# JSON, JSON Schema, and OpenAPI

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syncro soft

<oXygen/> XML Editor

# Agenda

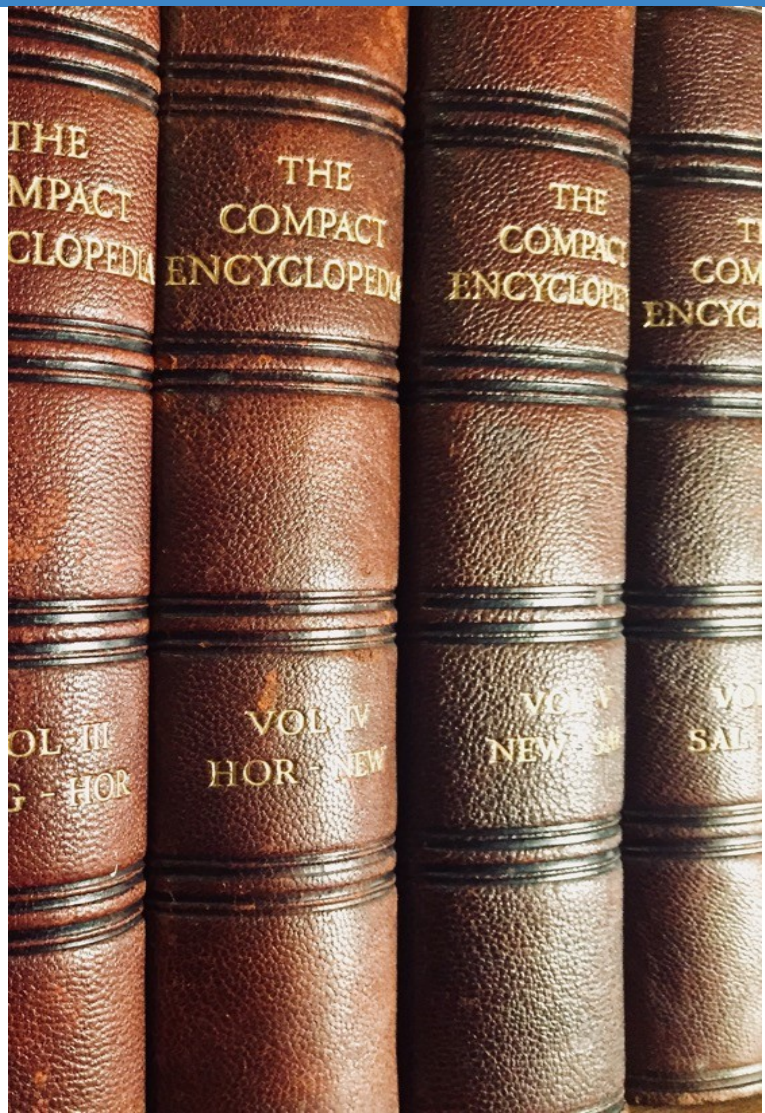
- Smart editing of JSON documents based on JSON Schema
- JSON Schema editing in Design mode
- Specialized JSON Tools
- OpenAPI, AsyncAPI, JSON-LD support

# JSON

(JavaScript Object Notation)

- Data representation format
- Used for API and Configs
- Lightweight and easy to read/write

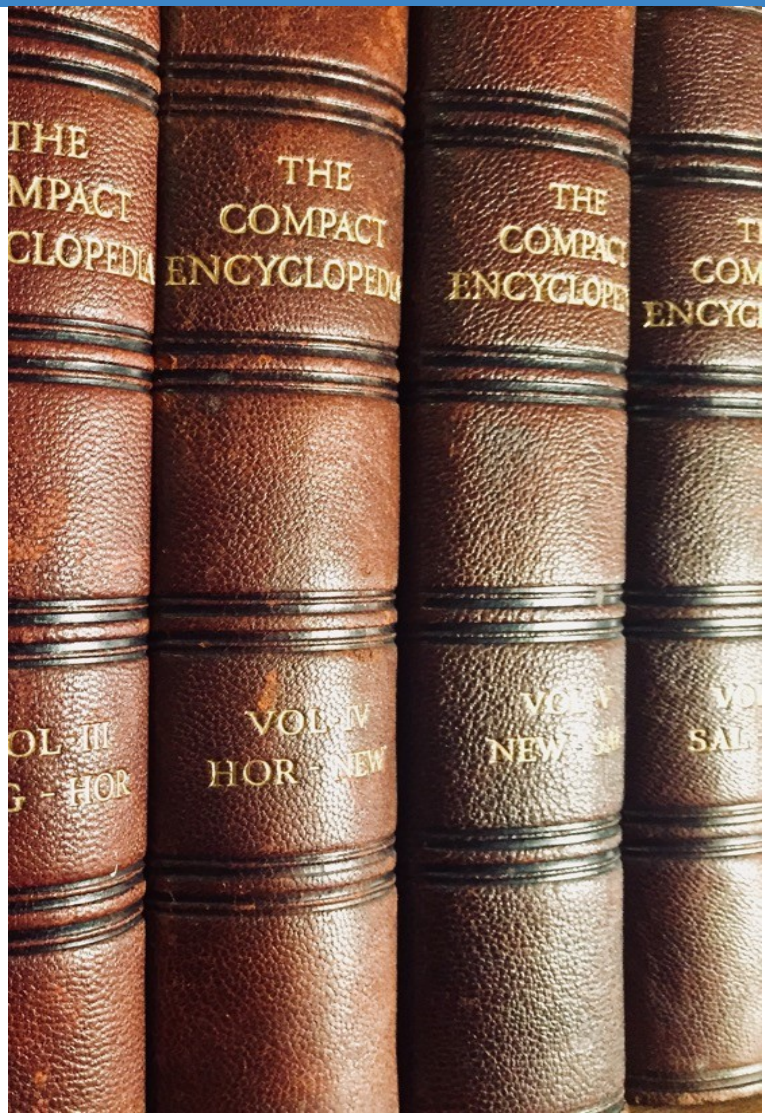
http://json.org



# JSON Schema

JSON Schema is a vocabulary that allows you to annotate and validate JSON documents

http://json-schema.org



# JSON and JSON Schema Support in Oxygen

- Edit JSON based on JSON Schema
- Validate JSON against JSON Schema
- JSON Schema Editor - specialized editor with various editing features
- Tools
  - Generate JSON Schema Documentation
  - Generate Sample JSON Files from a JSON Schema
  - Generate JSON Schema from a JSON File
  - XSD to JSON Schema Converter

