

Forms for IoT devices

Joint meeting with OCF, T2TRG, and W3C WoT

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CoRE Application Descriptions

<https://tools.ietf.org/html/draft-hartke-core-apps-07>

- **Form Relation Types**

A form relation type identifies the semantics of a form. For example, a form with the form relation type "create-item" indicates that a new item can be created within the for context by making a request to the resource identified by the target URI.

- **Form Field Names**

Forms can have a detailed description of the representation expected by the server as part of form submission. This description typically consists of a set of form fields where each form field is comprised of a field name, a field type, and optionally a number of attributes such as a default value, a validation rule or a human-readable label.

- **Form Relation Type Registry**

The Constrained RESTful Application Language (CoRAL)

<https://tools.ietf.org/html/draft-hartke-t2trg-coral-04>

- **Forms**

A *form* provides instructions to an agent for performing an operation on a Web resource. It consists of a *form context*, a *form relation type*, a *request method*, and a *submission IRI*. Additionally, a form can be accompanied by *form data*. A form can be viewed as an instruction of the form "To perform a *form relation type* operation on *form context*, make a *request method* request to *submission IRI*" where the payload of the request may be further described by form data.

- **Form Data**

Form data provides instructions for agents to construct a request payload. It consists of a list of zero or more *form fields*. Each form field consists of a *form field name* and a *form field value*.

- **Form Relation Types**

IRIs that identify link relation types, form relation types, and form field names do not need to be registered ... CoRAL alternatively allows the use of unsigned integers to identify link relation types

0 = <urn:ietf:rfc:XXXX#create>

1 = <urn:ietf:rfc:XXXX#update>

2 = <urn:ietf:rfc:XXXX#delete>

3 = <urn:ietf:rfc:XXXX#search>

Concise Binary Object Representation (CBOR) Tag for CBOR Templates

<https://tools.ietf.org/html/draft-bormann-lpwan-cbor-template-02>

- **Variable**

A variable is a CBOR data item that typically is included as a part of a larger data item (the "CBOR template"). In a process that is outside the scope of this specification, the variable is then substituted by an actual value in order to yield an instance from the template.

`{ "name": "C. Bor", "place": 42(0) } → { "name": "C. Bor", "place": "Bremen" }`

JSON Hyper-Schema: A Vocabulary for Hypermedia Annotation of JSON

<https://tools.ietf.org/html/draft-handrews-json-schema-hyperschema-01>

- Link Description Object
- Link Input (which is form information)
 - hrefSchema (instruct client how to construct URIs)
 - headerSchema (additional headers/options)
 - Manipulating the Target Resource Representation
targetSchema (cf. PUT)
 - Submitting Data for Processing
submissionSchema (cf. POST)

Web of Things (WoT) Thing Description

- Properties
 - writable
 - schema
- Actions
 - inputSchema
 - outputSchema