

Activity Vocabulary

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The English version of this specification is the only normative version. Non-normative translations may also be available.

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Abstract

This specification describes the Activity vocabulary. It is intended to be used in the context of the ActivityStreams 2.0 format and provides a foundational vocabulary for activity structures, and specific activity types.

Author's Note

This section is non-normative.

This draft is heavily influenced by the JSON Activity Streams 1.0 specification originally co-authored by Martin Atkins, Will Norris, Chris Messina, Monica Wilkinson, Rob Dolin and James Snell. The author is very thankful for their significant contributions and gladly stands on their shoulders. Some portions of the original text of Activity Streams 1.0 are used in this document.

Status of This Document

This section describes the status of this document at the time of its publication. Other documents may supersede this document. A list of current W3C publications and the latest revision of this technical report can be found in the [W3C technical reports index](https://www.w3.org/TR/) at <https://www.w3.org/TR/>.

This document was published by the [Social Web Working Group](#) as a Recommendation. Comments regarding this document are welcome. Please send them to public-socialweb@w3.org ([subscribe](#), [archives](#)).

Please see the Working Group's [implementation report](#).

This document has been reviewed by W3C Members, by software developers, and by other W3C groups and interested parties, and is endorsed by the Director as a W3C Recommendation. It is a stable document and may be used as reference material or cited from another document. W3C's role in making the Recommendation is to draw attention to the specification and to promote its widespread deployment. This enhances the functionality and interoperability of the Web.

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This document is governed by the [1 March 2017 W3C Process Document](#).

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1. Introduction

[The Activity Streams 2.0 Core Syntax](#) defines the JSON syntax for Activity Streams. This document defines the vocabulary properties.

The Activity Streams 2.0 Vocabulary defines a set of abstract types and properties that describe past, present and future Activities. The vocabulary is defined in two parts:

1. A Core set of properties describing the generalized structure of an Activity; and
2. An Extended set of properties that cover specific types of Activities and Artifacts common to many social Web application systems.

While not all Activity Streams 2.0 implementations are expected to implement support for the Extended properties, all implementations **must** at least be capable of serializing and deserializing the Extended properties in accordance with the [Activity Streams 2.0 Core Syntax](#).

The key words "**must**", "**must not**", "**required**", "**shall**", "**shall not**", "**should**", "**should not**", "**recommended**", "**may**", and "**optional**" in this document are to be interpreted as described in [\[RFC2119\]](#).

1.1 Conventions

Unless otherwise specified, all properties defined as `xsd:dateTime` values **must** conform to the rules defined in Activity Streams 2.0 Core, [Section 2.3](#).

The examples included in this document use the normative JSON serialization defined by this specification.

2. Core Types

The [Activity Vocabulary Core Types](#) provides the basis for the rest of the vocabulary.

The Activity Vocabulary Core Types provide the basis for the rest of the vocabulary.

Base URI: <https://www.w3.org/ns/activitystreams#>.

The Activity Streams 2.0 Core Types include:

- [Object](#)
- [Link](#)
- [Activity](#)
- [IntransitiveActivity](#)
- [Collection](#)
- [OrderedCollection](#)
- [CollectionPage](#)
- [OrderedCollectionPage](#)

Class	Description		Example
Object	URI:	https://www.w3.org/ns/activitystreams#Object	<p>EXAMPLE 1</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "type": "Object", "id": "http://www.test.example/object/1", "name": "A Simple, non-specific object" }</pre>
	Notes:	Describes an object of any kind. The Object type serves as the base type for most of the other kinds of objects defined in the Activity Vocabulary, including other Core types such as Activity , IntransitiveActivity , Collection and OrderedCollection .	
	Disjoint With:	Link	
	Properties:	attachment attributedTo audience content context name endTime generator icon image inReplyTo location preview published replies startTime summary tag updated url to bto cc bcc mediaType duration	
Link	URI:	https://www.w3.org/ns/activitystreams#Link	<p>EXAMPLE 2</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "type": "Link", "href": "http://example.org/abc", "hreflang": "en", "mediaType": "text/html", "name": "An example link" }</pre>
	Notes:	A Link is an indirect, qualified reference to a resource identified by a URL. The fundamental model for links is established by [RFC5988]. Many of the properties defined by the Activity Vocabulary allow values that are either instances of Object or Link . When a Link is used, it establishes a qualified relation connecting the subject (the containing object) to the resource identified by the href . Properties of the Link are properties of the reference as opposed to properties of the resource.	
	Disjoint With:	Object	

	properties:	href rel mediaType name hreflang height width preview	
Activity	URI:	https://www.w3.org/ns/activitystreams#Activity	<p>EXAMPLE 3</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams" "type": "Activity", "summary": "Sally did something to a note", "actor": { "type": "Person", "name": "Sally" }, "object": { "type": "Note", "name": "A Note" } }</pre>
	Notes:	An Activity is a subtype of Object that describes some form of action that may happen, is currently happening, or has already happened. The Activity type itself serves as an abstract base type for all types of activities. It is important to note that the Activity type itself does not carry any specific semantics about the kind of action being taken.	
	Extends:	Object	
	Properties:	actor object target result origin instrument Inherits all properties from Object .	
IntransitiveActivity	URI:	https://www.w3.org/ns/activitystreams#IntransitiveActivity	<p>EXAMPLE 4</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams" "type": "Travel", "summary": "Sally went to work", "actor": { "type": "Person", "name": "Sally" }, "target": { "type": "Place", "name": "Work" } }</pre>
	Notes:	Instances of IntransitiveActivity are a subtype of Activity representing intransitive actions. The object property is therefore inappropriate for these activities.	
	Extends:	Activity	
	Properties:	Inherits all properties from Activity except object .	
Collection	URI:	https://www.w3.org/ns/activitystreams#Collection	

	<p>Notes:</p> <p>A Collection is a subtype of Object that represents ordered or unordered sets of Object or Link instances.</p> <p>Refer to the Activity Streams 2.0 Core specification for a complete description of the Collection type.</p>	<p>EXAMPLE 5</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally's notes", "type": "Collection", "totalItems": 2, "items": [{ "type": "Note", "name": "A Simple Note" }, { "type": "Note", "name": "Another Simple Note" }] }</pre>
	<p>Extends: Object</p>	
	<p>Properties: totalItems current first last items</p> <p>Inherits all properties from Object.</p>	
OrderedCollection	<p>URI: https://www.w3.org/ns/activitystreams#OrderedCollection</p>	<p>EXAMPLE 6</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally's notes", "type": "OrderedCollection", "totalItems": 2, "orderedItems": [{ "type": "Note", "name": "A Simple Note" }, { "type": "Note", "name": "Another Simple Note" }] }</pre>
	<p>Notes:</p> <p>A subtype of Collection in which members of the logical collection are assumed to always be strictly ordered.</p>	
	<p>Extends: Collection</p>	
	<p>Properties:</p> <p>Inherits all properties from Collection.</p>	
CollectionPage	<p>URI: https://www.w3.org/ns/activitystreams#CollectionPage</p>	<p>EXAMPLE 7</p>
	<p>Notes:</p>	

		Used to represent distinct subsets of items from a Collection . Refer to the Activity Streams 2.0 Core for a complete description of the CollectionPage object.	<pre>{ "@context": "https://www.w3.org/ns/activitystreams" "summary": "Page 1 of Sally's notes", "type": "CollectionPage", "id": "http://example.org/foo?page=1", "partOf": "http://example.org/foo", "items": [{ "type": "Note", "name": "A Simple Note" }, { "type": "Note", "name": "Another Simple Note" }] }</pre>
	Extends:	Collection	
	Properties:	partOf next prev Inherits all properties from Collection .	
OrderedCollectionPage	URI:	https://www.w3.org/ns/activitystreams#OrderedCollectionPage	
	Notes:	Used to represent ordered subsets of items from an OrderedCollection . Refer to the Activity Streams 2.0 Core for a complete description of the OrderedCollectionPage object.	EXAMPLE 8
	Extends:	OrderedCollection CollectionPage	<pre>{ "@context": "https://www.w3.org/ns/activitystreams" "summary": "Page 1 of Sally's notes", "type": "OrderedCollectionPage", "id": "http://example.org/foo?page=1", "partOf": "http://example.org/foo", "orderedItems": [{ "type": "Note", "name": "A Simple Note" }, { "type": "Note", "name": "Another Simple Note" }] }</pre>
	Properties:	startIndex Inherits all properties from OrderedCollection and CollectionPage .	

3. Extended Types

Base URI: <https://www.w3.org/ns/activitystreams#>.

The Activity Streams 2.0 Extended Types include Activity and Object subtypes that are common to many social Web

applications. They are divided into three sets:

- [Activity Types](#)
- [Actor Types](#)
- [Object Types](#)

Support for specific extended vocabulary types is expected to vary, with implementations only selecting the extended types and properties that make sense within the specific context and requirements of those applications. However, to avoid possible interoperability issues, implementations **must** avoid using extension types or properties that unduly overlap with or duplicate the extended vocabulary defined here.

3.1 Activity Types

All Activity Types inherit the properties of the base [Activity](#) type. Some specific Activity Types are subtypes or specializations of more generalized Activity Types (for instance, the [Invite](#) Activity Type is a more specific form of the [Offer](#) Activity Type).

The Activity Types include:

- [Accept](#)
- [Add](#)
- [Announce](#)
- [Arrive](#)
- [Block](#)
- [Create](#)
- [Delete](#)
- [Dislike](#)
- [Flag](#)
- [Follow](#)
- [Ignore](#)
- [Invite](#)
- [Join](#)
- [Leave](#)
- [Like](#)
- [Listen](#)
- [Move](#)
- [Offer](#)
- [Question](#)
- [Reject](#)

- [Read](#)
- [Remove](#)
- [TentativeReject](#)
- [TentativeAccept](#)
- [Travel](#)
- [Undo](#)
- [Update](#)
- [View](#)

Class	Description	Example								
<i>Accept</i>	<table border="1"> <tr> <td>URI:</td> <td>https://www.w3.org/ns/activitystreams#Accept</td> </tr> <tr> <td>Notes:</td> <td>Indicates that the actor accepts the object. The target property can be used in certain circumstances to indicate the context into which the object has been accepted.</td> </tr> <tr> <td>Extends:</td> <td>Activity</td> </tr> <tr> <td>Properties:</td> <td>Inherits all properties from Activity.</td> </tr> </table>	URI:	https://www.w3.org/ns/activitystreams#Accept	Notes:	Indicates that the actor accepts the object . The target property can be used in certain circumstances to indicate the context into which the object has been accepted.	Extends:	Activity	Properties:	Inherits all properties from Activity .	<p>EXAMPLE 9</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally accepted an invitation to a party", "type": "Accept", "actor": { "type": "Person", "name": "Sally" }, "object": { "type": "Invite", "actor": "http://john.example.org", "object": { "type": "Event", "name": "Going-Away Party for Jim" } } }</pre> <p>EXAMPLE 10</p> <pre>{</pre>
URI:	https://www.w3.org/ns/activitystreams#Accept									
Notes:	Indicates that the actor accepts the object . The target property can be used in certain circumstances to indicate the context into which the object has been accepted.									
Extends:	Activity									
Properties:	Inherits all properties from Activity .									

			<pre> "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally accepted Joe into the club", "type": "Accept", "actor": { "type": "Person", "name": "Sally" }, "object": { "type": "Person", "name": "Joe" }, "target": { "type": "Group", "name": "The Club" } } </pre>
TentativeAccept	URI:	https://www.w3.org/ns/activitystreams#TentativeAccept	<p>EXAMPLE 11</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally tentatively accepted an invitation to a party", "type": "TentativeAccept", "actor": { "type": "Person", "name": "Sally" }, "object": { "type": "Invite", "actor": "http://john.example.org", "object": { "type": "Event", "name": "Going-Away Party for Jim" } } } </pre>
	Notes:	A specialization of Accept indicating that the acceptance is tentative.	
	Extends:	Accept	
	Properties:	Inherits all properties from Accept .	
Add	URI:	https://www.w3.org/ns/activitystreams#Add	<p>EXAMPLE 12</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally added an object", "type": "Add", "actor": { "type": "Person", </pre>
	Notes:	Indicates that the actor has added the object to the target . If the target property is not explicitly specified, the target would need to be determined implicitly by context. The origin can be used to identify the context from which the object originated.	
	Extends:	Activity	
	Properties:	Inherits all properties from Activity .	