# Editing JSON

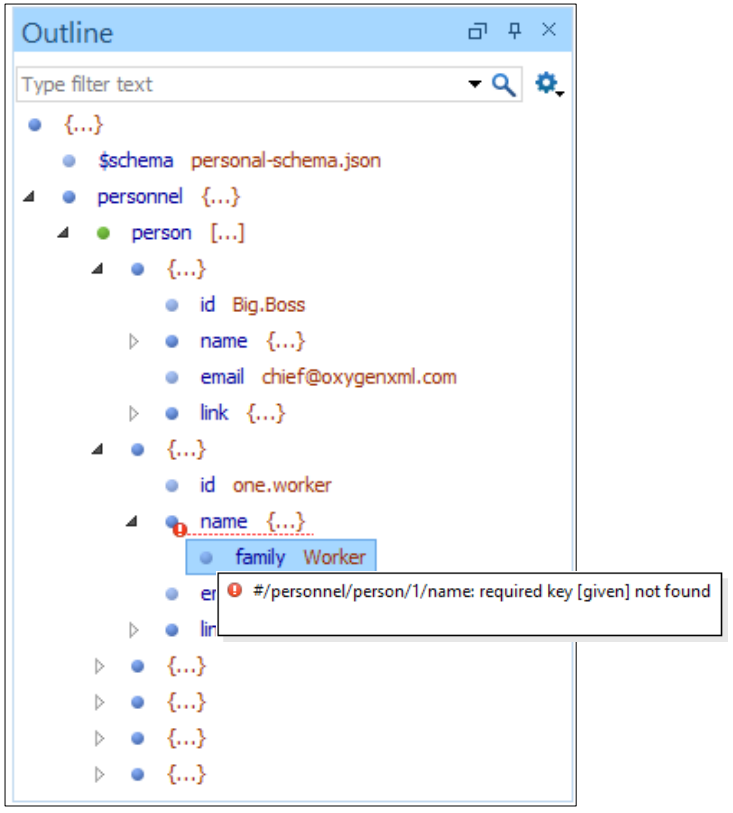
- JSON Text, Grid, Author Editing Mode
- JSON Outline View
- Validation and Content Completion Assistant based on JSON Schema

# Text Editing Mode

- Syntax Highlights
- Structure Folding
- Format and Indent
- New Document Templates

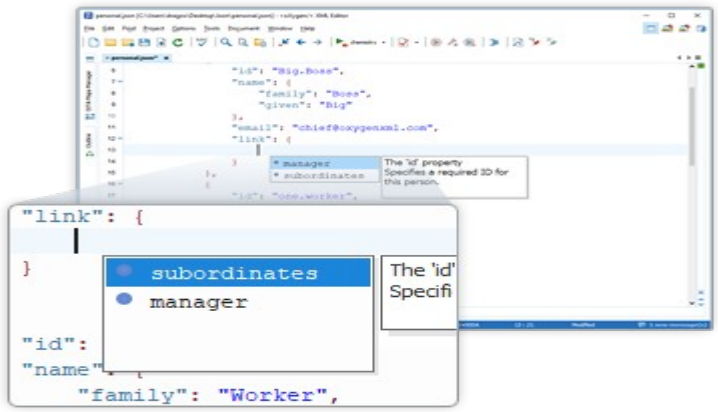
# JSON Outline View

- Document Overview
- Synchronization with Editor
- Filtering
- Error Markers



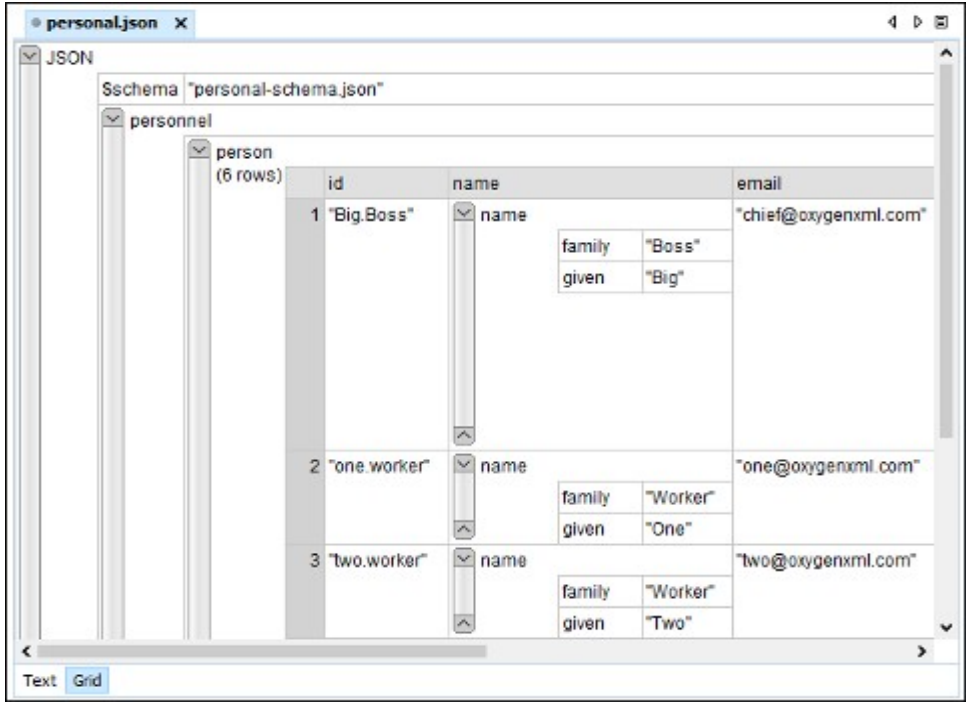
# Content Completion

- Context-Sensitive
- Valid Proposals
- Documentation from Schema
- Code Templates



