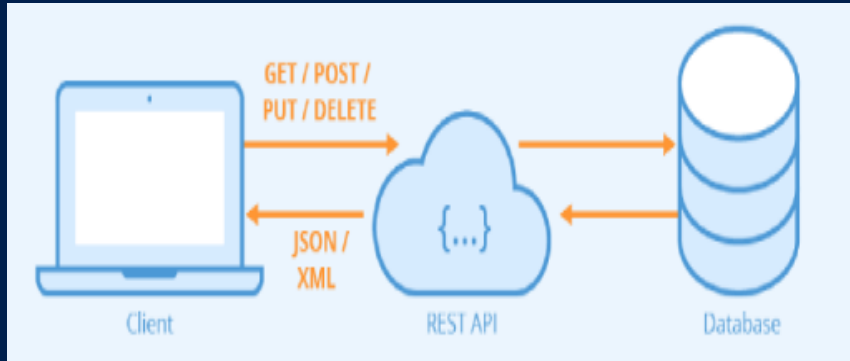Develop application that utilize Representational State Transfer using selected emerging technology

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REpresentational State Transfer (REST)

- **REpresentational State Transfer (REST)**, means every URL represents some objects. It transfers the state of a thing client to server or server to client by representation.

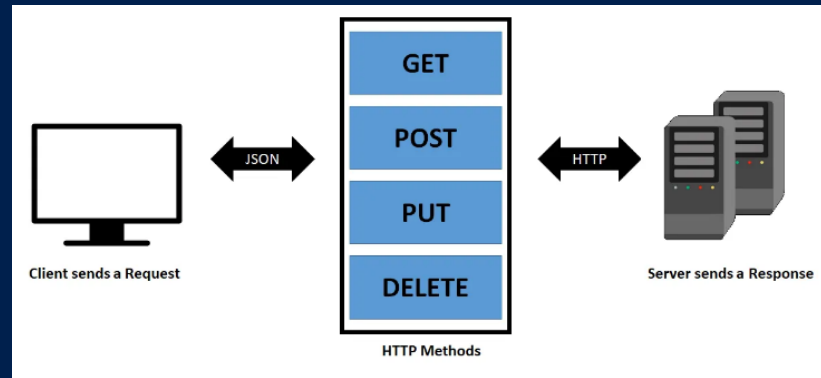- **REST API** is a way to communicate between client and server.

Namespaceit(2020)

