



# Economic and Social Council

Distr.: General  
31 August 2023

Original: English

---

## Economic Commission for Europe

### Executive Committee

Centre for Trade Facilitation and Electronic Business

#### Twenty-ninth session

Geneva, 9 and 10 November 2023

Item 6 (c) (i) of the provisional agenda

**Recommendations, standards, and deliverables supporting implementation:**

**Deliverables in support of implementation:**

**Reports and executive guides**

## The Use of the United Nations Centre for Trade Facilitation and Electronic Business JSON-LD Web Vocabulary\*

Submitted by the secretariat

### *Summary*

This note briefly presents the United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) JSON-LD Web Vocabulary, an initiative led by the United Nations Economic Commission for Europe (ECE) to support the interoperability of trade. The UN/CEFACT JSON-LD Web Vocabulary serves as a linked data representation of the UN/CEFACT Buy-Ship-Pay Reference Data Model. A web vocabulary offers a method for unequivocally annotating any form of content (e.g., a webpage or commercial transaction) with both human-readable and machine-comprehensible specifications. Linked data embodies the notion of establishing connections between interconnected fragments of information. This facilitates seamless identification, interpretation, and comprehension of vital terminologies such as the consignor's appellation throughout the global supply chain, irrespective of their origin.

Document ECE/TRADE/C/CEFACT/2023/15 is submitted to the twenty-ninth session of the UN/CEFACT Plenary for noting.

---

\* Available at <https://vocabulary.uncefact.org>



## I. Introduction

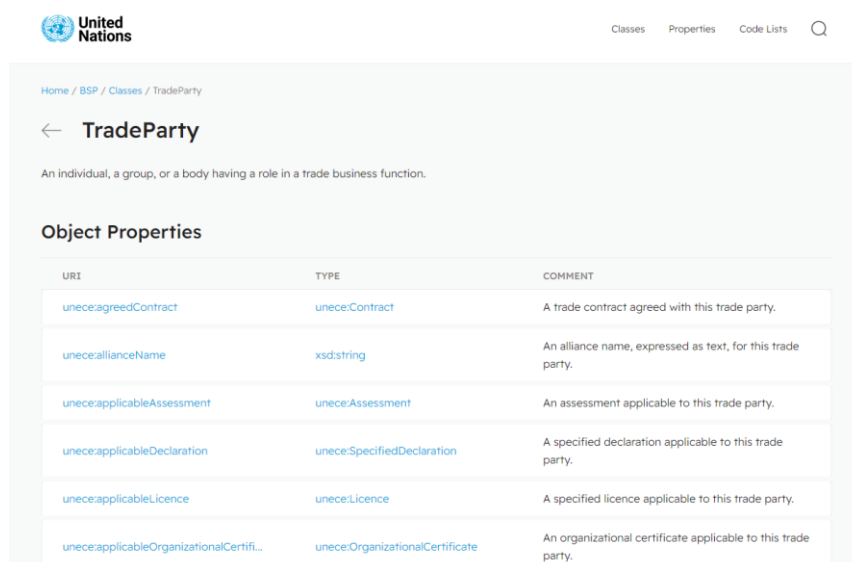
1. Globally understood and defined semantics are essential to the smooth flow of trade; and play a significant role in the context of trade by providing a standardized and structured way to represent trade-related information. The United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) JSON-LD (Linked Data)<sup>1</sup> Web Vocabulary plays a role in achieving supply chain interoperability by allowing supply chain actors to easily integrate a common vocabulary in their business tools (e.g. software systems) to ensure that data shared between different entities (e.g., suppliers, manufacturers, distributors, transporters, financiers, and regulators) is consistent and easily interpretable, reducing errors and misunderstandings.

2. The UN/CEFACT JSON-LD web vocabulary is based on the UN/CEFACT Buy-Ship-Pay data model, which is globally recognized schematics for defining terms in international trade. This data model holds a position of international recognition, serving as a comprehensive framework for delineating terminologies within the realm of global trade. The model operates as a fundamental point of reference for entities endeavouring to optimize and mechanize their commercial workflows within the spheres of procurement, shipping, and payment. Through this, it facilitates heightened efficiency, lucidity, and compatibility in the domain of worldwide trade. Various establishments and enterprises across the globe have embraced this data model to expedite the interchange of electronic business documents associated with procurement, shipping, and payment procedures.