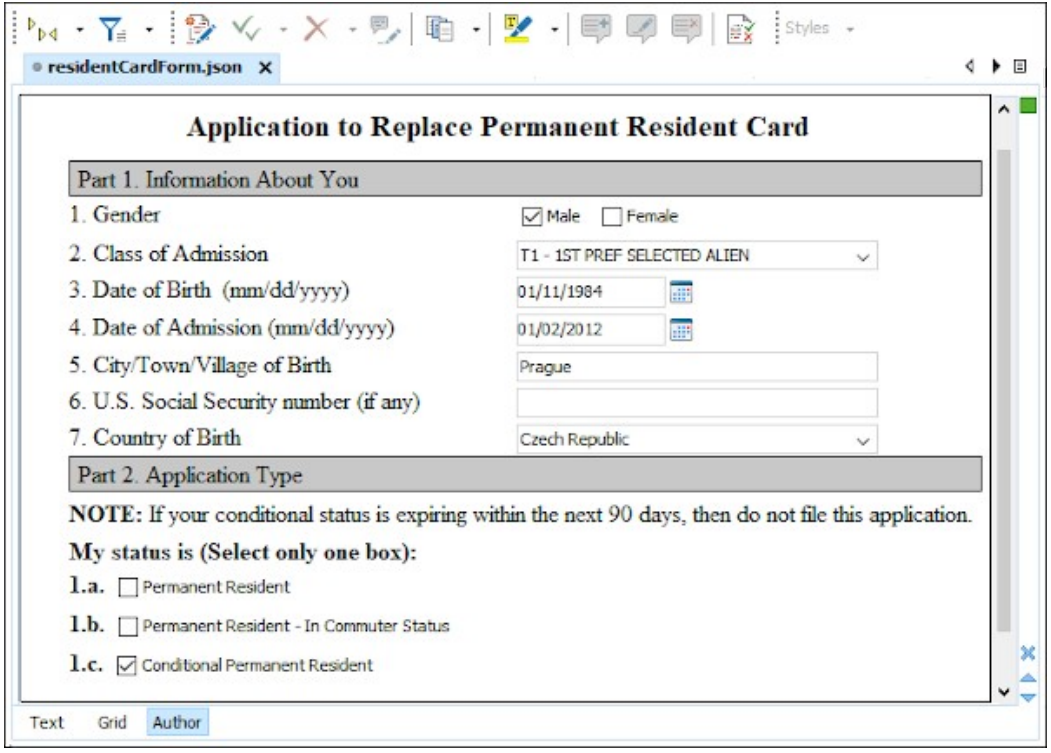
# Grid Editing Mode

- JSON content is represented in Grid mode
- JSON data and structure can be easily manipulated
- Table-specific operations or drag-and-drop operations



# JSON Visual Author Editing Mode

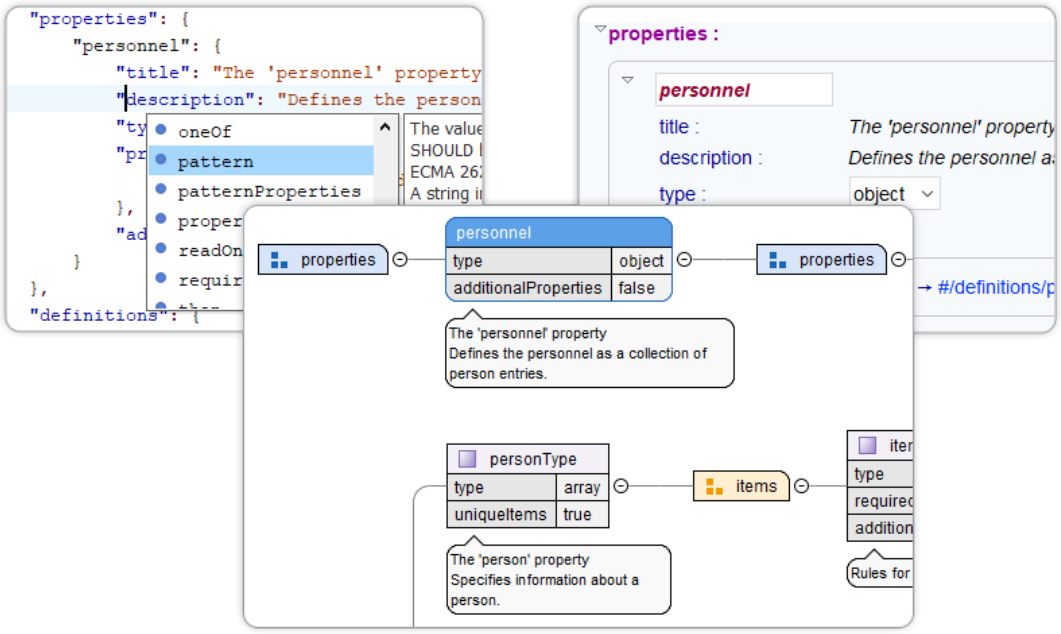
- JSON document is opened in Author mode
- Create your own JSON framework
- Customize using CSS



