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# Schema.org: Part One

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# Schema.org

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# What is it?

Schema.org is a set of vocabularies for describing things in an interoperable and semantic way on the web.

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# Historical Context

- Started in 2011 by Google, Yahoo, Bing (“Big Engines”)
  - “[To] create and support a common set of schemas for structured data markup on web pages.”
  - Maintained by members of the Big Engines
  - Community driven
  - Original scope was for businesses
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# Purpose

- Set of vocabularies for describing things in an interoperable and semantic way on the web
  - To make data on the web more meaningful to machines
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# Exploring Schema

<http://schema.org/>

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# Publishing Strategies

- Three ways to embed structured data into web pages
  - Microdata
  - RDFa
  - JSON-LD
- [Back to Schema.org](https://schema.org)

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# Usage by Big Engines

[Schema.org: Evolution of Structured Data on the Web](#)

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# Examples

- [Event](#)
  - [Movie times](#)
  - [Book](#)
  - [Person](#)
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# JSON-LD

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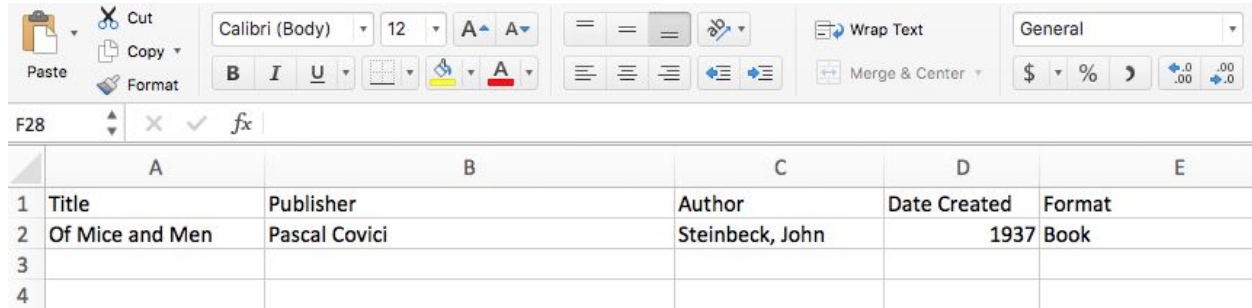
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# JSON Basics

- JavaScript Object Notation is a data format
  - Based on a subset of the JavaScript Programming Language
  - Text based and language independent
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# JSON Example



The screenshot shows a spreadsheet application interface. The top toolbar includes options for Paste, Cut, Copy, Format, font settings (Calibri, size 12), bold, italic, underline, text color, background color, and alignment. The table below has 5 columns labeled A through E. Row 1 contains headers: Title, Publisher, Author, Date Created, and Format. Row 2 contains data: Of Mice and Men, Pascal Covici, Steinbeck, John, 1937, and Book. Rows 3 and 4 are empty.

	A	B	C	D	E
1	Title	Publisher	Author	Date Created	Format
2	Of Mice and Men	Pascal Covici	Steinbeck, John	1937	Book
3					
4					

```
1  {
2    "Title": "Of Mice and Men",
3    "Publisher": "Pascal Covici",
4    "Author": "Steinbeck, John",
5    "DateCreated": "1937",
6    "Format": "Book"
7  }
```

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# JSON Datatypes

- See [JSON - Datatypes](#)
- String - "Text in double quotes"
- Number - 1937 (no quotes)

## Object

```
1 {  
2   "Title": "Of Mice and Men",  
3   "Publisher": "Pascal Covici",  
4   "Author": "Steinbeck, John",  
5   "DateCreated": "1937",  
6   "Format": "Book"  
7 }
```

## Array

```
1 {  
2   "Title": "Of Mice and Men",  
3   "Publisher": "Pascal Covici",  
4   "Authors": ["Steinbeck, John", "Adams, John", "Cage, John"],  
5   "DateCreated": "1937",  
6   "Format": "Book"  
7 }
```

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# JSON-LD Extension

- Lightweight linked data format
- Extends JSON
- [Link to JSON-LD homepage](#)

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# JSON-LD and Linked Data

- Three important pieces: “@context”, “@id”, “@type”

```
{  
  "@context": "http://purl.org/dc/terms/",  
  "@id": "http://example.org/miceAndMen",  
  "title": "Of Mice and Men",  
  "publisher": "https://viaf.org/viaf/61128986",  
  "creator": "https://viaf.org/viaf/96992551/",  
  "created": "1937",  
  "format": "Book"  
}
```

# Schema.org + JSON-LD Example

```
{
  "@context": {"schema": "http://schema.org/"},
  "@id": "https://books.google.com/books/about/Linked_Data_for_Cultural_Heritage.html?id=NznRjwEACAAJ",
  "@type": "schema:Book",
  "schema:description": "books.google.com – With its roots in computer science, linked data is unfamiliar territory for many library catalogers. But since the origins of MARC nearly 50 years ago, the value of machine-readable library records has only grown. Today linked data is essential for sharing library collections on the open web, especially...",
  "schema:image":
    "https://books.google.com/books/content?id=NznRjwEACAAJ&printsec=frontcover&img=1&zoom=1&imgtk=AFLRE72oXPmXp8bSp3MUqkjE_QMif9BI2V6wwG4D940sZa4f7YMBVtPl1_XpNu1zyrwTABvHMwB8Wp1j80s0GZJ6kSqI6SMZJd5Zlv8DR6YUy6k8xaRkHy3hyb18zuRUm6MVPigUbf7",
  "schema:name": "Linked Data for Cultural Heritage",
  "schema:url":
    "https://books.google.com/books/about/Linked_Data_for_Cultural_Heritage.html?id=NznRjwEACAAJ&utm_source=gb-gplus-share"
}
```



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# Visualizing JSON-LD

*We didn't get to this slide, but I was just going to write some stuff on the whiteboard anyway.*

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