

# [MS-ODATAJSON]: OData Protocol JSON Format Standards Support Document

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## Revision Summary

Date	Revision History	Revision Class	Comments
06/11/2013	1.0	New	Released new document.

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# 1 Introduction

The OData Protocol JSON Format Standards Support Document provides a statement of standards support. It is intended for use in conjunction with the Microsoft technical specifications, publicly available standards specifications, network programming art, and Microsoft distributed systems concepts. It assumes that the reader is either familiar with the aforementioned material or has immediate access to it.

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The Open Data (OData) Protocol comprises a set of specifications for representing and interacting with structured content. The core specifications for the OData Protocol are specified in "Open Data Protocol (OData)" [[MS-ODATA](#)]. The "OData JSON Format Version 4" [[ODataJSON4.0](#)] Standards document is an extension of the OData core protocol and defines representations for the OData requests and responses by using a **JSON** format.

This document describes the variations in the JSON format between the specified Microsoft implementations ([section 1.3](#)) and [[ODataJSON4.0](#)].

## 1.1 Glossary

The following terms are defined in [[MS-ODATA](#)]:

**JavaScript Object Notation (JSON)**  
**property**  
**resource**

The following terms are specific to this document:

**MAY, SHOULD, MUST, SHOULD NOT, MUST NOT:** These terms (in all caps) are used as described in [[RFC2119](#)]. All statements of optional behavior use either MAY, SHOULD, or SHOULD NOT.

## 1.2 References

### 1.2.1 Normative References

We conduct frequent surveys of the normative references to assure their continued availability. If you have any issue with finding a normative reference, please contact [dochelp@microsoft.com](mailto:dochelp@microsoft.com). We will assist you in finding the relevant information. Please check the archive site, <http://msdn2.microsoft.com/en-us/library/E4BD6494-06AD-4aed-9823-445E921C9624>, as an additional source.

[ODataJSON4.0] OASIS, "OData JSON Format Version 4.0", OASIS Committee Specification Draft 01 / Public Review Draft 01, April 2013, <http://docs.oasis-open.org/odata/odata-json-format/v4.0/odata-json-format-v4.0.doc>

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997, <http://www.ietf.org/rfc/rfc2119.txt>

### 1.2.2 Informative References

[MS-ODATA] Microsoft Corporation, "[Open Data Protocol \(OData\)](#)".

## 1.3 Microsoft Implementations

Windows Server 2012 R2 Preview

## 1.4 Standards Support Requirements

An OData implementation that is fully compliant with the OData standard implements all mandatory features and optionally implements any optional features.

[\[ODataJSON4.0\]](#) defines conformance for the OData protocol. This conformance is defined as support for all features in the document except the following:

- Features that are called out as optional.

The following table lists the sections of [\[ODataJSON4.0\]](#) that are considered normative and that are considered informative.

Section	Normative/Informative
1 and 2	Informative
3 through 21	Normative
Appendices A and B	Informative

## 1.5 Notation

The following notations are used to identify clarifications in section 2.2.

Notation	Explanation
C####	This notation identifies a clarification of ambiguity in the target specification. This includes imprecise statements, omitted information, discrepancies, and errata. This does not include data formatting clarifications.
V####	This notation identifies an intended point of variability in the target specification, such as the use of MAY, SHOULD, or RECOMMENDED. This does not include extensibility points.
E####	Because the use of extensibility points (such as optional implementation-specific data) could impair interoperability, this notation identifies such points in the target specification.

## 2 Standards Support Statements

### 2.1 Normative Variations

The following subsections detail the normative variations from [\[ODataJSON4.0\]](#).

#### 2.1.1 Section 3.1.1 odata.metadata=minimal

The specification states the following:

```
The client MAY specify odata.metadata=minimal to indicate that the
server SHOULD remove computable control information from the payload
wherever possible.
```

OData in the specified Microsoft implementations ([section 1.3](#)) partially supports this feature. The parameter value is `odata=minimalmetadata`.