# JSON Schema Editor

Design, develop, and edit JSON Schemas in:

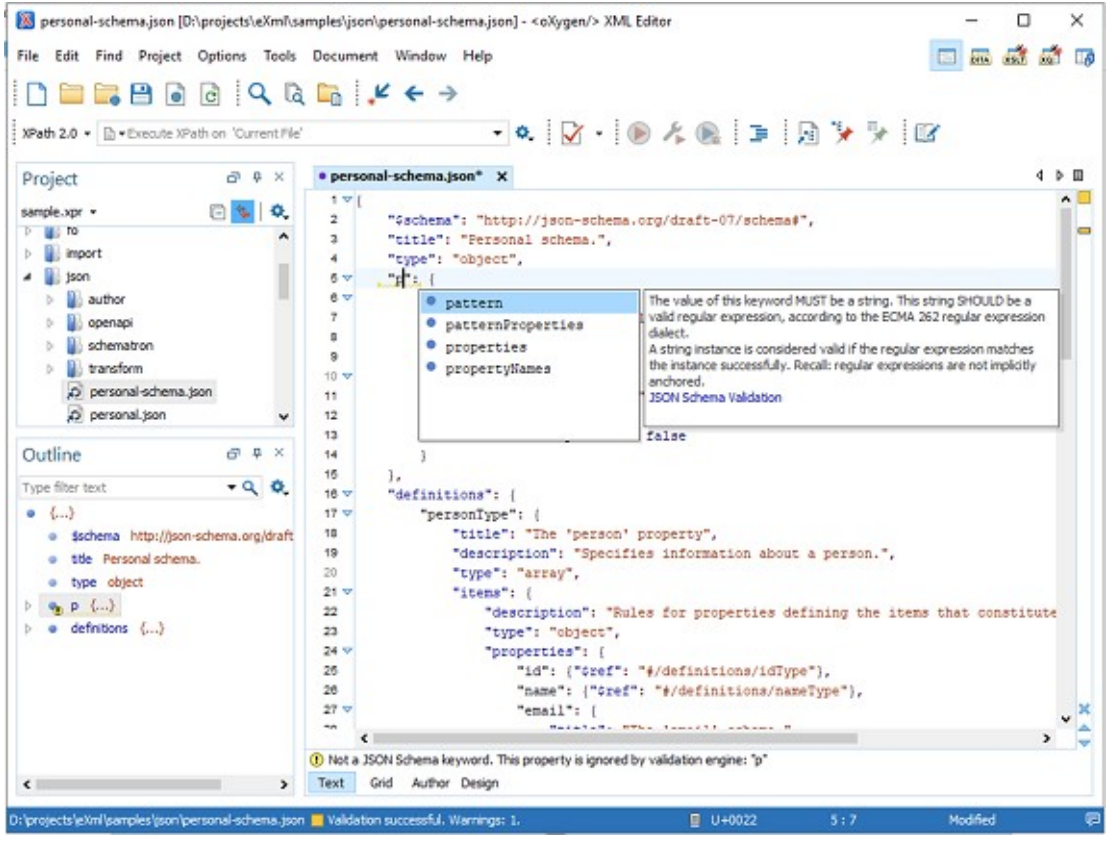
- Text Editing Mode
- Author Editing Mode
- Schema Design Mode



# Text Editing Mode

Text editing mode is packed full of editing helpers

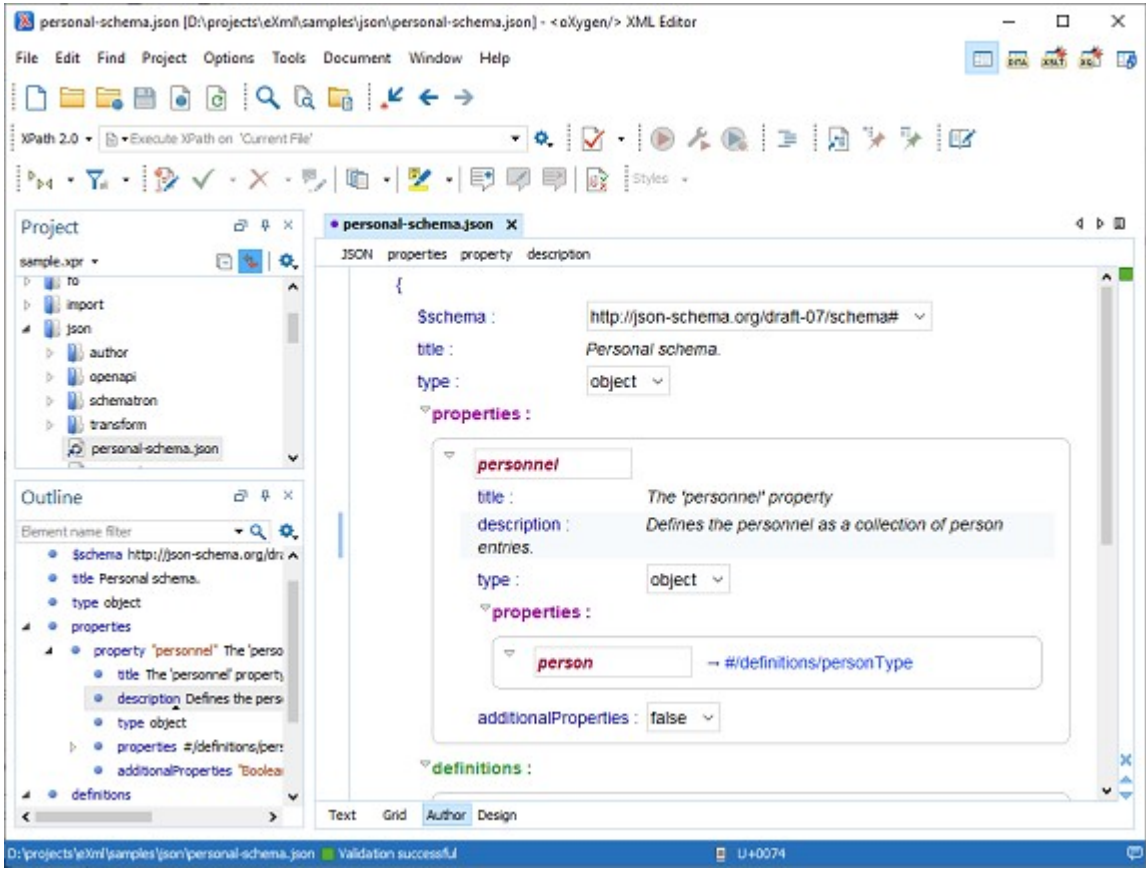
- JSON Outline View
- JSON-specific Syntax Highlighting
- Search and Find/Replace
- Drag and Drop
- Validation
- Format and Indent (Pretty Print)