	<p>Properties:</p>	<p>Inherits all properties from ACTIVITY.</p>	<pre> "name": "Sally" }, "object": "http://example.org/abc" } } EXAMPLE 13 { "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally added a picture of her cat to her cat picture collection" "type": "Add", "actor": { "type": "Person", "name": "Sally" }, "object": { "type": "Image", "name": "A picture of my cat", "url": "http://example.org/img/cat.png" }, "origin": { "type": "Collection", "name": "Camera Roll" }, "target": { "type": "Collection", "name": "My Cat Pictures" } } </pre>
<p>Arrive</p>	<p>URI:</p>	<p>https://www.w3.org/ns/activitystreams#Arrive</p>	<p>EXAMPLE 14</p>
	<p>Notes:</p>	<p>An IntransitiveActivity that indicates that the actor has arrived at the location. The origin can be used to identify the context from which the actor originated. The target typically has no defined meaning.</p>	
	<p>Extends:</p>	<p>IntransitiveActivity</p>	
	<p>Properties:</p>	<p>Inherits all properties from IntransitiveActivity.</p>	

			<pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally arrived at work", "type": "Arrive", "actor": { "type": "Person", "name": "Sally" }, "location": { "type": "Place", "name": "Work" }, "origin": { "type": "Place", "name": "Home" } } </pre>
Create	URI:	https://www.w3.org/ns/activitystreams#Create	<p>EXAMPLE 15</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally created a note", "type": "Create", "actor": { "type": "Person", "name": "Sally" }, "object": { "type": "Note", "name": "A Simple Note", "content": "This is a simple note" } } </pre>
	Notes:	Indicates that the actor has created the object .	
	Extends:	Activity	
	Properties:	Inherits all properties from Activity .	
Delete	URI:	https://www.w3.org/ns/activitystreams#Delete	<p>EXAMPLE 16</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally deleted a note", "type": "Delete", "actor": { "type": "Person", "name": "Sally" } } </pre>
	Notes:	Indicates that the actor has deleted the object . If specified, the origin indicates the context from which the object was deleted.	
	Extends:	Activity	
	Properties:	Inherits all properties from Activity .	

			<pre> name: "Sally", }, "object": "http://example.org/notes/1", "origin": { "type": "Collection", "name": "Sally's Notes" } } </pre>
Follow	URI: https://www.w3.org/ns/activitystreams#Follow	Notes: Indicates that the actor is "following" the object . Following is defined in the sense typically used within Social systems in which the actor is interested in any activity performed by or on the object. The target and origin typically have no defined meaning.	<p>EXAMPLE 17</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally followed John", "type": "Follow", "actor": { "type": "Person", "name": "Sally" }, "object": { "type": "Person", "name": "John" } } </pre>
	Extends: Activity	Properties: Inherits all properties from Activity .	
Ignore	URI: https://www.w3.org/ns/activitystreams#Ignore	Notes: Indicates that the actor is ignoring the object . The target and origin typically have no defined meaning.	<p>EXAMPLE 18</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally ignored a note", "type": "Ignore", "actor": { "type": "Person", "name": "Sally" }, "object": "http://example.org/notes/1" } </pre>
	Extends: Activity	Properties: Inherits all properties from Activity .	

Join	URI: https://www.w3.org/ns/activitystreams#Join	Notes: Indicates that the actor has joined the object . The target and origin typically have no defined meaning.	<p>EXAMPLE 19</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally joined a group", "type": "Join", "actor": { "type": "Person", "name": "Sally" }, "object": { "type": "Group", "name": "A Simple Group" } }</pre>
Leave	URI: https://www.w3.org/ns/activitystreams#Leave	Notes: Indicates that the actor has left the object . The target and origin typically have no meaning.	<p>EXAMPLE 20</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally left work", "type": "Leave", "actor": { "type": "Person", "name": "Sally" }, "object": { "type": "Place", "name": "Work" } }</pre> <p>EXAMPLE 21</p> <pre>{</pre>

			<pre> "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally left a group", "type": "Leave", "actor": { "type": "Person", "name": "Sally" }, "object": { "type": "Group", "name": "A Simple Group" } } </pre>
Like	URI:	https://www.w3.org/ns/activitystreams#Like	<p>EXAMPLE 22</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally liked a note", "type": "Like", "actor": { "type": "Person", "name": "Sally" }, "object": "http://example.org/notes/1" } </pre>
	Notes:	Indicates that the actor likes, recommends or endorses the object . The target and origin typically have no defined meaning.	
	Extends:	Activity	
	Properties:	Inherits all properties from Activity .	
Offer	URI:	https://www.w3.org/ns/activitystreams#Offer	<p>EXAMPLE 23</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally offered 50% off to Lewis", "type": "Offer", "actor": { "type": "Person", "name": "Sally" }, "object": "http://example.org/notes/1" } </pre>
	Notes:	Indicates that the actor is offering the object . If specified, the target indicates the entity to which the object is being offered.	
	Extends:	Activity	
	Properties:	Inherits all properties from Activity .	

			<pre> "type": "person", "name": "Sally" }, "object": { "type": "http://www.types.example/ProductOffer", "name": "50% Off!" }, "target": { "type": "Person", "name": "Lewis" } } } </pre>
Invite	URI:	https://www.w3.org/ns/activitystreams#Invite	<p>EXAMPLE 24</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally invited John and Lisa to a party", "type": "Invite", "actor": { "type": "Person", "name": "Sally" }, "object": { "type": "Event", "name": "A Party" }, "target": [{ "type": "Person", "name": "John" }, { "type": "Person", "name": "Lisa" }] } </pre>
	Notes:	A specialization of Offer in which the actor is extending an invitation for the object to the target .	
	Extends:	Offer	
	Properties:	Inherits all properties from Offer .	
Reject	URI:	https://www.w3.org/ns/activitystreams#Reject	
	Notes:	Indicates that the actor is rejecting the object . The target and origin typically have no defined meaning.	

	<p>Extends: Activity</p> <p>Properties: Inherits all properties from Activity.</p>	<p>EXAMPLE 25</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally rejected an invitation to a party", "type": "Reject", "actor": { "type": "Person", "name": "Sally" }, "object": { "type": "Invite", "actor": "http://john.example.org", "object": { "type": "Event", "name": "Going-Away Party for Jim" } } } </pre>
<i>TentativeReject</i>	<p>URI: https://www.w3.org/ns/activitystreams#TentativeReject</p> <p>Notes: A specialization of Reject in which the rejection is considered tentative.</p> <p>Extends: Reject</p> <p>Properties: Inherits all properties from Reject.</p>	<p>EXAMPLE 26</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally tentatively rejected an invitation to a party", "type": "TentativeReject", "actor": { "type": "Person", "name": "Sally" }, "object": { "type": "Invite", "actor": "http://john.example.org", "object": { "type": "Event", "name": "Going-Away Party for Jim" } } } </pre>

Remove	URI:	https://www.w3.org/ns/activitystreams#Remove	
	Notes:	Indicates that the actor is removing the object . If specified, the origin indicates the context from which the object is being removed.	EXAMPLE 27
	Extends:	Activity	<pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally removed a note from her notes folder", "type": "Remove", "actor": { "type": "Person", "name": "Sally" }, "object": "http://example.org/notes/1", "target": { "type": "Collection", "name": "Notes Folder" } }</pre>
	Properties:	Inherits all properties from Activity .	EXAMPLE 28
			<pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "The moderator removed Sally from a group", "type": "Remove", "actor": { "type": "http://example.org/Role", "name": "The Moderator" }, "object": { "type": "Person", "name": "Sally" }, "origin": f</pre>

			<pre> origin : { "type": "Group", "name": "A Simple Group" } } </pre>
Undo	URI:	https://www.w3.org/ns/activitystreams#Undo	<p>EXAMPLE 29</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally retracted her offer to John", "type": "Undo", "actor": "http://sally.example.org", "object": { "type": "Offer", "actor": "http://sally.example.org", "object": "http://example.org/posts/1", "target": "http://john.example.org" } } </pre>
	Notes:	<p>Indicates that the actor is undoing the object. In most cases, the object will be an Activity describing some previously performed action (for instance, a person may have previously "liked" an article but, for whatever reason, might choose to undo that like at some later point in time).</p> <p>The target and origin typically have no defined meaning.</p>	
	Extends:	Activity	
	Properties:	Inherits all properties from Activity .	
Update	URI:	https://www.w3.org/ns/activitystreams#Update	<p>EXAMPLE 30</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally updated her note", "type": "Update", "actor": { "type": "Person", "name": "Sally" }, "object": "http://example.org/notes/1" } </pre>
	Notes:	<p>Indicates that the actor has updated the object. Note, however, that this vocabulary does not define a mechanism for describing the actual set of modifications made to object.</p> <p>The target and origin typically have no defined meaning.</p>	
	Extends:	Activity	
	Properties:	Inherits all properties from Activity .	
View	URI:	https://www.w3.org/ns/activitystreams#View	<p>EXAMPLE 31</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally read an article", </pre>
	Notes:	Indicates that the actor has viewed the object.	
	Extends:	Activity	
	Properties:	Inherits all properties from Activity .	

	Properties:	Inherits all properties from Activity .	<pre> "type": "View", "actor": { "type": "Person", "name": "Sally" }, "object": { "type": "Article", "name": "What You Should Know About Activity Streams" } </pre>
Listen	URI:	https://www.w3.org/ns/activitystreams#Listen	<p>EXAMPLE 32</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally listened to a piece of music", "type": "Listen", "actor": { "type": "Person", "name": "Sally" }, "object": "http://example.org/music.mp3" } </pre>
	Notes:	Indicates that the actor has listened to the object .	
	Extends:	Activity	
	Properties:	Inherits all properties from Activity .	
Read	URI:	https://www.w3.org/ns/activitystreams#Read	<p>EXAMPLE 33</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally read a blog post", "type": "Read", "actor": { "type": "Person", "name": "Sally" }, "object": "http://example.org/posts/1" } </pre>
	Notes:	Indicates that the actor has read the object .	
	Extends:	Activity	
	Properties:	Inherits all properties from Activity .	
Move	URI:	https://www.w3.org/ns/activitystreams#Move	
	Notes:	Indicates that the actor has moved object from origin to target . If the origin or target are not specified, either can be determined by context.	

	Extends: Activity		
	Properties:	Inherits all properties from Activity .	<p>EXAMPLE 34</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally moved a post from List A to List B", "type": "Move", "actor": { "type": "Person", "name": "Sally" }, "object": "http://example.org/posts/1", "target": { "type": "Collection", "name": "List B" }, "origin": { "type": "Collection", "name": "List A" } } </pre>
Travel	URI:	https://www.w3.org/ns/activitystreams#Travel	
	Notes:	Indicates that the actor is traveling to target from origin . Travel is an IntransitiveObject whose actor specifies the direct object. If the target or origin are not specified, either can be determined by context.	<p>EXAMPLE 35</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally went home from work", "type": "Travel", "actor": { "type": "Person", "name": "Sally" }, "target": { "type": "Place", "name": "Home" }, "origin": { "type": "Place", "name": "Work" } } </pre>
	Extends:	IntransitiveActivity	
	Properties:	Inherits all properties from IntransitiveActivity .	

Announce	URI:	https://www.w3.org/ns/activitystreams#Announce	<p>EXAMPLE 36</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally announced that she had arrived at work", "type": "Announce", "actor": { "type": "Person", "id": "http://sally.example.org", "name": "Sally" }, "object": { "type": "Arrive", "actor": "http://sally.example.org", "location": { "type": "Place", "name": "Work" } } }</pre>
	Notes:	<p>Indicates that the actor is calling the target's attention the object.</p> <p>The origin typically has no defined meaning.</p>	
	Extends:	Activity	
	Properties:	Inherits all properties from Activity .	
Block	URI:	https://www.w3.org/ns/activitystreams#Block	<p>EXAMPLE 37</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally blocked Joe", "type": "Block", "actor": "http://sally.example.org", "object": "http://joe.example.org" }</pre>
	Notes:	<p>Indicates that the actor is blocking the object. Blocking is a stronger form of Ignore. The typical use is to support social systems that allow one user to block activities or content of other users. The target and origin typically have no defined meaning.</p>	
	Extends:	Ignore	
	Properties:	Inherits all properties from Ignore .	
Flag	URI:	https://www.w3.org/ns/activitystreams#Flag	<p>EXAMPLE 38</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally flagged an inappropriate note", "type": "Flag", "actor": "http://sally.example.org", "object": { "type": "Note", "content": "An inappropriate note" } }</pre>
	Notes:	<p>Indicates that the actor is "flagging" the object. Flagging is defined in the sense common to many social platforms as reporting content as being inappropriate for any number of reasons.</p>	
	Extends:	Activity	
	Properties:	Inherits all properties from Activity .	