RESTful HTTP Approach

REST APIs communicate via HTTP requests to perform standard database functions like creating, reading, updating, and deleting records (also known as CRUD) within a resource.
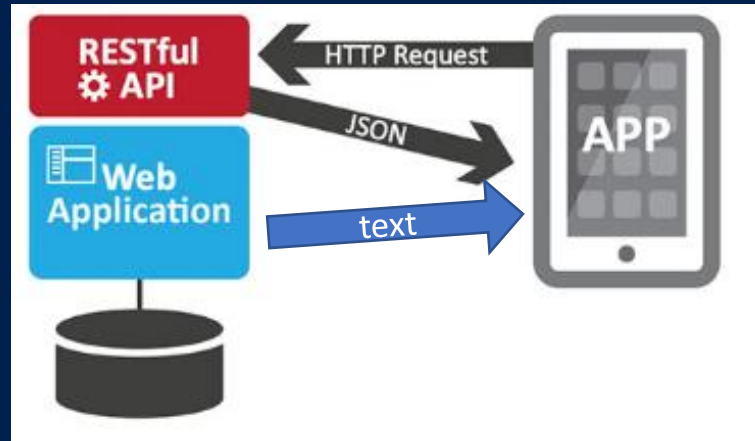
For example, a **REST API** would use a **GET** request to retrieve a record, a **POST** request to create one
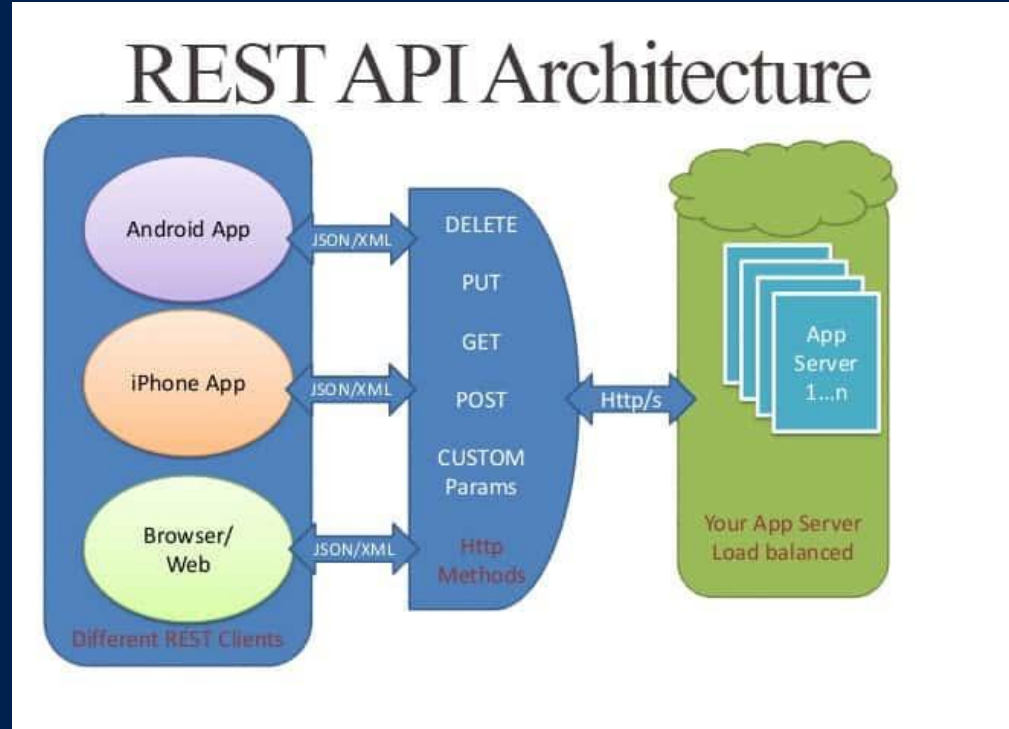

gocoding(2020)

RESTful Delivery

In REST, data can be delivered to a client in virtually any format including **JavaScript Object Notation (JSON), HTML, XLT, Python, PHP, or plain text**

REST Advantages

✓ Simpler and flexible to implement using programming language of choice

✓ It supports greater variety of data formats e.g. Text, JSON, XML, YAML, etc.

✓ It is faster and provides better performance

✓ It doesn't require any software or standards to transfer data and API will most likely adapt to any technology (i.e: mobile)

REST API Architecture

Android App — JSON/XML — DELETE PUT GET POST CUSTOM Params — Http/s — App Server 1...n

iPhone App — JSON/XML

Browser/ Web — JSON/XML — Http Methods

Different REST Clients

Your App Server Load balanced

shareurcodes (2017)

Expected Technical Discussion for Module 5

We are expected to perform the following

- Explore Xamarin as our technology for Mobile Application

- Integrate REST API that connects to an external database

- Develop Mobile Application that utilize REST in performing database transactions

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Technical Aspect and Actual Coding and is provided in a separate Handout Guide

Laboratory Requirements

- Visual Studio 2019
  - Installation of required development tools
  - XAMARIN
  - Android SDK and Devices
- XAMPP Package (PHP and MySQL)
- Universal ADB Installer for Android

References and Further Readings

- Shklar, L and Rosen, R. (2019). Web Application Architecture: Principles, Protocols and Practice. WILEY Digital

- https://docs.microsoft.com/en-us/xamarin/get-started/what-is-xamarin

- https://www.namespaceit.com/blog/what-is-a-restful-api-rest-api-and-how-does-it-work

- https://gocoding.org/what-are-restful-web-services/

- https://shareurcodes.com/blog/creating%20a%20simple%20rest%20api%20in%20php