# Author Editing Mode

Visual editing mode for JSON Schema documents:

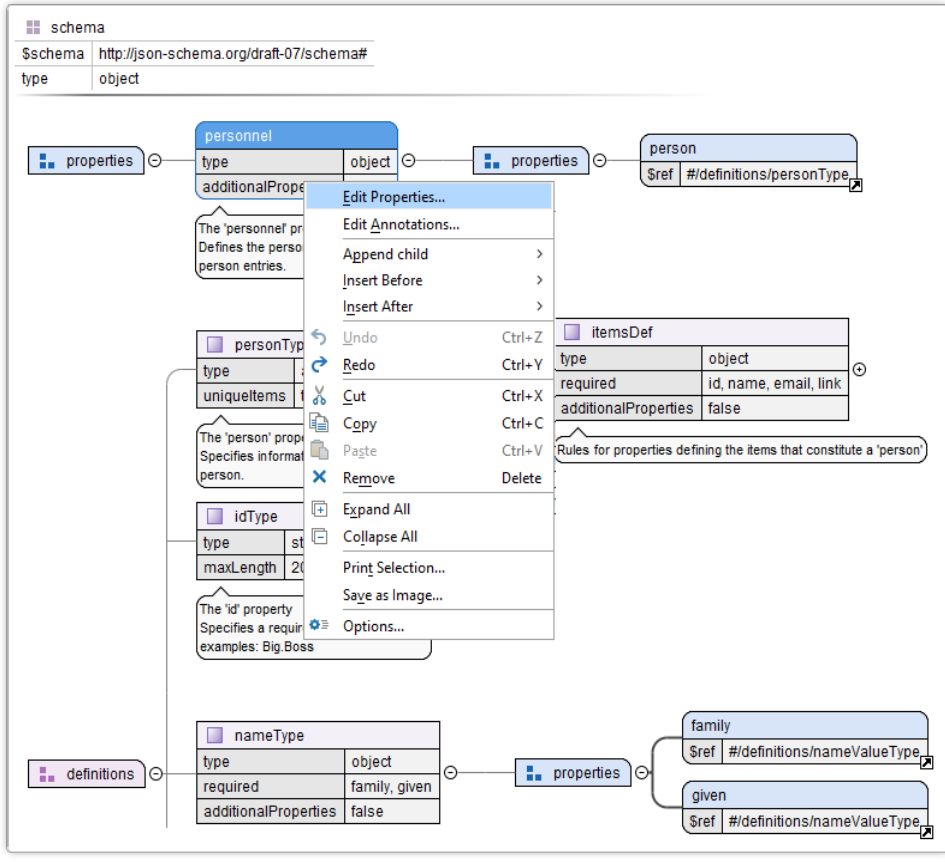
- JSON Schema framework
- Content completion support
- Validation
- Specific CSS for rendering
- Create your own custom JSON framework



# Schema Design Mode

Visualize, edit, and understand JSON Schemas

- In-Place Component Editing
- Edit Properties
- Edit Annotations
- Schema Editing Actions
- Move Component Up/Down Actions
- Print/Save as Image

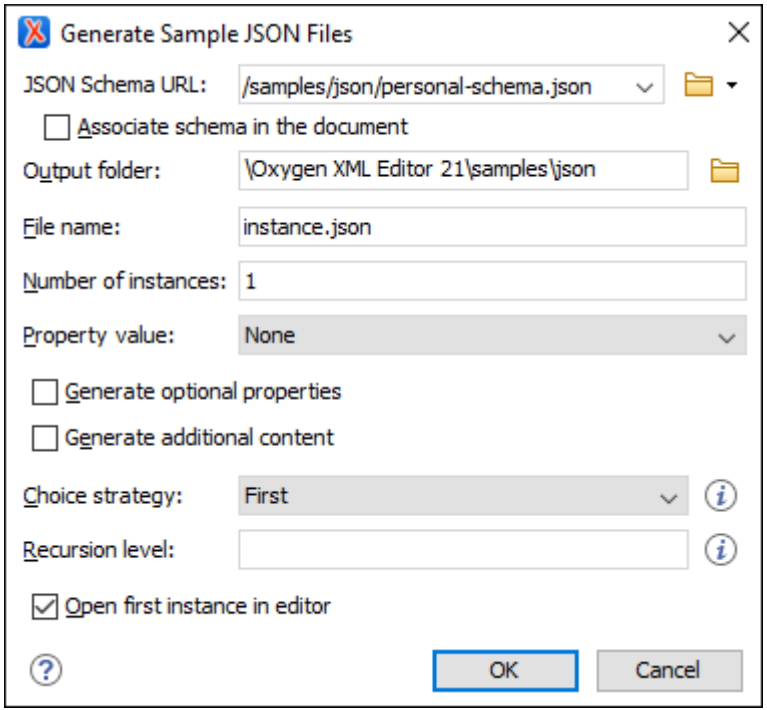


# JSON Tools

- Convert between JSON and XML
- Convert between JSON and YAML
- Generate sample JSON files from JSON Schema
- Generate JSON Schema from a JSON instance
- XSD to JSON Schema converter
- JSON Schema documentation