Dislike	URI:	https://www.w3.org/ns/activitystreams#Dislike	<p>EXAMPLE 39</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally disliked a post", "type": "Dislike", "actor": "http://sally.example.org", "object": "http://example.org/posts/1" }</pre>
	Notes:	Indicates that the actor dislikes the object .	
	Extends:	Activity	
	Properties:	Inherits all properties from Activity .	
Question	URI:	https://www.w3.org/ns/activitystreams#Question	<p>EXAMPLE 40</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "type": "Question", "name": "What is the answer?", "oneOf": [{ "type": "Note", "name": "Option A" }, { "type": "Note", "name": "Option B" }] }</pre> <p>EXAMPLE 41</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "type": "Question", "name": "What is the answer?", "closed": "2016-05-10T00:00:00Z" }</pre>
	Notes:	<p>Represents a question being asked. Question objects are an extension of IntransitiveActivity. That is, the Question object is an Activity, but the direct object is the question itself and therefore it would not contain an object property.</p> <p>Either of the anyOf and oneOf properties may be used to express possible answers, but a Question object must not have both properties.</p>	
	Extends:	IntransitiveActivity .	
	Properties:	<p>oneOf anyOf closed</p> <p>Inherits all properties from IntransitiveActivity.</p>	

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3.2 Actor Types

Actor types are [Object](#) types that are capable of performing activities.

The core Actor Types include:

- [Application](#)
- [Group](#)
- [Organization](#)
- [Person](#)
- [Service](#)

Class	Description		Properties
Application	URI:	https://www.w3.org/ns/activitystreams#Application	EXAMPLE 42 <pre>{ "@context": "https://www.w3.org/ns/activitystreams" "type": "Application", "name": "Exempletron 3000" }</pre>
	Notes:	Describes a software application.	
	Extends:	Object	
	Properties:	Inherits all properties from Object .	
Group	URI:	https://www.w3.org/ns/activitystreams#Group	EXAMPLE 43 <pre>{ "@context": "https://www.w3.org/ns/activitystreams" "type": "Group", "name": "Big Beards of Austin" }</pre>
	Notes:	Represents a formal or informal collective of Actors.	
	Extends:	Object	
	Properties:	Inherits all properties from Object .	

Organization	URI:	https://www.w3.org/ns/activitystreams#Organization	<p>EXAMPLE 44</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams" "type": "Organization", "name": "Example Co." }</pre>
	Notes:	Represents an organization.	
	Extends:	Object	
	Properties:	Inherits all properties from Object .	
Person	URI:	https://www.w3.org/ns/activitystreams#Person	<p>EXAMPLE 45</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams" "type": "Person", "name": "Sally Smith" }</pre>
	Notes:	Represents an individual person.	
	Extends:	Object	
	Properties:	Inherits all properties from Object .	
Service	URI:	https://www.w3.org/ns/activitystreams#Service	<p>EXAMPLE 46</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams" "type": "Service", "name": "Acme Web Service" }</pre>
	Notes:	Represents a service of any kind.	
	Extends:	Object	
	Properties:	Inherits all properties from Object .	

3.3 Object and Link Types

All Object Types inherit the properties of the base [Object](#) type. Link Types inherit the properties of the base [Link](#) type. Some specific Object Types are subtypes or specializations of more generalized Object Types (for instance, the [Like](#) Type is a more specific form of the [Activity](#) type).

The Object Types include:

- [Article](#)
- [Audio](#)
- [Document](#)
- [Event](#)
- [Image](#)

- [Note](#)
- [Page](#)
- [Place](#)
- [Profile](#)
- [Relationship](#)
- [Tombstone](#)
- [Video](#)

The Link Types include:

- [Mention](#)

Class	Description	Properties	
Relationship	URI: https://www.w3.org/ns/activitystreams#Relationship	<p>EXAMPLE 47</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally is an acquaintance of John", "type": "Relationship", "subject": { "type": "Person", "name": "Sally" }, "relationship": "http://purl.org/vocab/relationship/acquaintanceOf", "object": { "type": "Person", "name": "John" } }</pre>	
	Notes:		<p>Describes a relationship between two individuals. The subject and object properties are used to identify the connected individuals.</p> <p>See 5.2 Representing Relationships Between Entities for additional information.</p>
	Extends:		Object
	Properties:		<p>subject object relationship</p> <p>Inherits all properties from Object.</p>
Article	URI: https://www.w3.org/ns/activitystreams#Article	<p>EXAMPLE 48</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "type": "Article"</pre>	
	Notes:		Represents any kind of multi-paragraph written work.
	Extends:		Object

	Properties:	Inherits all properties from Object .	<pre> type : Article , "name": "What a Crazy Day I Had", "content": "<div>... you will never believe ...</div>", "attributedTo": "http://sally.example.org" } </pre>
Document	URI:	https://www.w3.org/ns/activitystreams#Document	<p>EXAMPLE 49</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "type": "Document", "name": "4Q Sales Forecast", "url": "http://example.org/4q-sales-forecast.pdf" } </pre>
	Notes:	Represents a document of any kind.	
	Extends:	Object	
	Properties:	Inherits all properties from Object .	
Audio	URI:	https://www.w3.org/ns/activitystreams#Audio	<p>EXAMPLE 50</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "type": "Audio", "name": "Interview With A Famous Technologist", "url": { "type": "Link", "href": "http://example.org/podcast.mp3", "mediaType": "audio/mp3" } } </pre>
	Notes:	Represents an audio document of any kind.	
	Extends:	Document	
	Properties:	Inherits all properties from Document .	
Image	URI:	https://www.w3.org/ns/activitystreams#Image	
	Notes:	An image document of any kind	
	Extends:	Document	
	Properties:	Inherits all properties from Document .	

			<p>EXAMPLE 51</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "type": "Image", "name": "Cat Jumping on Wagon", "url": [{ "type": "Link", "href": "http://example.org/image.jpeg", "mediaType": "image/jpeg" }, { "type": "Link", "href": "http://example.org/image.png", "mediaType": "image/png" }] }</pre>
Video	<p>URI: https://www.w3.org/ns/activitystreams#Video</p> <p>Notes: Represents a video document of any kind.</p> <p>Extends: Document</p> <p>Properties: Inherits all properties from Document.</p>		<p>EXAMPLE 52</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "type": "Video", "name": "Puppy Plays With Ball", "url": "http://example.org/video.mkv", "duration": "PT2H" }</pre>
Note	<p>URI: https://www.w3.org/ns/activitystreams#Note</p> <p>Notes: Represents a short written work typically less than a single paragraph in length.</p> <p>Extends: Object</p> <p>Properties: Inherits all properties from Object.</p>		<p>EXAMPLE 53</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "type": "Note", "name": "A Word of Warning", "content": "Looks like it is going to rain today. Bring an umbrella!" }</pre>

Page	URI:	https://www.w3.org/ns/activitystreams#Page	<p>EXAMPLE 54</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "type": "Page", "name": "Omaha Weather Report", "url": "http://example.org/weather-in-omaha.html" }</pre>
	Notes:	Represents a Web Page.	
	Extends:	Document	
	Properties:	Inherits all properties from Document .	
Event	URI:	https://www.w3.org/ns/activitystreams#Event	<p>EXAMPLE 55</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "type": "Event", "name": "Going-Away Party for Jim", "startTime": "2014-12-31T23:00:00-08:00", "endTime": "2015-01-01T06:00:00-08:00" }</pre>
	Notes:	Represents any kind of event.	
	Extends:	Object	
	Properties:	Inherits all properties from Object .	
Place	URI:	https://www.w3.org/ns/activitystreams#Place	<p>EXAMPLE 56</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "type": "Place", "name": "Work" }</pre> <p>EXAMPLE 57</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "type": "Place", "name": "Fresno Area", "latitude": 36.75, "longitude": 119.7667. }</pre>
	Notes:	Represents a logical or physical location. See 5.3 Representing Places for additional information.	
	Extends:	Object	
	Properties:	<p>accuracy altitude latitude longitude radius units</p> <p>Inherits all properties from Object.</p>	

			<pre> "radius": 15, "units": "miles" } </pre>
Mention	URI:	https://www.w3.org/ns/activitystreams#Mention	<p>EXAMPLE 58</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "Mention of Joe by Carrie in her note", "type": "Mention", "href": "http://example.org/joe", "name": "Joe" } </pre>
	Notes:	A specialized Link that represents an @mention.	
	Extends:	Link	
	Properties:	Inherits all properties from Link .	
Profile	URI:	https://www.w3.org/ns/activitystreams#Profile	<p>EXAMPLE 59</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "type": "Profile", "summary": "Sally's Profile", "describes": { "type": "Person", "name": "Sally Smith" } } </pre>
	Notes:	A Profile is a content object that describes another Object, typically used to describe Actor Type objects. The describes property is used to reference the object being described by the profile.	
	Extends:	Object	
	Properties:	describes Inherits all properties from Object .	
Tombstone	URI:	https://www.w3.org/ns/activitystreams#Tombstone	<p>EXAMPLE 60</p> <pre> { "type": "OrderedCollection", "totalItems": 3, "name": "Vacation photos 2016", "orderedItems": [{ "type": "Image", "id": "http://image.example/1" }, { "type": "Tombstone", "formerType": "Image", "id": "http://image.example/2", }] } </pre>
	Notes:	A Tombstone represents a content object that has been deleted. It can be used in Collections to signify that there used to be an object at this position, but it has been deleted.	
	Extends:	Object	
	Properties:	formerType deleted Inherits all properties from Object .	

		<pre> "deleted": "2016-03-17T00:00:00Z" }, { "type": "Image", "id": "http://image.example/3" }] }</pre>
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4. Properties

Base URI: <https://www.w3.org/ns/activitystreams#>.

The common properties include: [actor](#) | [attachment](#) | [attributedTo](#) | [audience](#) | [bcc](#) | [bto](#) | [cc](#) | [context](#) | [current](#) | [first](#) | [generator](#) | [icon](#) | [id](#) | [image](#) | [inReplyTo](#) | [instrument](#) | [last](#) | [location](#) | [items](#) | [oneOf](#) | [anyOf](#) | [closed](#) | [origin](#) | [next](#) | [object](#) | [prev](#) | [preview](#) | [result](#) | [replies](#) | [tag](#) | [target](#) | [to](#) | [type](#) | [url](#) | [accuracy](#) | [altitude](#) | [content](#) | [name](#) | [duration](#) | [height](#) | [href](#) | [hreflang](#) | [partOf](#) | [latitude](#) | [longitude](#) | [mediaType](#) | [endTime](#) | [published](#) | [startTime](#) | [radius](#) | [rel](#) | [startIndex](#) | [summary](#) | [totalItems](#) | [units](#) | [updated](#) | [width](#) | [subject](#) | [relationship](#) | [describes](#) | [formerType](#) | [deleted](#)

The "Domain" indicates the type of Object the property term applies to. The "Range" indicates the type of value the property term can have. Certain properties are marked as a "Subproperty Of" another term, meaning that the term is a specialization of the referenced term. For instance, [actor](#) is a subproperty of [attributedTo](#). Properties marked as being "Functional" can have only one value. Items not marked as "Functional" can have multiple values.

Term	Description	Example
<i>id</i>	URI: @id Notes: Provides the globally unique identifier for an Object or Link . Domain: Object Link Range: anyURI Functional: True	EXAMPLE 61 <pre> { "@context": "https://www.w3.org/ns/activitystreams", "name": "Foo", "id": "http://example.org/foo" }</pre>
<i>type</i>	URI: @type Notes: Identifies the Object or Link type. Multiple values may be specified. Domain: Object Link Range: anyURI	EXAMPLE 62 <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "A foo", "type": "http://example.org/Foo" }</pre>

actor	URI:	https://www.w3.org/ns/activitystreams#actor	<p>EXAMPLE 63</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally offered the Foo object", "type": "Offer", "actor": "http://sally.example.org", "object": "http://example.org/foo" }</pre> <p>EXAMPLE 64</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally offered the Foo object", "type": "Offer", "actor": { "type": "Person", "id": "http://sally.example.org", "summary": "Sally" }, "object": "http://example.org/foo" }</pre> <p>EXAMPLE 65</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally and Joe offered the Foo object", "type": "Offer", "actor": ["http://joe.example.org", { "type": "Person", "id": "http://sally.example.org", "summary": "Sally" }] }</pre>
	Notes:	Describes one or more entities that either performed or are expected to perform the activity. Any single activity can have multiple actors . The actor may be specified using an indirect Link .	
	Domain:	Activity	
	Range:	Object Link	
	Subproperty Of:	attributedTo	

			<pre> name : Sally }], "object": "http://example.org/foo" } </pre>
attachment	URI:	https://www.w3.org/ns/activitystreams#attachment	<p>EXAMPLE 66</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "type": "Note", "name": "Have you seen my cat?", "attachment": [{ "type": "Image", "content": "This is what he looks like.", "url": "http://example.org/cat.jpeg" }] } </pre>
	Notes:	Identifies a resource attached or related to an object that potentially requires special handling. The intent is to provide a model that is at least semantically similar to attachments in email.	
	Domain:	Object	
	Range:	Object Link	
attributedTo	URI:	https://www.w3.org/ns/activitystreams#attributedTo	<p>EXAMPLE 67</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "type": "Image", "name": "My cat taking a nap", "url": "http://example.org/cat.jpeg", "attributedTo": [{ }] } </pre>
	Notes:	Identifies one or more entities to which this object is attributed. The attributed entities might not be Actors. For instance, an object might be attributed to the completion of another activity.	
	Domain:	Link Object	
	Range:	Link Object	

