

DAY-4

- **SEMANTIC WEB**

The Semantic Web is an extension of the World Wide Web designed to add meaning (semantics) to the content of web pages and data, enabling computers to better understand and process the information. It aims to create a web of data that is machine-readable and can be processed intelligently by software agents rather than just being understood by humans.

- **RDF**

The Resource Description Framework (RDF) is a general framework for representing interconnected data on the web. RDF statements are used for describing and exchanging metadata, which enables standardized exchange of data based on relationships.

RDF is used to integrate data from multiple sources. An example of this approach is a website that displays online catalog listings from a manufacturer and links products to reviews on different websites and to merchants selling the products. The semantic web is based on the use of the RDF framework to organize information based on meanings.

RDF statements express relationships between resources, such as the following:

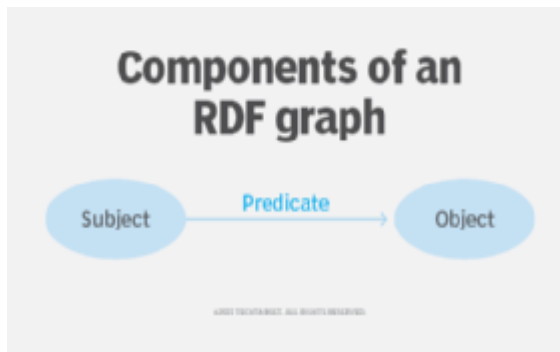
documents

physical objects

people

abstract concepts

data objects



- RDF TRIPLE

An RDF triple is the fundamental data structure in the Resource Description Framework (RDF), which is a framework for representing information about resources in the World Wide Web.

Components of an RDF Triple:

1. Subject: The subject is the resource being described or identified. It can be anything that can be identified with a URI (Uniform Resource Identifier) or a blank node. For example, a person, a place, or any concept.

2. Predicate: The predicate expresses a relationship between the subject and the object. It defines the specific property or attribute of the subject that is being described. Predicates are also represented by URIs and define the type of relationship or attribute.

3. Object: The object is the value or data related to the subject through the predicate. It can be a literal value (like a string, number, or date) or another resource identified by a URI.

Example:

Consider the statement: "John Smith has Age 30".

- Subject: "John Smith"

- Predicate: "has Age"

-Object: "30"