# Instance generator from a JSON Schema

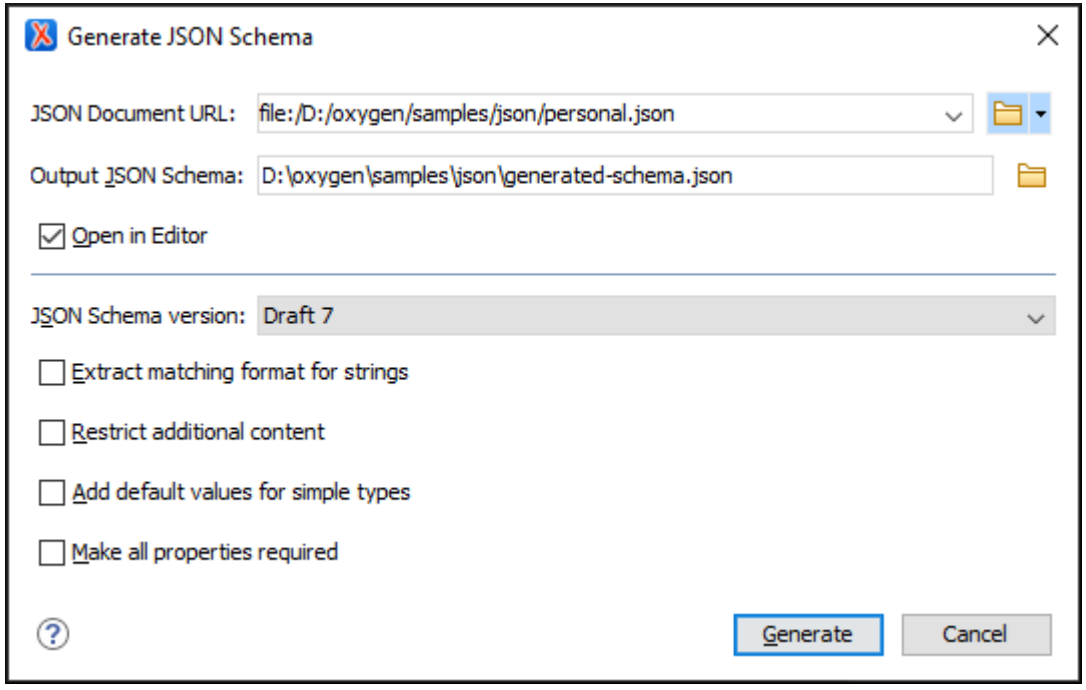
- Tool for generating sample JSON files from a JSON Schema