## II. Applications

3. The semantics are based on the United Nations Core Component Library (UN/CCL) which is maintained by the UN/CEFACT Library Maintenance Team and published by the United Nations Economic Commission for Europe (ECE) secretariat. Updates and new entries are published twice yearly (cut-off dates for submissions are 30 April and 31 October). The UN/CEFACT Web Vocabulary brings this collection to the web, expressing the existing trade terms as a library of Unique Resource Identifiers - URIs.

**“UN/CEFACT JSON-LD Web Vocabulary – Trade Party definition.”,**  
<https://vocabulary.uncefact.org/TradeParty>. Accessed 30 Aug. 2023



URI	TYPE	COMMENT
<a href="#">unece:agreedContract</a>	<a href="#">unece:Contract</a>	A trade contract agreed with this trade party.
<a href="#">unece:allianceName</a>	<a href="#">xsd:string</a>	An alliance name, expressed as text, for this trade party.
<a href="#">unece:applicableAssessment</a>	<a href="#">unece:Assessment</a>	An assessment applicable to this trade party.
<a href="#">unece:applicableDeclaration</a>	<a href="#">unece:SpecifiedDeclaration</a>	A specified declaration applicable to this trade party.
<a href="#">unece:applicableLicence</a>	<a href="#">unece:Licence</a>	A specified licence applicable to this trade party.
<a href="#">unece:applicableOrganizationalCertifi...</a>	<a href="#">unece:OrganizationalCertificate</a>	An organizational certificate applicable to this trade party.

<sup>1</sup> JSON-LD is a lightweight Linked Data format. It is easy for humans to read and write. It is based on the already successful JSON format and provides a way to help JSON data interoperate at Web-scale. JSON-LD is an ideal data format for programming environments, REST Web services, and unstructured databases.

4. The provided excerpt delineates the explication of the designation "Trade Party," affiliated with the Uniform Resource Identifier (URI) <https://vocabulary.uncefact.org/TradeParty>. The URI's inherent merit lies in its capacity to distinctly articulate purpose, while its resolution to the aforementioned documentation page enhances its comprehensibility to human readers.

5. In order to utilize the UN/CCL via the JSON-LD Web Vocabulary, it is imperative to establish the requisite @context and make references to the identifiers of the core components during implementation. This involves creating or referencing a context object within your code. Presented below is an illustrative instance:

#### Implementing the JSON-LD Web Vocabulary for a simple trade transaction

```
{
  "@context": [
    "https://vocabulary.uncefact.org/unece-context.jsonld",
    "https://vocabulary.uncefact.org/unlocode-vocab-context.jsonld"
  ],
  "@id": "https://7Cs-carrier.com/bl/12345678",
  "@type": "Consignment",
  "consignorParty": {
    "@id": "did:web:online-shop.global",
    "@type": "TradeParty",
    "name": "Global Online Shop, Aps.",
    "specifiedLocation": {
      "@type": "https://vocabulary.uncefact.org/LogisticsLocation",
      "unlocdv:UNLOCODE": "DKCPH"
    }
  },
  "consigneeParty": {
    "@id": "did:web:nissimsan.com",
    "@type": "TradeParty",
    "specifiedLocation": {
      "@type": "https://vocabulary.uncefact.org/LogisticsLocation",
      "unlocdv:UNLOCODE": "AUSYD"
    }
  }
}
```

### III. Benefits

6. Using the UN/CEFACT JSON-LD Web Vocabulary will enable software developers and implementers to quickly reuse the semantics (data elements, annotations, and machine-readable metadata) that describe the semantics of your data. This promotes better understanding, reuse and interoperability of the harmonized data across different domains and applications.

7. Policy makers play a crucial role in the adoption of the UN/CEFACT JSON-LD Web Vocabulary by setting standards, guidelines, and regulations that encourage its incorporation into various sectors and applications. By establishing mandates or recommendations for using the vocabulary in data sharing and exchange, ensuring consistent and harmonized data representation across different domains. By endorsing the UN/CEFACT JSON-LD Web Vocabulary, policy makers contribute to enhancing data interoperability, enabling more informed decision-making, and driving innovation in diverse fields.