

NAME: Shivanshu Gour, Employee ID: 1291956

1. Define Monolithic and microservices architecture
  - a. Monolithic - A software project created as a single unit which tightly couples all its components together
  - b. Microservices - Creating different services independently. Separating a task into smaller processes to manage them independently
2. differentiate between REST and SOAP
  - a. SOAP is a protocol while REST is not. REST is a set of architectural principles. It's just a set of guidelines, it leaves to the developers how to use it.
  - b. REST can return messages in a variety of formats: HTML, XML, plain text, and JSON. SOAP returns messages in XML only.
  - c. SOAP provide built-in security but it also makes it heavier to use.
  - d. REST uses less bandwidth, is simple and more flexible than SOAP.
  - e. SOAP is secure due to ssl(Secure socket layer)
3. Founding out about different types of cyber attacks
  - a. Malware attack - Malware is a term used to describe malicious software, including spyware, ransomware, viruses, and worms. Malware breaches a network through a vulnerability, typically when a user clicks a dangerous link or email attachment that then installs risky software.
  - b. Phishing – Phishing is the practice of sending fraudulent communications that appear to come from a reputable source, usually through email.
  - c. Man in the middle – also known as eavesdropping, adversary listens to the communication between clients and servers
  - d. DoS – Denial of service attack – Attackers bombards the system with traffic to exhaust resources and bandwidth
  - e. SQL injection – Attacker inserts malicious code into the server using SQL query.
4. Types of Manual Testing
  - a. Acceptance Testing: User Acceptance Testing (UAT) is performed by the client or end-user, to confirm that the software meets the agreed requirements.
  - b. Black Box Testing : The internal code structure is not visible during testing, so testers are only aware of the inputs and expected outputs of the software. It is used to analyze application's functionality from the end-user's perspective.
  - c. Integration Testing: Integration Testing is the process of testing an application with two or more integrating components. It is performed once the individual components have been unit-tested, and aims to identify problems with the interfaces and the interactions between them.
  - d. Unit Testing – to test the single component individually to check the functionalities of the component
  - e. System Testing – It is used to check functionality of the system as a whole.
  - f. White Box testing – The testing is done by developer who knows the code, before passing it to test engineer. It is done to test internal structures and workings of the application.