oxygenxml.com/doc/ug-editor/topics/json-instance-generator.html

# Generate JSON Schema from JSON

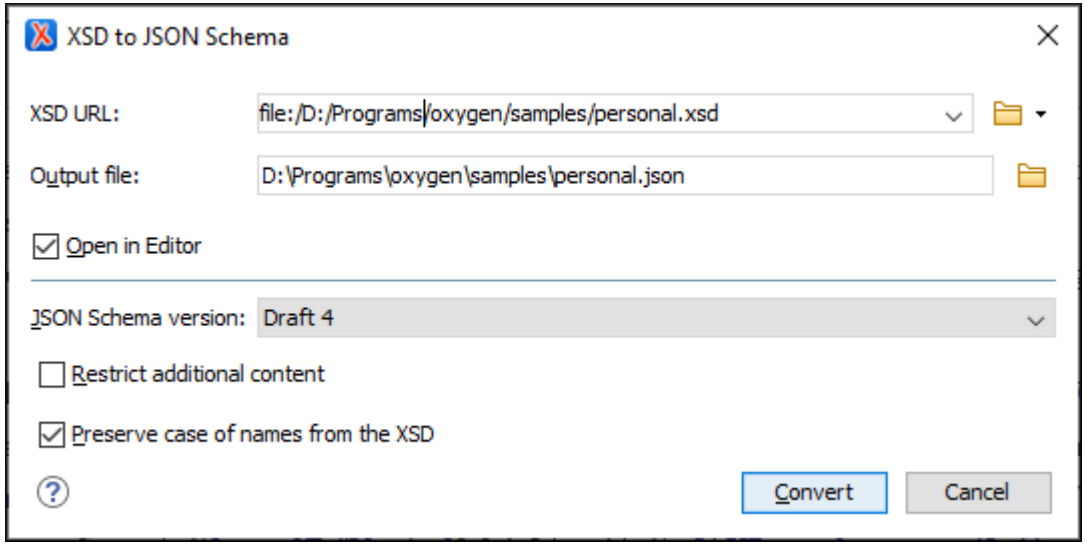
- Tool for generating JSON Schema




oxygenxml.com/doc/ug-editor/topics/json-schema-instance-generator.html

# XSD to JSON Schema converter

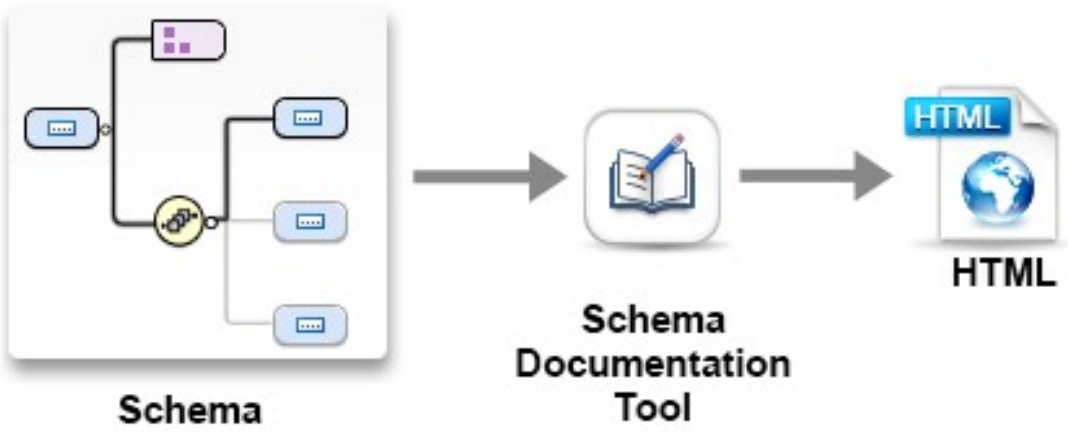
- Tool for converting an XML Schema file (XSD) to a JSON Schema




oxygenxml.com/doc/ug-editor/topics/xsd-to-json-schema-converter-x.html

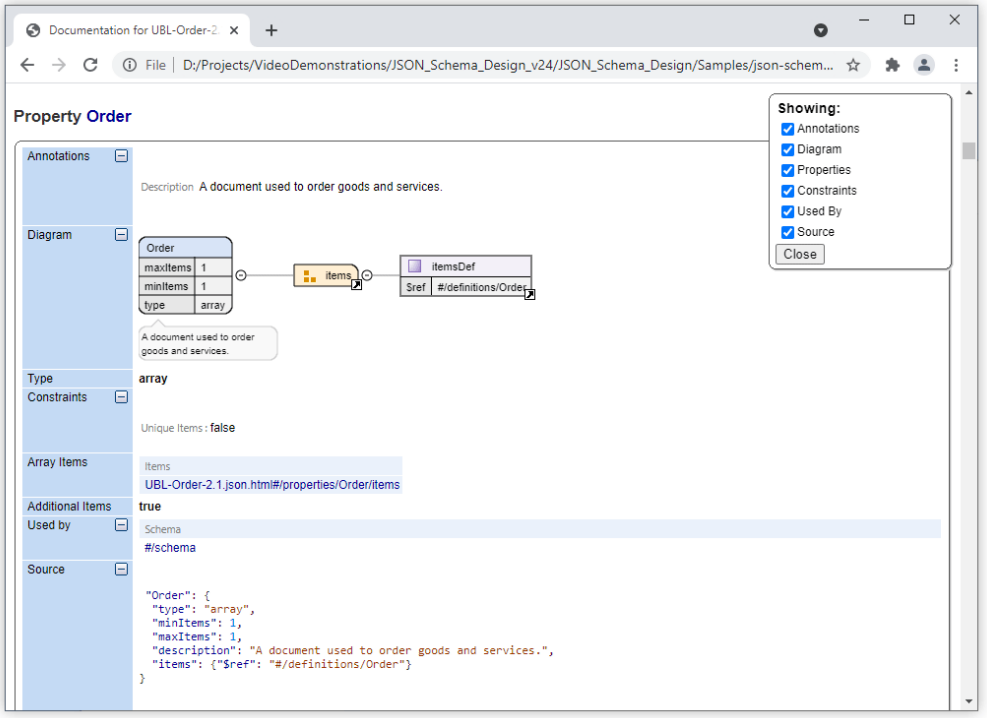
# Generate JSON Schema Documentation

- Tool for generating detailed documentation for a JSON Schema file in HTML format



# JSON Schema Documentation

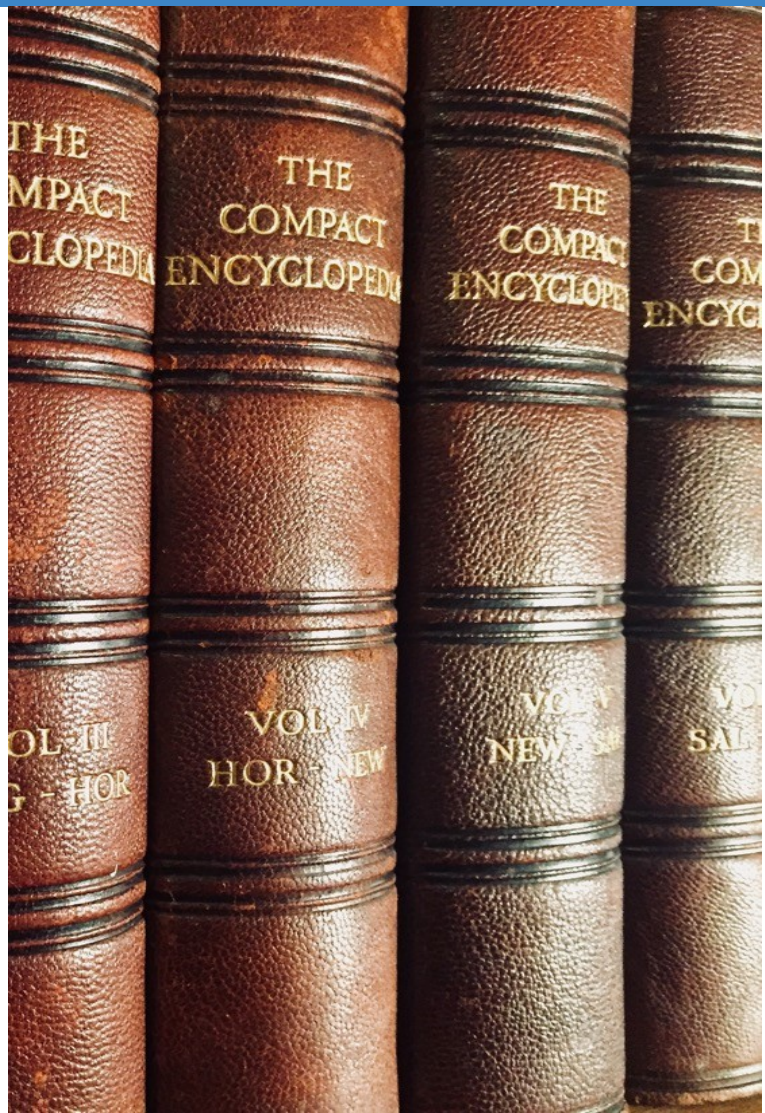
- Generate documentation in one file or split into multiple files
- Option to include components details
- Display the diagram image for each component