#### 2.1.2 Section 3.1.2 odata.metadata=full

The specification states the following:

```
The client MAY specify odata.metadata=full to include all control information explicitly in
the payload. The
service MUST return all metadata in this case.
```

OData in the specified Microsoft implementations ([section 1.3](#)) partially supports this feature. The parameter value is `odata=fullmetadata`.

#### 2.1.3 Section 3.1.3 odata.metadata=none

The specification states the following:

```
The client MAY specify odata.metadata=none in order to request that the service omit control
information.
```

OData in the specified Microsoft implementations ([section 1.3](#)) partially supports this feature. The parameter value is `odata=nometadata`.

#### 2.1.4 Section 4.1 Header Content-Type

The specification states the following:

```
Responses MUST add the odata.metadata parameter with the same value that was specified in the
Accept header
of the request. If no value was specified in the Accept header, odata.metadata=minimal MUST
be used.
```

OData in the specified Microsoft implementations ([section 1.3](#)) partially supports this feature. The default value is `odata=minimalmetadata`.

## 2.1.5 Section 4.2 Message Body

The specification states the following:

```
Each message body MUST be represented as a single JSON object. This object is either the
representation of
an entity, an entity reference or a complex type instance, or it contains a name/value pair .
. . .
```

OData in the specified Microsoft implementations ([section 1.3](#)) partially supports this feature. Entity reference is not supported.

## 2.1.6 Section 4.3 Relative URLs

The specification states the following:

```
URLs present in a payload (whether request or response) MAY be represented as relative URLs
to the metadata URL.
```

OData in the specified Microsoft implementations ([section 1.3](#)) partially supports this feature. The annotation is `odata.navigationLinkUrl`. Example:

```
{
  "odata.metadata": "http://host/service/$metadata#Customers/@Element",
  ...
  "odata.editLink": "Customers('ALFKI')",
  ...
  "Orders@odata.navigationLinkUrl": "Customers('ALFKI')/Orders",
  ...
}
```

## 2.1.7 Section 4.5.1 odata.metadata

The specification states the following:

```
The odata.metadata annotation MUST also be included for entities whose entity set cannot be
determined from
the metadata URL of the collection. This URL MAY be absolute or relative to the metadata URL
of the collection.
```

```
The odata.metadata annotation MUST also be applied to navigation links for navigation
properties not described
in the metadata of the containing type. In this case the metadata URL MAY be relative to the
metadata URL
describing the parent entity and becomes the root metadata URL for the related entity or
collection.
```

OData in the specified Microsoft implementations ([section 1.3](#)) partially supports this feature. The `odata.metadata` annotation is not applied to individual entities within a collection or to navigation links.

### 2.1.8 Section 4.5.3 Annotation `odata.type`

The specification states the following:

```
If the odata.type annotation is present, its value MUST be the namespace- or alias-qualified
name of the
instance's type, in which case the type MUST be defined by the root of the current metadata
URL, otherwise
it MUST be a full URL to a metadata document with the namespace- or alias-qualified name of
the instance's
type appended as a URL fragment.
```

OData in the specified Microsoft implementations ([section 1.3](#)) partially supports this feature. The `odata.type` annotation is never a full URL to a metadata document and always references a type defined by the root of the metadata URL.

### 2.1.9 Section 4.5.6 Annotation `odata.deltaLink`

The specification states the following:

```
The odata.deltaLink annotation contains a URL that can be used to retrieve
changes to the current set of results.
```

OData in the specified Microsoft implementations ([section 1.3](#)) does not support this feature.

### 2.1.10 Section 4.5.8 Annotation `odata.editLink` and `odata.readLink`

The specification states the following:

```
The odata.editLink annotation contains a URL that can be used to read, update, or delete the
entity. It MUST
appear for updatable entities if odata.metadata=full is requested or if its value differs
from the value of
the odata.id.
```

```
The odata.readLink annotation contains a URL that can be used to read the entity. It MUST
appear if
odata.metadata=full is requested and its value differs from the value of the odata.id and the
odata.editlink
is not present.
```

OData in the specified Microsoft implementations ([section 1.3](#)) partially supports this feature. The `editlink` is always written in full metadata, and the `readlink` is never written.