			<pre> "type": "Person", "name": "Sally" }] } </pre> <p>EXAMPLE 68</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "type": "Image", "name": "My cat taking a nap", "url": "http://example.org/cat.jpeg", "attributedTo": ["http://joe.example.org", { "type": "Person", "name": "Sally" }] } </pre>
audience	URI:	https://www.w3.org/ns/activitystreams#audience	<p>EXAMPLE 69</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "name": "Holiday announcement", "type": "Note", "content": "Thursday will be a company-wide holiday. Enjoy your day off!" "audience": { "type": "http://example.org/Organization", "name": "ExampleCo LLC" } } </pre>
	Notes:	Identifies one or more entities that represent the total population of entities for which the object can considered to be relevant.	
	Domain:	Object	
	Range:	Object Link	
bcc	URI:	https://www.w3.org/ns/activitystreams#bcc	<p>EXAMPLE 70</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally offered a post to John", "type": "Offer", "actor": "http://sally.example.org", "object": "http://example.org/posts/1", "target": "http://john.example.org" } </pre>
	Notes:	Identifies one or more Objects that are part of the private secondary audience of this Object.	
	Domain:	Object	
	Range:	Object Link	

			<pre>target": "http://john.example.org", "bcc": ["http://joe.example.org"] }</pre>
bto	URI:	https://www.w3.org/ns/activitystreams#bto	<p>EXAMPLE 71</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally offered a post to John", "type": "Offer", "actor": "http://sally.example.org", "object": "http://example.org/posts/1", "target": "http://john.example.org", "bto": ["http://joe.example.org"] }</pre>
	Notes:	Identifies an Object that is part of the private primary audience of this Object.	
	Domain:	Object	
	Range:	Object Link	
cc	URI:	https://www.w3.org/ns/activitystreams#cc	<p>EXAMPLE 72</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally offered a post to John", "type": "Offer", "actor": "http://sally.example.org", "object": "http://example.org/posts/1", "target": "http://john.example.org", "cc": ["http://joe.example.org"] }</pre>
	Notes:	Identifies an Object that is part of the public secondary audience of this Object.	
	Domain:	Object	
	Range:	Object Link	
context	URI:	https://www.w3.org/ns/activitystreams#context	
	Notes:	<p>Identifies the context within which the object exists or an activity was performed.</p> <p>The notion of "context" used is intentionally vague. The intended function is to serve as a means of grouping objects and activities that share a common originating context or purpose. An example could be all activities relating to a common project or event.</p>	

	<table border="1"> <tr> <td>Domain:</td> <td>Object</td> </tr> <tr> <td>Range:</td> <td>Object Link</td> </tr> </table>	Domain:	Object	Range:	Object Link	<p>EXAMPLE 73</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "Activities in context 1", "type": "Collection", "items": [{ "type": "Offer", "actor": "http://sally.example.org", "object": "http://example.org/posts/1", "target": "http://john.example.org", "context": "http://example.org/contexts/1" }, { "type": "Like", "actor": "http://joe.example.org", "object": "http://example.org/posts/2", "context": "http://example.org/contexts/1" }] }</pre>						
Domain:	Object											
Range:	Object Link											
current	<table border="1"> <tr> <td>URI:</td> <td>https://www.w3.org/ns/activitystreams#current</td> </tr> <tr> <td>Notes:</td> <td>In a paged Collection, indicates the page that contains the most recently updated member items.</td> </tr> <tr> <td>Domain:</td> <td>Collection</td> </tr> <tr> <td>Range:</td> <td>CollectionPage Link</td> </tr> <tr> <td>Functional:</td> <td>True</td> </tr> </table>	URI:	https://www.w3.org/ns/activitystreams#current	Notes:	In a paged Collection , indicates the page that contains the most recently updated member items.	Domain:	Collection	Range:	CollectionPage Link	Functional:	True	<p>EXAMPLE 74</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally's blog posts", "type": "Collection", "totalItems": 3, "current": "http://example.org/collection", "items": ["http://example.org/posts/1", "http://example.org/posts/2", "http://example.org/posts/3"] }</pre>
URI:	https://www.w3.org/ns/activitystreams#current											
Notes:	In a paged Collection , indicates the page that contains the most recently updated member items.											
Domain:	Collection											
Range:	CollectionPage Link											
Functional:	True											

			<p>EXAMPLE 75</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally's blog posts", "type": "Collection", "totalItems": 3, "current": { "type": "Link", "summary": "Most Recent Items", "href": "http://example.org/collection" }, "items": ["http://example.org/posts/1", "http://example.org/posts/2", "http://example.org/posts/3"] }</pre>
<i>first</i>	<p>URI: https://www.w3.org/ns/activitystreams#first</p> <p>Notes: In a paged Collection, indicates the furthest preceeding page of items in the collection.</p> <p>Domain: Collection</p> <p>Range: CollectionPage Link</p> <p>Functional: True</p>		<p>EXAMPLE 76</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally's blog posts", "type": "Collection", "totalItems": 3, "first": "http://example.org/collection?page=0" }</pre>

			<p>EXAMPLE 77</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally's blog posts", "type": "Collection", "totalItems": 3, "first": { "type": "Link", "summary": "First Page", "href": "http://example.org/collection?page=0" } }</pre>
generator	URI:	https://www.w3.org/ns/activitystreams#generator	<p>EXAMPLE 78</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "A simple note", "type": "Note", "content": "This is all there is.", "generator": { "type": "Application", "name": "Exampletron 3000" } }</pre>
	Notes:	Identifies the entity (e.g. an application) that generated the object.	
	Domain:	Object	
	Range:	Object Link	
icon	URI:	https://www.w3.org/ns/activitystreams#icon	<p>EXAMPLE 79</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams",</pre>
	Notes:	Indicates an entity that describes an icon for this object. The image should have an aspect ratio of one (horizontal) to one (vertical) and should be suitable for presentation at a small size.	

	Domain: Object		<pre> "summary": "A simple note", "type": "Note", "content": "This is all there is.", "icon": { "type": "Image", "name": "Note icon", "url": "http://example.org/note.png", "width": 16, "height": 16 } } </pre>
	Range: Image Link		<p>EXAMPLE 80</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "A simple note", "type": "Note", "content": "A simple note", "icon": [{ "type": "Image", "summary": "Note (16x16)", "url": "http://example.org/note1.png", "width": 16, "height": 16 }, { "type": "Image", "summary": "Note (32x32)", "url": "http://example.org/note2.png", "width": 32, "height": 32 }] } </pre>
image	URI: https://www.w3.org/ns/activitystreams#image	Notes: Indicates an entity that describes an image for this object. Unlike the icon property, there are no aspect ratio or display size limitations assumed.	Domain: Object

	<p>Range:</p>	<p>Image Link</p>	<p>EXAMPLE 81</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "name": "A simple note", "type": "Note", "content": "This is all there is.", "image": { "type": "Image", "name": "A Cat", "url": "http://example.org/cat.png" } }</pre> <p>EXAMPLE 82</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "name": "A simple note", "type": "Note", "content": "This is all there is.", "image": [{ "type": "Image", "name": "Cat 1", "url": "http://example.org/cat1.png" }, { "type": "Image", "name": "Cat 2", "url": "http://example.org/cat2.png" }] }</pre>
<p><i>inReplyTo</i></p>	<p>URI:</p>	<p>https://www.w3.org/ns/activitystreams#inReplyTo</p> <p>Notes:</p> <p>Indicates one or more entities for which this object is considered a response.</p> <p>Domain:</p> <p>Object</p>	<p>EXAMPLE 83</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "A simple note", }</pre>

	Range:	Object Link	<pre>"type": "Note", "content": "This is all there is.", "inReplyTo": { "summary": "Previous note", "type": "Note", "content": "What else is there?" } }</pre> <p>EXAMPLE 84</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "A simple note", "type": "Note", "content": "This is all there is.", "inReplyTo": "http://example.org/posts/1" }</pre>
instrument	URI:	https://www.w3.org/ns/activitystreams#instrument	<p>EXAMPLE 85</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally listened to a piece of music on the Acme Music Service" "type": "Listen", "actor": { "type": "Person", "name": "Sally" }, "object": "http://example.org/foo.mp3", "instrument": { "type": "Service", "name": "Acme Music Service" } }</pre>
Notes:	Identifies one or more objects used (or to be used) in the completion of an Activity .		
Domain:	Activity		
Range:	Object Link		
last	URI:	https://www.w3.org/ns/activitystreams#last	<p>EXAMPLE 86</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "A collection", "type": "Collection", "totalItems": 3,</pre>
Notes:	In a paged Collection , indicates the furthest preceding page of the collection.		
Domain:	Collection		
Range:	CollectionPage Link		

	Functional:	True	<pre> "last": "http://example.org/collection?page=1" } </pre>
			<p>EXAMPLE 87</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "A collection", "type": "Collection", "totalItems": 5, "last": { "type": "Link", "summary": "Last Page", "href": "http://example.org/collection?page=1" } } </pre>
location	URI:	https://www.w3.org/ns/activitystreams#location	<p>EXAMPLE 88</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "type": "Person", "name": "Sally", "location": { "name": "Over the Arabian Sea, east of Socotra Island Nature Sanctuary", "type": "Place", "longitude": 12.34, "latitude": 56.78, "altitude": 90, "units": "m" } } </pre>
	Notes:	Indicates one or more physical or logical locations associated with the object.	
	Domain:	Object	
	Range:	Object Link	
items	URI:	https://www.w3.org/ns/activitystreams#items	
	Notes:	Identifies the items contained in a collection. The items might be	

		ordered or unordered.	
	Domain:	Collection	
	Range:	Object Link Ordered List of Object Link	<p>EXAMPLE 89</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally's notes", "type": "Collection", "totalItems": 2, "items": [{ "type": "Note", "name": "Reminder for Going-Away Party" }, { "type": "Note", "name": "Meeting 2016-11-17" }] }</pre> <p>EXAMPLE 90</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally's notes", "type": "OrderedCollection", "totalItems": 2, "orderedItems": [{ "type": "Note", "name": "Meeting 2016-11-17" }, { "type": "Note", "name": "Reminder for Going-Away Party" }] }</pre>
oneOf	URI:	https://www.w3.org/ns/activitystreams#oneOf	EXAMPLE 91
	Notes:	Identifies an exclusive option for a Question. Use of oneOf implies that the Question can have only a single answer. To	{

		indicate that a Question can have multiple answers, use anyOf .	<pre>"@context": "https://www.w3.org/ns/activitystreams", "type": "Question", "name": "What is the answer?", "oneOf": [{ "type": "Note", "name": "Option A" }, { "type": "Note", "name": "Option B" }] }</pre>
anyOf	URI:	https://www.w3.org/ns/activitystreams#anyOf	<p>EXAMPLE 92</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "type": "Question", "name": "What is the answer?", "anyOf": [{ "type": "Note", "name": "Option A" }, { "type": "Note", "name": "Option B" }] }</pre>
	Notes:	Identifies an inclusive option for a Question. Use of anyOf implies that the Question can have multiple answers. To indicate that a Question can have only one answer, use oneOf .	
	Domain:	Question	
	Range:	Object Link	
closed	URI:	https://www.w3.org/ns/activitystreams#closed	<p>EXAMPLE 93</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "type": "Question", "name": "What is the answer?",</pre>
	Notes:	Indicates that a question has been closed, and answers are no longer accepted.	
	Domain:	Question	
	Range:	Object Link <code>xsd:dateTime</code> <code>xsd:boolean</code>	

			<pre>"closed": "2016-05-10T00:00:00Z" }</pre>
origin	URI:	https://www.w3.org/ns/activitystreams#origin	<p>EXAMPLE 94</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally moved a post from List A to List B", "type": "Move", "actor": "http://sally.example.org", "object": "http://example.org/posts/1", "target": { "type": "Collection", "name": "List B" }, "origin": { "type": "Collection", "name": "List A" } }</pre>
	Notes:	Describes an indirect object of the activity <i>from</i> which the activity is directed. The precise meaning of the origin is the object of the English preposition "from". For instance, in the activity "John moved an item to List B from List A", the origin of the activity is "List A".	
	Domain:	Activity	
	Range:	Object Link	
next	URI:	https://www.w3.org/ns/activitystreams#next	<p>EXAMPLE 95</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "Page 2 of Sally's blog posts", "type": "CollectionPage", "next": "http://example.org/collection?page=2", "items": [</pre>
	Notes:	In a paged Collection , indicates the next page of items.	
	Domain:	CollectionPage	
	Range:	CollectionPage Link	
	Functional:	True	

