TRAINING TR-102 DAY 5 REPORT

17 June, 2024

RDF TRIPLES AND RELATIONSHIP BUILDING

REVIEW OF RDF TRIPLES

Definition: RDF (Resource Description Framework) triples form the basic structure of RDF data, comprising three parts: subject, predicate, and object. They are used to represent statements about resources in the form of subject-predicate-object.

COMPONENTS:

- **Subject:** Represents the resource being described.
- **Predicate:** Describes the relationship between the subject and object.
- **Object:** Represents the value or another resource.

RELATIONSHIP BUILDING

Key Concepts:

- **Ontologies:** Formal descriptions of concepts and relationships within a domain. They define classes, properties, and their relationships.
- **Classes and Properties:** Classes represent types of resources, and properties describe relationships between resources or values of resources.
- **Inference:** The process of deriving new RDF triples based on existing triples and ontological knowledge.

Hands-On Exercise with Metadata Exchange and Linked Data Concepts

METADATA EXCHANGE

Purpose: Metadata facilitates the discovery, understanding, and management of resources. Standardized metadata schemas like Dublin Core facilitate interoperability.

LINKED DATA CONCEPTS

Principles:

- **Uniform Resource Identifier (URI):** Globally unique identifiers for resources, used to identify and access resources on the web.
- **HTTP:** HTTP URIs are used for identifying and retrieving resources.
- **RDF:** Representation of data using RDF triples.
- **SPARQL:** Query language for RDF data, used to query linked data.

CONCLUSION

Day 5 of training focused on RDF triples, relationship building, metadata exchange, and linked data concepts. The session included both theoretical review and practical hands-on exercises to reinforce understanding and skills in semantic web technologies.