### 2.1.11 Section 4.5.9 Annotation `odata.kind`

The specification states the following:

```
The odata.kind annotation is used to differentiate the kind of entry represented
by the JSON object . . . .
```

OData in the specified Microsoft implementations ([section 1.3](#)) does not support this feature.



## 2.1.12 Section 4.5.11 Annotation `odata.navigationLink` and `odata.associationLink`

The specification states the following:

The `odata.navigationLink` annotation contains a URL that can be used to retrieve an entity or collection of entities related to the current entity via a navigation property.

The `odata.associationLink` annotation contains a URL that can be used to retrieve a reference to an entity or a collection of references to entities related to the current entity via a navigation property.

OData in the specified Microsoft implementations ([section 1.3](#)) partially supports this feature. The annotations are `odata.navigationLinkUrl` and `odata.associationLinkUrl`.

## 2.1.13 Section 5 Service Document

The specification states the following:

JSON objects representing an entity set MAY contain an additional name/value pair with name `kind` and a value of `EntitySet`.

JSON objects representing a function or action import MUST contain this name/value pair with a value of `FunctionImport` or `ActionImport`, respectively.

JSON objects representing a named entity MUST contain this name/value pair with a value of `Entity`.

JSON objects representing a related service document MUST contain this name/value pair with a value of `ServiceDocument`.

OData in the specified Microsoft implementations ([section 1.3](#)) partially supports this feature. Only JSON objects representing an entity set are supported, and the kind **property** is not supported on objects within the representation of a Service Document.

## 2.1.14 Section 7.1 Primitive Value

The specification states the following:

Values of type `Edm.Binary`, `Edm.Date`, `Edm.DateTimeOffset`, `Edm.Duration`, `Edm.Guid`, and `Edm.TimeOfDay` as well as enumeration values are represented as JSON strings whose content satisfies the rules `binaryValue`, `dateValue`, `dateTimeOffsetValue`, `durationValue`, `guidValue`, `timeOfDayValue`, and `enumValue`, respectively, in [OData-ABNF].

OData in the specified Microsoft implementations ([section 1.3](#)) partially supports this feature. The `Date`, `Duration`, and `TimeOfDay` primitive types, as well as enumeration values, are not supported. The following additional primitive types, which are not defined in the specification, are supported:

- Time
- Float
- DateTime

### 2.1.15 Section 13 Resource Reference

The specification states the following:

```
A resource reference is a reference to an entity or a property of an entity. Resource
references referring
to an entity are called entity references.
```

OData in the specified Microsoft implementations ([section 1.3](#)) partially supports this feature. **Resource** reference is not supported. Links are represented using a name/value pair named "url" as in the following example:

```
{
  "url": http://host/service/Orders(10643)
}
```

### 2.1.16 Section 14 Delta Response

The specification states the following:

```
Responses from a delta request are returned as a JSON object.
```

OData in the specified Microsoft implementations ([section 1.3](#)) does not support the representation of Delta Responses.

### 2.1.17 Section 17 Action Parameters

The specification states the following:

```
Action parameter values MUST be encoded in a single JSON object in the request body.
```

OData in the specified Microsoft implementations ([section 1.3](#)) does not support this feature.

### 2.1.18 Section 19 Error Response

The specification states the following:

```
This object MUST contain name/value pairs with the names code and message, and it MAY contain
name/value
pairs with the names target, details and innererror.
```

OData in the specified Microsoft implementations ([section 1.3](#)) partially supports this feature. Name/value pairs for target and details are not supported.

## **2.2 Clarifications**

None.

## **2.3 Error Handling**

None.

## **2.4 Security**

None

### 3 Change Tracking

No table of changes is available. The document is either new or has had no changes since its last release.

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