			<pre> "http://example.org/posts/1", "http://example.org/posts/2", "http://example.org/posts/3"] } </pre>
			<p>EXAMPLE 96</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "Page 2 of Sally's blog posts", "type": "CollectionPage", "next": { "type": "Link", "name": "Next Page", "href": "http://example.org/collection?page=2" }, "items": ["http://example.org/posts/1", "http://example.org/posts/2", "http://example.org/posts/3"] } </pre>
object	URI:	https://www.w3.org/ns/activitystreams#object	
	Notes:	<p>When used within an Activity, describes the direct object of the activity. For instance, in the activity "John added a movie to his wishlist", the object of the activity is the movie added.</p> <p>When used within a Relationship describes the entity to which the subject is related.</p>	<p>EXAMPLE 97</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally liked a post", "type": "Like", "actor": "http://sally.example.org", "object": "http://example.org/posts/1" } </pre>
	Domain:	Activity Relationship	
	Range:	Object Link	<p>EXAMPLE 98</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "type": "Like", "actor": "http://sally.example.org", "object": { "type": "Note", "content": "A simple note" } } </pre>

			<pre> } } </pre> <p>EXAMPLE 99</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally liked a note", "type": "Like", "actor": "http://sally.example.org", "object": ["http://example.org/posts/1", { "type": "Note", "summary": "A simple note", "content": "That is a tree." }] } } </pre>
prev	URI:	https://www.w3.org/ns/activitystreams#prev	<p>EXAMPLE 100</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "Page 1 of Sally's blog posts", "type": "CollectionPage", "prev": "http://example.org/collection?page=1", "items": ["http://example.org/posts/1", "http://example.org/posts/2", "http://example.org/posts/3"] } </pre> <p>EXAMPLE 101</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "Page 1 of Sally's blog posts", "type": "CollectionPage", "prev": { "type": "Link", "name": "Previous Page", "href": "http://example.org/collection?page=1" } } </pre>
	Notes:	In a paged Collection , identifies the previous page of items.	
	Domain:	CollectionPage	
	Range:	CollectionPage Link	
	Functional:	True	

			<pre> , "items": ["http://example.org/posts/1", "http://example.org/posts/2", "http://example.org/posts/3"] } </pre>
preview	URI:	https://www.w3.org/ns/activitystreams#preview	<p>EXAMPLE 102</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "type": "Video", "name": "Cool New Movie", "duration": "PT2H30M", "preview": { "type": "Video", "name": "Trailer", "duration": "PT1M", "url": { "href": "http://example.org/trailer.mkv", "mediaType": "video/mkv" } } } </pre>
	Notes:	Identifies an entity that provides a preview of this object.	
	Domain:	Link Object	
	Range:	Link Object	
result	URI:	https://www.w3.org/ns/activitystreams#result	<p>EXAMPLE 103</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally checked that her flight was on time", "type": ["Activity", "http://www.verbs.example/Check"], "actor": "http://sally.example.org", "object": "http://example.org/flights/1", "result": { "type": "http://www.types.example/flightstatus", "name": "On Time" } } </pre>
	Notes:	Describes the result of the activity. For instance, if a particular action results in the creation of a new resource, the result property can be used to describe that new resource.	
	Domain:	Activity	
	Range:	Object Link	

replies	URI:	https://www.w3.org/ns/activitystreams#replies	
	Notes:	Identifies a Collection containing objects considered to be responses to this object.	
	Domain:	Object	
	Range:	Collection	
	Functional:	True	
			<p>EXAMPLE 104</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "A simple note", "type": "Note", "id": "http://www.test.example/notes/1", "content": "I am fine.", "replies": { "type": "Collection", "totalItems": 1, "items": [{ "summary": "A response to the note", "type": "Note", "content": "I am glad to hear it.", "inReplyTo": "http://www.test.example/notes/1" }] } }</pre>
tag	URI:	https://www.w3.org/ns/activitystreams#tag	
	Notes:	One or more "tags" that have been associated with an objects. A tag can be any kind of Object. The key difference between attachment and tag is that the former implies association by inclusion, while the latter implies associated by reference.	<p>EXAMPLE 105</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "type": "Image",</pre>

	<table border="1"> <tr> <td>Domain:</td> <td>Object</td> </tr> <tr> <td>Range:</td> <td>Object Link</td> </tr> </table>	Domain:	Object	Range:	Object Link	<pre>"summary": "Picture of Sally", "url": "http://example.org/sally.jpg", "tag": [{ "type": "Person", "id": "http://sally.example.org", "name": "Sally" }] }</pre>				
Domain:	Object									
Range:	Object Link									
target	<table border="1"> <tr> <td>URI:</td> <td>https://www.w3.org/ns/activitystreams#target</td> </tr> <tr> <td>Notes:</td> <td>Describes the indirect object, or target, of the activity. The precise meaning of the target is largely dependent on the type of action being described but will often be the object of the English preposition "to". For instance, in the activity "John added a movie to his wishlist", the target of the activity is John's wishlist. An activity can have more than one target.</td> </tr> <tr> <td>Domain:</td> <td>Activity</td> </tr> <tr> <td>Range:</td> <td>Object Link</td> </tr> </table>	URI:	https://www.w3.org/ns/activitystreams#target	Notes:	Describes the indirect object, or target, of the activity. The precise meaning of the target is largely dependent on the type of action being described but will often be the object of the English preposition "to". For instance, in the activity "John added a movie to his wishlist", the target of the activity is John's wishlist. An activity can have more than one target.	Domain:	Activity	Range:	Object Link	<p>EXAMPLE 106</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally offered the post to John", "type": "Offer", "actor": "http://sally.example.org", "object": "http://example.org/posts/1", "target": "http://john.example.org" }</pre> <p>EXAMPLE 107</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally offered the post to John", "type": "Offer", "actor": "http://sally.example.org", "object": "http://example.org/posts/1", "target": { "type": "Person", "name": "John" } }</pre>
URI:	https://www.w3.org/ns/activitystreams#target									
Notes:	Describes the indirect object, or target, of the activity. The precise meaning of the target is largely dependent on the type of action being described but will often be the object of the English preposition "to". For instance, in the activity "John added a movie to his wishlist", the target of the activity is John's wishlist. An activity can have more than one target.									
Domain:	Activity									
Range:	Object Link									
to	<table border="1"> <tr> <td>URI:</td> <td>https://www.w3.org/ns/activitystreams#to</td> </tr> </table>	URI:	https://www.w3.org/ns/activitystreams#to	<p>EXAMPLE 108</p>						
URI:	https://www.w3.org/ns/activitystreams#to									

	Notes: Identifies an entity considered to be part of the public primary audience of an Object	
	Domain: Object	
	Range: Object Link	<pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally offered the post to John", "type": "Offer", "actor": "http://sally.example.org", "object": "http://example.org/posts/1", "target": "http://john.example.org", "to": ["http://joe.example.org"] }</pre>
url	URI: https://www.w3.org/ns/activitystreams#url	
	Notes: Identifies one or more links to representations of the object	
	Domain: Object	
	Range: xsd:anyURI Link	<p>EXAMPLE 109</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "type": "Document", "name": "4Q Sales Forecast", "url": "http://example.org/4q-sales-forecast.pdf" }</pre> <p>EXAMPLE 110</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "type": "Document", "name": "4Q Sales Forecast", "url": { "type": "Link", "href": "http://example.org/4q-sales-forecast.pdf" } }</pre>

			<p>EXAMPLE 111</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "type": "Document", "name": "4Q Sales Forecast", "url": [{ "type": "Link", "href": "http://example.org/4q-sales-forecast.pdf", "mediaType": "application/pdf" }, { "type": "Link", "href": "http://example.org/4q-sales-forecast.html", "mediaType": "text/html" }] }</pre>
accuracy	URI:	https://www.w3.org/ns/activitystreams#accuracy	<p>EXAMPLE 112</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "name": "Liu Gu Lu Cun, Pingdu, Qingdao, Shandong, China", "type": "Place", "latitude": 36.75, "longitude": 119.7667, "accuracy": 94.5 }</pre>
	Notes:	Indicates the accuracy of position coordinates on a Place objects. Expressed in properties of percentage. e.g. "94.0" means "94.0% accurate".	
	Domain:	Place	
	Range:	<code>xsd:float</code> [$\geq 0.0f$, $\leq 100.0f$]	
	Functional:	True	
altitude	URI:	https://www.w3.org/ns/activitystreams#altitude	<p>EXAMPLE 113</p>

	Notes:	Indicates the altitude of a place. The measurement units is indicated using the units property. If units is not specified, the default is assumed to be "m" indicating meters.	
	Domain:	Object	
	Range:	<code>xsd:float</code>	
	Functional:	True	
			<pre> { "@context": "https://www.w3.org/ns/activitystreams", "type": "Place", "name": "Fresno Area", "altitude": 15.0, "latitude": 36.75, "longitude": 119.7667, "units": "miles" } </pre>
content	URI:	https://www.w3.org/ns/activitystreams#content	
	Notes:	<p>The content or textual representation of the Object encoded as a JSON string. By default, the value of <code>content</code> is HTML. The mediaType property can be used in the object to indicate a different content type.</p> <p>The content may be expressed using multiple language-tagged values.</p>	
	Domain:	Object	
	Range:	<code>xsd:string rdf:langString</code>	<p>EXAMPLE 114</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "A simple note", "type": "Note", "content": "A simple note" } </pre> <p>EXAMPLE 115</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "A simple note", "type": "Note", "contentMap": { "en": "A simple note", "es": "Una nota sencilla", "zh-Hans": "一段简单的笔记" } } </pre> <p>EXAMPLE 116</p> <pre> { </pre>

			<pre>"@context": "https://www.w3.org/ns/activitystreams", "summary": "A simple note", "type": "Note", "mediaType": "text/markdown", "content": "## A simple note\nA simple markdown `note`" }</pre>
name	URI:	https://www.w3.org/ns/activitystreams#name	EXAMPLE 117
	Notes:	A simple, human-readable, plain-text name for the object. HTML markup must not be included. The name may be expressed using multiple language-tagged values.	<pre>{ "@context": "https://www.w3.org/ns/activitystreams", "type": "Note", "name": "A simple note" }</pre>
	Domain:	Object Link	
	Range:	<code>xsd:string</code> <code>rdf:langString</code>	EXAMPLE 118
			<pre>{ "@context": "https://www.w3.org/ns/activitystreams", "type": "Note", "nameMap": { "en": "A simple note", "es": "Una nota sencilla", "zh-Hans": "一段简单的笔记" } }</pre>
duration	URI:	https://www.w3.org/ns/activitystreams#duration	EXAMPLE 119
	Notes:	When the object describes a time-bound resource, such as an audio or video, a meeting, etc, the duration property indicates the object's approximate duration. The value must be expressed as an <code>xsd:duration</code> as defined by [xm11-2], section 3.3.6 (e.g. a period of 5 seconds is represented as "PT5S").	<pre>{ "@context": "https://www.w3.org/ns/activitystreams", "type": "Video", "name": "Birds Flying", "url": "http://example.org/video.mkv", "duration": "PT2H" }</pre>
	Domain:	Object	
	Range:	<code>xsd:duration</code>	
	Functional:	True	
height	URI:	https://www.w3.org/ns/activitystreams#height	
	Notes:	On a Link , specifies a hint as to the rendering height in device-independent pixels of the linked resource.	

	<table border="1"> <tr> <td>Domain:</td> <td>Link</td> </tr> <tr> <td>Range:</td> <td><code>xsd:nonNegativeInteger</code></td> </tr> <tr> <td>Functional:</td> <td>True</td> </tr> </table>	Domain:	Link	Range:	<code>xsd:nonNegativeInteger</code>	Functional:	True	<p>EXAMPLE 120</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "type": "Link", "href": "http://example.org/image.png", "height": 100, "width": 100 }</pre>				
Domain:	Link											
Range:	<code>xsd:nonNegativeInteger</code>											
Functional:	True											
href	<table border="1"> <tr> <td>URI:</td> <td>https://www.w3.org/ns/activitystreams#href</td> </tr> <tr> <td>Notes:</td> <td>The target resource pointed to by a Link.</td> </tr> <tr> <td>Domain:</td> <td>Link</td> </tr> <tr> <td>Range:</td> <td><code>xsd:anyURI</code></td> </tr> <tr> <td>Functional:</td> <td>True</td> </tr> </table>	URI:	https://www.w3.org/ns/activitystreams#href	Notes:	The target resource pointed to by a Link .	Domain:	Link	Range:	<code>xsd:anyURI</code>	Functional:	True	<p>EXAMPLE 121</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "type": "Link", "href": "http://example.org/abc", "mediaType": "text/html", "name": "Previous" }</pre>
URI:	https://www.w3.org/ns/activitystreams#href											
Notes:	The target resource pointed to by a Link .											
Domain:	Link											
Range:	<code>xsd:anyURI</code>											
Functional:	True											
hreflang	<table border="1"> <tr> <td>URI:</td> <td>https://www.w3.org/ns/activitystreams#hreflang</td> </tr> <tr> <td>Notes:</td> <td>Hints as to the language used by the target resource. Value must be a [BCP47] Language-Tag.</td> </tr> <tr> <td>Domain:</td> <td>Link</td> </tr> <tr> <td>Range:</td> <td>[BCP47] Language Tag</td> </tr> <tr> <td>Functional:</td> <td>True</td> </tr> </table>	URI:	https://www.w3.org/ns/activitystreams#hreflang	Notes:	Hints as to the language used by the target resource. Value must be a [BCP47] Language-Tag.	Domain:	Link	Range:	[BCP47] Language Tag	Functional:	True	<p>EXAMPLE 122</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "type": "Link", "href": "http://example.org/abc", "hreflang": "en", "mediaType": "text/html", "name": "Previous" }</pre>
URI:	https://www.w3.org/ns/activitystreams#hreflang											
Notes:	Hints as to the language used by the target resource. Value must be a [BCP47] Language-Tag.											
Domain:	Link											
Range:	[BCP47] Language Tag											
Functional:	True											
partOf	<table border="1"> <tr> <td>URI:</td> <td>https://www.w3.org/ns/activitystreams#partOf</td> </tr> <tr> <td>Notes:</td> <td>Identifies the Collection to which a CollectionPage objects items belong.</td> </tr> <tr> <td>Domain:</td> <td>CollectionPage</td> </tr> <tr> <td>Range:</td> <td>Link Collection</td> </tr> <tr> <td>Functional:</td> <td>True</td> </tr> </table>	URI:	https://www.w3.org/ns/activitystreams#partOf	Notes:	Identifies the Collection to which a CollectionPage objects items belong.	Domain:	CollectionPage	Range:	Link Collection	Functional:	True	<p>EXAMPLE 123</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "Page 1 of Sally's notes", "type": "CollectionPage", "id": "http://example.org/collection?page=1", "partOf": "http://example.org/collection", }</pre>
URI:	https://www.w3.org/ns/activitystreams#partOf											
Notes:	Identifies the Collection to which a CollectionPage objects items belong.											
Domain:	CollectionPage											
Range:	Link Collection											
Functional:	True											

			<pre> "items": [{ "type": "Note", "name": "Pizza Toppings to Try" }, { "type": "Note", "name": "Thought about California" }] } </pre>
latitude	URI:	https://www.w3.org/ns/activitystreams#latitude	<p>EXAMPLE 124</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "type": "Place", "name": "Fresno Area", "latitude": 36.75, "longitude": 119.7667, "radius": 15, "units": "miles" } </pre>
	Notes:	The latitude of a place	
	Domain:	Place	
	Range:	xsd:float	
	Functional:	True	
longitude	URI:	https://www.w3.org/ns/activitystreams#longitude	<p>EXAMPLE 125</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "type": "Place", "name": "Fresno Area", "latitude": 36.75, "longitude": 119.7667, "radius": 15, "units": "miles" } </pre>
	Notes:	The longitude of a place	
	Domain:	Place	
	Range:	xsd:float	
	Functional:	True	
mediaType	URI:	https://www.w3.org/ns/activitystreams#mediaType	<p>EXAMPLE 126</p>
	Notes:	<p>When used on a Link, identifies the MIME media type of the referenced resource.</p> <p>When used on an Object, identifies the MIME media type of the</p>	

		value of the content property. If not specified, the content property is assumed to contain text/html content.	
	Domain:	Link Object	
	Range:	MIME Media Type	
	Functional:	True	<pre>{ "@context": "https://www.w3.org/ns/activitystreams", "type": "Link", "href": "http://example.org/abc", "hreflang": "en", "mediaType": "text/html", "name": "Next" }</pre>
endTime	URI:	https://www.w3.org/ns/activitystreams#endTime	<p>EXAMPLE 127</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "type": "Event", "name": "Going-Away Party for Jim", "startTime": "2014-12-31T23:00:00-08:00", "endTime": "2015-01-01T06:00:00-08:00" }</pre>
	Notes:	The date and time describing the actual or expected ending time of the object. When used with an Activity object, for instance, the endTime property specifies the moment the activity concluded or is expected to conclude.	
	Domain:	Object	
	Range:	xsd:dateTime	
	Functional:	True	
published	URI:	https://www.w3.org/ns/activitystreams#published	<p>EXAMPLE 128</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "A simple note", "type": "Note", "content": "Fish swim.", "published": "2014-12-12T12:12:12Z" }</pre>
	Notes:	The date and time at which the object was published	
	Domain:	Object	
	Range:	xsd:dateTime	
	Functional:	True	
startTime	URI:	https://www.w3.org/ns/activitystreams#startTime	<p>EXAMPLE 129</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "type": "Event", "name": "Going-Away Party for Jim", "startTime": "2014-12-31T23:00:00-08:00", "endTime": "2015-01-01T06:00:00-08:00" }</pre>
	Notes:	The date and time describing the actual or expected starting time of the object. When used with an Activity object, for instance, the startTime property specifies the moment the activity began or is scheduled to begin.	
	Domain:	Object	
	Range:	xsd:dateTime	
	Functional:	True	

radius	URI:	https://www.w3.org/ns/activitystreams#radius	<p>EXAMPLE 130</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "type": "Place", "name": "Fresno Area", "latitude": 36.75, "longitude": 119.7667, "radius": 15, "units": "miles" }</pre>
	Notes:	The radius from the given latitude and longitude for a Place. The units is expressed by the units property. If units is not specified, the default is assumed to be "m" indicating "meters".	
	Domain:	Place	
	Range:	<code>xsd:float</code> [$\geq 0.0f$]	
	Functional:	True	
rel	URI:	https://www.w3.org/ns/activitystreams#rel	<p>EXAMPLE 131</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "type": "Link", "href": "http://example.org/abc", "hreflang": "en", "mediaType": "text/html", "name": "Preview", "rel": ["canonical", "preview"] }</pre>
	Notes:	A link relation associated with a Link . The value must conform to both the [HTML5] and [RFC5988] "link relation" definitions. In the [HTML5] , any string not containing the "space" U+0020, "tab" (U+0009), "LF" (U+000A), "FF" (U+000C), "CR" (U+000D) or "," (U+002C) characters can be used as a valid link relation.	
	Domain:	Link	
	Range:	[RFC5988] or [HTML5] Link Relation	
startIndex	URI:	https://www.w3.org/ns/activitystreams#startIndex	<p>EXAMPLE 132</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "Page 1 of Sally's notes", "type": "OrderedCollectionPage", "startIndex": 0, "orderedItems": [</pre>
	Notes:	A non-negative integer value identifying the relative position within the logical view of a strictly ordered collection.	
	Domain:	OrderedCollectionPage	
	Range:	<code>xsd:nonNegativeInteger</code>	
	Functional:	True	

			<pre> { "type": "Note", "name": "Density of Water" }, { "type": "Note", "name": "Air Mattress Idea" }] } </pre>
summary	URI:	https://www.w3.org/ns/activitystreams#summary	<p>EXAMPLE 133</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "name": "Cane Sugar Processing", "type": "Note", "summary": "A simple note" } </pre> <p>EXAMPLE 134</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "name": "Cane Sugar Processing", "type": "Note", "summaryMap": { "en": "A simple note", "es": "Una nota sencilla", "zh-Hans": "一段简单的笔记" } } </pre>
	Notes:	A natural language summarization of the object encoded as HTML. Multiple language tagged summaries may be provided.	
	Domain:	Object	
	Range:	<code>xsd:string rdf:langString</code>	
totalItems	URI:	https://www.w3.org/ns/activitystreams#totalItems	<p>EXAMPLE 135</p> <pre> { </pre>
	Notes:	A non-negative integer specifying the total number of objects contained by the logical view of the collection. This number	

	<p>might not reflect the actual number of items serialized within the Collection object instance.</p> <p>Domain: Collection</p> <p>Range: xsd:nonNegativeInteger</p> <p>Functional: True</p>	<pre> "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally's notes", "type": "Collection", "totalItems": 2, "items": [{ "type": "Note", "name": "Which Staircase Should I Use" }, { "type": "Note", "name": "Something to Remember" }] } </pre>
units	<p>URI: https://www.w3.org/ns/activitystreams#units</p> <p>Notes: Specifies the measurement units for the radius and altitude properties on a Place object. If not specified, the default is assumed to be "m" for "meters".</p> <p>Domain: Place</p> <p>Range: "cm" "feet" "inches" "km" "m" "miles" xsd:anyURI</p> <p>Functional: True</p>	<p>EXAMPLE 136</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "type": "Place", "name": "Fresno Area", "latitude": 36.75, "longitude": 119.7667, "radius": 15, "units": "miles" } </pre>
updated	<p>URI: https://www.w3.org/ns/activitystreams#updated</p> <p>Notes: The date and time at which the object was updated</p> <p>Domain: Object</p> <p>Range: xsd:dateTime</p> <p>Functional: True</p>	<p>EXAMPLE 137</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "name": "Cranberry Sauce Idea", "type": "Note", "content": "Mush it up so it does not have the same shape as the can.", "updated": "2014-12-12T12:12:12Z" } </pre>

width	URI: https://www.w3.org/ns/activitystreams#width	<p>Notes: On a Link, specifies a hint as to the rendering width in device-independent pixels of the linked resource.</p> <p>Domain: Link</p> <p>Range: <code>xsd:nonNegativeInteger</code></p> <p>Functional: True</p>	<p>EXAMPLE 138</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "type": "Link", "href": "http://example.org/image.png", "height": 100, "width": 100 }</pre>
subject	URI: https://www.w3.org/ns/activitystreams#subject	<p>Notes: On a Relationship object, the <code>subject</code> property identifies one of the connected individuals. For instance, for a Relationship object describing "John is related to Sally", <code>subject</code> would refer to John.</p> <p>Domain: Relationship</p> <p>Range: Link Object</p> <p>Functional: True</p>	<p>EXAMPLE 139</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally is an acquaintance of John's", "type": "Relationship", "subject": { "type": "Person", "name": "Sally" }, "relationship": "http://purl.org/vocab/relationship/acquaintanceOf", "object": { "type": "Person", "name": "John" } }</pre>
relationship	URI: https://www.w3.org/ns/activitystreams#relationship	<p>Notes: On a Relationship object, the <code>relationship</code> property identifies the kind of relationship that exists between subject and object.</p> <p>Domain: Relationship</p> <p>Range: Object</p>	<p>EXAMPLE 140</p> <pre>{ "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally is an acquaintance of John's", "type": "Relationship", "subject": { "type": "Person", "name": "Sally" }, "relationship": "http://purl.org/vocab/relationship/acquaintanceOf"</pre>

			<pre> "object": { "type": "Person", "name": "John" } } </pre>
describes	URI:	https://www.w3.org/ns/activitystreams#describes	<p>EXAMPLE 141</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "Sally's profile", "type": "Profile", "describes": { "type": "Person", "name": "Sally" }, "url": "http://sally.example.org" } </pre>
	Notes:	On a Profile object, the describes property identifies the object described by the Profile.	
	Domain:	Profile	
	Range:	Object	
	Functional:	True	
formerType	URI:	https://www.w3.org/ns/activitystreams#formerType	<p>EXAMPLE 142</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "This image has been deleted", "type": "Tombstone", "formerType": "Image", "url": "http://example.org/image/2" } </pre>
	Notes:	On a Tombstone object, the formerType property identifies the type of the object that was deleted.	
	Domain:	Tombstone	
	Range:	Object	
	Functional:	False	
deleted	URI:	https://www.w3.org/ns/activitystreams#deleted	<p>EXAMPLE 143</p> <pre> { "@context": "https://www.w3.org/ns/activitystreams", "summary": "This image has been deleted", "type": "Tombstone", "deleted": "2016-05-03T00:00:00Z" } </pre>
	Notes:	On a Tombstone object, the deleted property is a timestamp for when the object was deleted.	
	Domain:	Tombstone	
	Range:	xsd:dateTime	
	Functional:	True	

5. Implementation Notes

5.1 Audience Targeting

Conceptually, every Object has both a Primary and Secondary audience. The Primary audience consists of those entities directly involved or owning the object. The Secondary audience consists of the collection of entities sharing an interest in the object but who might not be directly involved (e.g. "followers").

For instance, suppose a social network of three individuals: Bob, Joe and Jane. Bob and Joe are each friends with Jane but are not friends with one another. Bob has chosen to "follow" activities for which Jane is directly involved. Jane shares a file with Joe.

In this example, Jane and Joe are each directly involved in the file sharing activity and together make up the Primary Audience for that event. Bob, having an interest in activities involving Jane, is the Secondary Audience. Knowing this, a system that produces or consumes the activity can intelligently notify each person of the event.

While there are means (based on the action type, actor, object and target of the activity) to infer the primary audience for many types of activities, heuristics do not work in every case and do not provide a means of identifying the secondary audience. The `to`, `cc`, `bto` and `bcc` properties **may** be used within an Object to explicitly identify the Primary and Secondary audiences.

The prototypical use case for an Object containing these properties is the publication and redistribution of objects through an intermediary. That is, an event source generates the object and publishes it to the intermediary which determines a subset of items to display to specific individual users or groups. Such a determination can be made, in part, by identifying the Primary and Secondary Audiences for each object.

When the event source generates the object and specifies values for the `to` and `cc` fields, the intermediary **should** redistribute that object with the values of those fields intact, allowing any processor to see who the object has been targeted to. This is precisely the same model used by the `to` and `cc` fields in email systems.

There are situations, however, in which disclosing the identity of specific members of the audience may be inappropriate. For instance, a user may not wish to let other users know that they are interested in various topics, individuals or types of events. To support this option, an implementation generating an object **may** use the `bto` and `bcc` properties to list entities to whom the object should be privately targeted. When an intermediary receives an object containing these properties, it **must** remove those values prior to redistributing the object. The intent is that systems **must** consider entities listed within the `bto` and `bcc` properties as part of the Primary and Secondary audience but **must not** disclose that fact to any other party.

Audience targeting information included within an Object only describes the intent of the object creator. With clear exception given to the appropriate handling of `bto` and `bcc`, this specification leaves it up to implementations to determine how the audience targeting information is used.

5.1.1 Audience and Context

This section is non-normative.

Activities are rarely isolated events. Often, multiple individual activities will be performed around a similar context or audience. For instance, a collaborators working on a shared project might perform multiple related activities in the process of achieving some goal. Such activities can be logically grouped together using the [context](#) property, and scoped to a particular audience using the [audience](#) property.

For instance, the following shows two related activities that share a common [context](#) and [audience](#):

EXAMPLE 144

```
{
  "@context": "https://www.w3.org/ns/activitystreams",
  "summary": "Activities in Project XYZ",
  "type": "Collection",
  "items": [
    {
      "summary": "Sally created a note",
      "type": "Create",
      "id": "http://activities.example.com/1",
      "actor": "http://sally.example.org",
      "object": {
        "summary": "A note",
        "type": "Note",
        "id": "http://notes.example.com/1",
        "content": "A note"
      },
      "context": {
        "type": "http://example.org/Project",
        "name": "Project XYZ"
      },
      "audience": {
        "type": "Group",
        "name": "Project XYZ Working Group"
      },
      "to": "http://john.example.org"
    },
    {
      "summary": "John liked Sally's note",
      "type": "Like",
      "id": "http://activities.example.com/1",
      "actor": "http://john.example.org",
      "object": "http://notes.example.com/1",
      "context": {
        "type": "http://example.org/Project",
        "name": "Project XYZ"
      },
      "audience": {
        "type": "Group",
```



```
    "name": "Project XYZ Working Group"
  },
  "to": "http://sally.example.org"
}
]
}
```

5.2 Representing Relationships Between Entities

The [Relationship](#) object is used to represent relationships between individuals. It can be used, for instance, to describe that one person is a friend of another, or that one person is a member of a particular organization. The intent of modeling Relationship in this way is to allow descriptions of activities that operate on the relationships in general, and to allow representation of Collections of relationships.

For instance, many social systems have a notion of a "friends list". These are the collection of individuals that are directly connected within a person's social graph. Suppose we have a user, Sally, with direct relationships to users Joe and Jane. Sally follows Joe's updates while Sally and Jane have a mutual relationship.

Using the [Relationship](#) object, we can model these relationships as:

EXAMPLE 145

```
{
  "@context": "https://www.w3.org/ns/activitystreams",
  "summary": "Sally's friends list",
  "type": "Collection",
  "items": [
    {
      "summary": "Sally is influenced by Joe",
      "type": "Relationship",
      "subject": {
        "type": "Person",
        "name": "Sally"
      },
      "relationship": "http://purl.org/vocab/relationship/influencedBy",
      "object": {
        "type": "Person",
        "name": "Joe"
      }
    }
  ]
}
```

```

    },
    {
      "summary": "Sally is a friend of Jane",
      "type": "Relationship",
      "subject": {
        "type": "Person",
        "name": "Sally"
      },
      "relationship": "http://purl.org/vocab/relationship/friendOf",
      "object": {
        "type": "Person",
        "name": "Jane"
      }
    }
  ]
}

```

The [relationship](#) property specifies the kind of relationship that exists between the two individuals identified by the [subject](#) and [object](#) properties. Used together, these three properties form what is commonly known as a "[reified statement](#)" where [subject](#) identifies the subject, [relationship](#) identifies the predicate, and [object](#) identifies the object.

While use of reified statements can be problematic and confusing in certain situations, their use within the Activity Streams vocabulary to describe relationships provides a straightforward mechanism of describing changes to an individual's social graph. For instance, to indicate that Sally has created a new relationship to user Matt, an implementer can use the [Relationship](#) object together with the [Create](#) activity:

EXAMPLE 146

```

{
  "@context": "https://www.w3.org/ns/activitystreams",
  "summary": "Sally became a friend of Matt",
  "type": "Create",
  "actor": "http://sally.example.org",
  "object": {
    "type": "Relationship",
    "subject": "http://sally.example.org",
    "relationship": "http://purl.org/vocab/relationship/friendOf",
    "object": "http://matt.example.org",
    "startTime": "2015-04-21T12:34:56"
  }
}

```

Additionally, modeling the relationship in this way allows implementers to articulate additional properties of the relationship itself. For instance, the date and time at which the relationship began or ended.

Implementations may reuse existing vocabularies that have been developed for the purpose of describing relationships, or

create their own guided by requirements of their particular implementation. Existing vocabularies include the "[Friend of a Friend](#)" and "[Relationship](#)" vocabularies.

5.2.1 Modeling "friend requests"

This section is non-normative.

One common use case for many social platforms is the establishment of symmetrical "friend" relationships, in which one user initially extends a request to another user to establish a new connection. Once the connection is made, both users automatically begin receiving notifications about activities performed by the other, and the established relationship becomes visible in either user's "friends list".

The initial "friend request" can be modeled by composing the [Offer](#) and [Relationship](#) object types as in the following example:

EXAMPLE 147

```
{
  "@context": "https://www.w3.org/ns/activitystreams",
  "id": "http://example.org/connection-requests/123",
  "summary": "Sally requested to be a friend of John",
  "type": "Offer",
  "actor": "acct:sally@example.org",
  "object": {
    "summary": "Sally and John's friendship",
    "id": "http://example.org/connections/123",
    "type": "Relationship",
    "subject": "acct:sally@example.org",
    "relationship": "http://purl.org/vocab/relationship/friendOf",
    "object": "acct:john@example.org"
  },
  "target": "acct:john@example.org"
}
```

Assuming the "friend request" is accepted, the remaining steps in this common application scenario can be represented as a set of distinct activities:

EXAMPLE 148

```
{
  "@context": "https://www.w3.org/ns/activitystreams",
  "summary": "Sally and John's relationship history",
  "type": "Collection",
  "items": [
    {
      "summary": "John accepted Sally's friend request",
      "id": "http://example.org/activities/122",
      "type": "Accept"
    }
  ]
}
```

```

    "type": "Accept",
    "actor": "acct:john@example.org",
    "object": "http://example.org/connection-requests/123",
    "inReplyTo": "http://example.org/connection-requests/123",
    "context": "http://example.org/connections/123",
    "result": [
      "http://example.org/activities/123",
      "http://example.org/activities/124",
      "http://example.org/activities/125",
      "http://example.org/activities/126"
    ]
  },
  {
    "summary": "John followed Sally",
    "id": "http://example.org/activities/123",
    "type": "Follow",
    "actor": "acct:john@example.org",
    "object": "acct:sally@example.org",
    "context": "http://example.org/connections/123"
  },
  {
    "summary": "Sally followed John",
    "id": "http://example.org/activities/124",
    "type": "Follow",
    "actor": "acct:sally@example.org",
    "object": "acct:john@example.org",
    "context": "http://example.org/connections/123"
  },
  {
    "summary": "John added Sally to his friends list",
    "id": "http://example.org/activities/125",
    "type": "Add",
    "actor": "acct:john@example.org",
    "object": "http://example.org/connections/123",
    "target": {
      "type": "Collection",
      "summary": "John's Connections"
    },
    "context": "http://example.org/connections/123"
  },
  {
    "summary": "Sally added John to her friends list",
    "id": "http://example.org/activities/126",
    "type": "Add",
    "actor": "acct:sally@example.org",
    "object": "http://example.org/connections/123",
    "target": {
      "type": "Collection",
      "summary": "Sally's Connections"
    },
    "context": "http://example.org/connections/123"
  }
}

```

```

    ,
  ]
}

```

As illustrated in this example, accepting the "friend request" results in four additional activities including: John following Sally, Sally following John, John adding the relationship with Sally to his collection of Connections, and Sally adding the relationship with John to her collection of Connections.

In this example,

1. The optional [result](#) property is used within the **Accept** activity to identify the additional activities that occurred as a result of the accept.
2. The optional [context](#) property is used to relate the various activities back to a common reference point, which in this example is the relationship being established. The **context** allows an implementation to efficiently group related activities together for display or analytic purposes.

5.3 Representing Places

This section is non-normative.

The [Place](#) object is used to represent both physical and logical locations. While numerous existing vocabularies exist for describing locations in a variety of ways, inconsistencies and incompatibilities between those vocabularies make it difficult to achieve appropriate interoperability between implementations. The **Place** object is included within the Activity vocabulary to provide a minimal, interoperable starting point for describing locations consistently across Activity Streams 2.0 implementations.

The **Place** object is intentionally flexible. It can, for instance, be used to identify a location simply by name:

EXAMPLE 149

```

{
  "@context": "https://www.w3.org/ns/activitystreams",
  "type": "Place",
  "name": "San Francisco, CA"
}

```

Or, by [longitude](#) and [latitude](#):

EXAMPLE 150

```

{
  "@context": "https://www.w3.org/ns/activitystreams",
  "type": "Place",
  "name": "San Francisco, CA",

```

```
"longitude": "122.4167",
"latitude": "37.7833"
}
```

The **Place** object can also describe an area around a given point using the [radius](#) property, the [altitude](#) of the location, and a degree of [accuracy](#).

While publishers are not required to use these specific properties and **may** make use of other mechanisms for describing locations, consuming implementations that support the [Place](#) object **must** support the use of these properties.

5.4 Representing Questions

This section is non-normative.

The [Question](#) object can be used to express various types of inquiries.

For instance, simple open-ended questions similar to those posted to crowd-sourced question and answer websites:

EXAMPLE 151

```
{
  "@context": "https://www.w3.org/ns/activitystreams",
  "name": "A question about robots",
  "id": "http://help.example.org/question/1",
  "type": "Question",
  "content": "I'd like to build a robot to feed my cat. Should I use Arduino or Raspberry Pi?"
}
```

Multiple-choice questions or "polls" are also supported using either the [oneOf](#) or [anyOf](#) properties:

EXAMPLE 152

```
{
  "@context": "https://www.w3.org/ns/activitystreams",
  "id": "http://polls.example.org/question/1",
  "name": "A question about robots",
  "type": "Question",
  "content": "I'd like to build a robot to feed my cat. Which platform is best?",
  "oneOf": [
    {"name": "arduino"},
    {"name": "raspberry pi"}
  ]
}
```

Responses to questions are expressed as [Objects](#) containing an [inReplyto](#) property referencing the Question.

EXAMPLE 153

```
{
  "@context": "https://www.w3.org/ns/activitystreams",
  "attributedTo": "http://sally.example.org",
  "inReplyTo": "http://polls.example.org/question/1",
  "name": "arduino"
}
```

Because [Question](#) objects are also instances of [Activity](#), the [result](#) property can be used to express the results or outcome of the Question (as appropriate):

EXAMPLE 154

```
{
  "@context": "https://www.w3.org/ns/activitystreams",
  "name": "A question about robots",
  "id": "http://polls.example.org/question/1",
  "type": "Question",
  "content": "I'd like to build a robot to feed my cat. Which platform is best?",
  "oneOf": [
    {"name": "arduino"},
    {"name": "raspberry pi"}
  ],
  "replies": {
    "type": "Collection",
    "totalItems": 3,
    "items": [
      {
        "attributedTo": "http://sally.example.org",
        "inReplyTo": "http://polls.example.org/question/1",
        "name": "arduino"
      },
      r
```

```
  \
    "attributedTo": "http://joe.example.org",
    "inReplyTo": "http://polls.example.org/question/1",
    "name": "arduino"
  },
  {
    "attributedTo": "http://john.example.org",
    "inReplyTo": "http://polls.example.org/question/1",
    "name": "raspberry pi"
  }
]
},
"result": {
  "type": "Note",
  "content": "Users are favoriting &quot;arduino&quot; by a 33% margin."
}
}
```

5.5 Inverse Activities and "Undo"

This section is non-normative.

Several of the core [Activity types](#) are defined as natural inversions of one another. These include:

- [Accept](#) and [Reject](#),
- [Arrive](#) and [Leave](#),
- [Join](#) and [Leave](#),
- [Create](#) and [Delete](#),
- [Like](#) and [Dislike](#)

It is important to note that these types of activities are semantically distinct from one another and have no direct relationship on the other. That is, for example, if an actor "likes" a note at one point in time then later "dislikes" it, the "dislike" activity does not "undo" or negate out the prior "like".

The appropriate interpretation for the following is that Sally first liked, then later disliked John's note:

EXAMPLE 155

```
{
  "@context": "https://www.w3.org/ns/activitystreams",
  "summary": "History of John's note",
  "type": "Collection",
  "items": [
    {
      "summary": "Sally liked John's note",
      "type": "Like",
      "actor": "http://sally.example.org",
      "id": "http://activities.example.com/1",
      "published": "2015-11-12T12:34:56Z",
      "object": {
        "summary": "John's note",
        "type": "Note",
        "id": "http://notes.example.com/1",
        "attributedTo": "http://john.example.org",
        "content": "My note"
      }
    },
    {
      "summary": "Sally disliked John's note",
      "type": "Dislike",
      "actor": "http://sally.example.org",
      "id": "http://activities.example.com/2",
      "published": "2015-12-11T21:43:56Z",
      "object": {
        "summary": "John's note",
        "type": "Note",
        "id": "http://notes.example.com/1",
        "attributedTo": "http://john.example.org",
        "content": "My note"
      }
    }
  ]
}
```

The Undo activity type is defined to provide the specific ability to undo or cancel out a prior activity. The appropriate interpretation for the following, then, is that Sally liked John's note at one point but has explicitly redacted that like later on.

EXAMPLE 156

```
{
  "@context": "https://www.w3.org/ns/activitystreams",
  "summary": "History of John's note",
  "type": "Collection",
  "items": [
    {
      "summary": "Sally liked John's note",
      "type": "Like",
      "id": "http://activities.example.com/1",
      "actor": "http://sally.example.org",
      "published": "2015-11-12T12:34:56Z",
      "object": {
        "summary": "John's note",
        "type": "Note",
        "id": "http://notes.example.com/1",
        "attributedTo": "http://john.example.org",
        "content": "My note"
      }
    },
    {
      "summary": "Sally no longer likes John's note",
      "type": "Undo",
      "id": "http://activities.example.com/2",
      "actor": "http://sally.example.org",
      "published": "2015-12-11T21:43:56Z",
      "object": "http://activities.example.com/1"
    }
  ]
}
```

The end result of the former example is that Sally has indicated that she changed her opinion about John's note and now dislikes it, while in the latter example she currently neither likes or dislikes it.

5.6 Mentions, Tags and Other Common Social Microsyntaxes

This section is non-normative.

Many social software systems use special text-based microsyntaxes that allow users to define special addressing for

notifications, linking, or categorization within objects. For example, including text such as "[@username](#)" within an object's content will often route the object to a special "mentions" or "inbox" stream for a particular user. Likewise, including text such as "[#topic](#)" within the object's content will often mark the object as being related to the topic "[topic](#)". Such mechanisms are commonly referred to as "mentions" and "hashtags", respectively.

While such microsyntaxes *may* be used within the values of the [content](#), [name](#), and [summary](#) properties on an Activity Streams [Object](#), implementations *should not* be required to parse the values of those properties in order to determine the appropriate routing of notifications, categorization or linking between objects. Instead, publishers *should* make appropriate use of the vocabulary terms provided specifically for these purposes.

For example, suppose that an author wishes to send a note of thanks to another user named "[@sally](#)" with a hashtag of "[#givingthanks](#)". A typical way this message would appear within the content of a note is shown below:

Figure 1 A simple note with a mention and a hashtag:

"Thank you [@sally](#) for all your hard work! [#givingthanks](#)"

A typical social software implementation would typically render such a content such that "[@sally](#)" is replaced with a hyperlink to "[@sally](#)"'s social profile page and "[#givingthanks](#)" is replaced with a hyperlink to a listing of other notes that have been "tagged" with the same topic. Most implementations would also send a special notification to sally letting her know that a note mentioning her has been created.

The following illustrates an equivalent Activity Streams [Note](#) object:

EXAMPLE 157

```
{
  "@context": "https://www.w3.org/ns/activitystreams",
  "name": "A thank-you note",
  "type": "Note",
  "content": "Thank you <a href='http://sally.example.org'>@sally</a>
    for all your hard work!
    <a href='http://example.org/tags/givingthanks'>#givingthanks</a>"
}
```

```

    "to": {
      "name": "Sally",
      "type": "Person",
      "id": "http://sally.example.org"
    },
    "tag": {
      "id": "http://example.org/tags/givingthanks",
      "name": "#givingthanks"
    }
  }
}

```

The `to` property indicates that the user "@sally" is to be considered part of the [primary audience](#) of the note and should therefore receive notification. The `tag` property associates the Note with a reference to "<http://example.org/tags/givingthanks>". Note that the `content` still includes the "@sally" and "#givingthanks" microsyntaxes but that consuming implementations are not required to parse those in order to make the appropriate associations.

In the case a publisher wishes to indicate a mention without an associated notification, the publisher can use the [Mention](#) object type as a value of the [tag](#) property.

EXAMPLE 158

```

{
  "@context": "https://www.w3.org/ns/activitystreams",
  "name": "A thank-you note",
  "type": "Note",
  "content": "Thank you @sally for all your hard work! #givingthanks",
  "tag": [
    {
      "type": "Mention",
      "href": "http://example.org/people/sally",
      "name": "@sally"
    },
    {
      "id": "http://example.org/tags/givingthanks",
      "name": "#givingthanks"
    }
  ]
}

```

```
}  
]  
}
```

5.7 Origin and Target

The [origin](#) and [target](#) properties of an Activity respectively identify the entities *from* which and *to* which the action is directed. For instance, in the English statement, "Sally moved the file from Folder A to Folder B", the [origin](#) is "Folder A" and the [target](#) is "Folder B". This activity is illustrated in the example below:

EXAMPLE 159

```
{  
  "@context": "https://www.w3.org/ns/activitystreams",  
  "summary": "Sally moved the sales figures from Folder A to Folder B",  
  "type": "Move",  
  "actor": "http://sally.example.org",  
  "object": {  
    "type": "Document",  
    "name": "sales figures"  
  },  
  "origin": {  
    "type": "Collection",  
    "name": "Folder A"  
  },  
  "target": {  
    "type": "Collection",  
    "name": "Folder B"  
  }  
}
```

The [origin](#) property is applicable to any type of activity for which the English preposition "from" can be considered applicable in the sense of identifying the origin, source or provenance of the activity's [object](#).

applicable in the sense of identifying the origin, source or provenance of the activity's **object**.

The **target** property is applicable to any type of activity for which the English preposition "to" can be considered applicable in the sense of identifying the indirect object or destination of the activity's **object**.

5.8 Activity Type Motivating Use Cases

This section is non-normative.

The [Activity types](#) defined in this vocabulary have been primarily selected to address the commonly implemented social use cases described below.

5.8.1 Content Management

The Content Management use case primarily deals with activities that involve the creation, modification or deletion of content. This includes, for instance, activities such as "John created a new note", "Sally updated an article", and "Joe deleted the photo".

Relevant Activities:

- [Create](#)
- [Delete](#)
- [Update](#)

5.8.2 Collection Management

The Collection Management use case primarily deals with activities involving the management of content within collections. Examples of collections include things like folders, albums, friend lists, etc. This includes, for instance, activities such as "Sally added a file to Folder A", "John moved the file from Folder A to Folder B", etc.

Relevant Activities:

- [Add](#)
- [Move](#)
- [Remove](#)

5.8.3 Reactions

The Reactions use case primarily deals with reactions to content. This can include activities such as liking or disliking content, ignoring updates, flagging content as being inappropriate, accepting or rejecting objects, etc.

Relevant Activities:

- [Like](#)

- [Accept](#)
- [Block](#)
- [Dislike](#)
- [Flag](#)
- [Ignore](#)
- [Like](#)
- [Reject](#)
- [TentativeAccept](#)
- [TentativeReject](#)

5.8.4 Event RSVP

The Event RSVP use case primarily deals with invitations to events and RSVP type responses.

Relevant Activities:

- [Accept](#)
- [Ignore](#)
- [Invite](#)
- [Reject](#)
- [TentativeAccept](#)
- [TentativeReject](#)

5.8.5 Group Management

The Group Management use case primarily deals with management of groups. It can include, for instance, activities such as "John added Sally to Group A", "Sally joined Group A", "Joe left Group A", etc.

Relevant Activities:

- [Add](#)
- [Join](#)
- [Leave](#)
- [Remove](#)

5.8.6 Content Experience

The Content Experience use case primarily deals with describing activities involving listening to, reading, or viewing content. For instance, "Sally read the article", "Joe listened to the song".

Relevant Activities:

- [Listen](#)
- [Read](#)
- [View](#)

5.8.7 Geo-Social Events

The Geo-Social Events use case primarily deals with activities involving geo-tagging type activities. For instance, it can include activities such as "Joe arrived at work", "Sally left work", and "John is travel from home to work".

Relevant Activities:

- [Arrive](#)
- [Leave](#)
- [Travel](#)

5.8.8 Notification

The Notification use case primarily deals with calling attention to particular objects or notifications.

Relevant Activities:

- [Announce](#)

5.8.9 Questions

the Questions use case primarily deals with representing inquiries of any type. See [5.4 Representing Questions](#) for more information.

Relevant Activities:

- [Question](#)

5.8.10 Relationship Management

The Relationship Management use case primarily deals with representing activities involving the management of interpersonal and social relationships (e.g. friend requests, management of social network, etc). See [5.2 Representing Relationships Between Entities](#) for more information.

Relevant Activities:

- [Accept](#)

- [Auu](#)
- [Block](#)
- [Create](#)
- [Delete](#)
- [Follow](#)
- [Ignore](#)
- [Invite](#)
- [Reject](#)

5.8.11 Negating Activity

The Negating Activity use case primarily deals with the ability to redact previously completed activities. See [5.5 Inverse Activities and "Undo"](#) for more information.

Relevant Activities:

- [Undo](#)

5.8.12 Offers

The Offers use case deals with activities involving offering one object to another. It can include, for instance, activities such as "Company A is offering a discount on purchase of Product Z to Sally", "Sally is offering to add a File to Folder A", etc.

Relevant Activities:

- [Offer](#)

A. Non-normative Ontology Definition

This section is non-normative.

A *non-normative* turtle definition of the Activity Streams 2.0 vocabulary is provided [here](#) and/or at [the namespace](#) as a convenience for implementers wishing to use RDF mechanisms for processing Activity Streams 2.0. Note, however, that this document provides the normative definition of the Activity Streams 2.0 vocabulary.

B. Changelog

This section is non-normative.

The following notable changes have been made to this document since the previous candidate recommendation of [2016-12-](#)

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- Removed the four normative [relationship](#) values for lack of implementation. Changed examples to use terms from the [Relationship](#) vocabulary.
- Removed process sections, especially those noting exit criteria and at-risk features.
- Fixed a typo in [deleted](#) range.
- Added [datetime](#) and [boolean](#) to range of [closed](#) property.
- Set the domain of the [first](#), [last](#), and [current](#) properties to [Collection](#).

C. References

C.1 Normative references

[BCP47]

[Tags for Identifying Languages](#). A. Phillips; M. Davis. IETF. September 2009. IETF Best Current Practice. URL: <https://tools.ietf.org/html/bcp47>

[RFC2119]

[Key words for use in RFCs to Indicate Requirement Levels](#). S. Bradner. IETF. March 1997. Best Current Practice. URL: <https://tools.ietf.org/html/rfc2119>

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[Web Linking](#). M. Nottingham. IETF. October 2010. Proposed Standard. URL: <https://tools.ietf.org/html/rfc5988>

[xmlschema11-2]

[W3C XML Schema Definition Language \(XSD\) 1.1 Part 2: Datatypes](#). David Peterson; Sandy Gao; Ashok Malhotra; Michael Sperberg-McQueen; Henry Thompson; Paul V. Biron et al. W3C. 5 April 2012. W3C Recommendation. URL: <https://www.w3.org/TR/xmlschema11-2/>

C.2 Informative references

[HTML5]

[HTML5](#). Ian Hickson; Robin Berjon; Steve Faulkner; Travis Leithead; Erika Doyle Navara; Theresa O'Connor; Silvia Pfeiffer. W3C. 28 October 2014. W3C Recommendation. URL: <https://www.w3.org/TR/html5/>

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