# OpenAPI Specification(OAS)

- Is a format for describing and documenting APIs
- Allows both humans and computers to discover and understand the capabilities of a service

www.openapis.org



# OpenAPI Documents

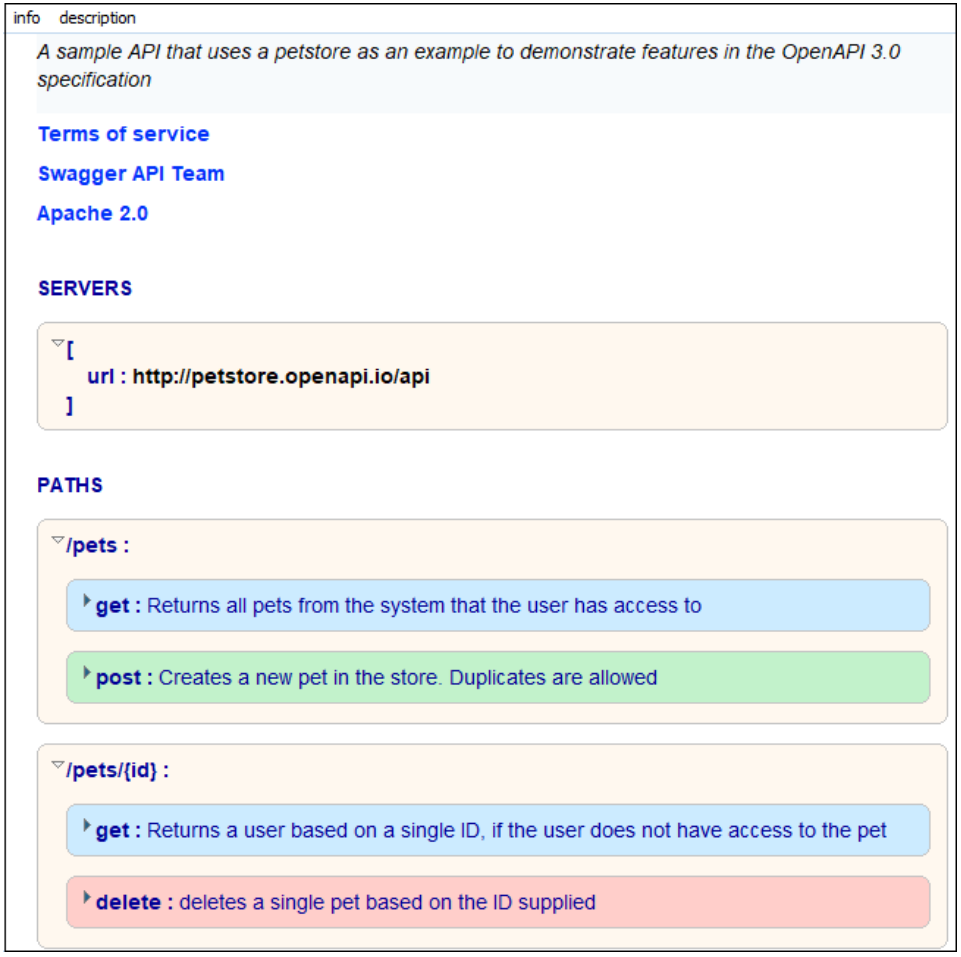
- Can be written in JSON or YAML
- Describes the inputs and outputs of an API
- Include information such as:
  - where the API is hosted
  - what authorization is required to access it
  - details for consumers and producers

# OpenAPI Editor

- Syntax highlights
- Validation conforms with the schema
- Content completion based on the schema
- Outline view
- Search and replace

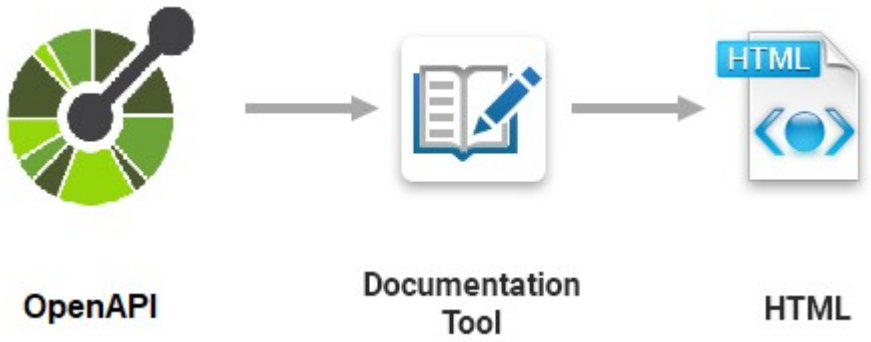
# OpenAPI Visual Editor

- Edit documentation
- Form controls to change values
- Collapsible sections
- Customize interface with CSS



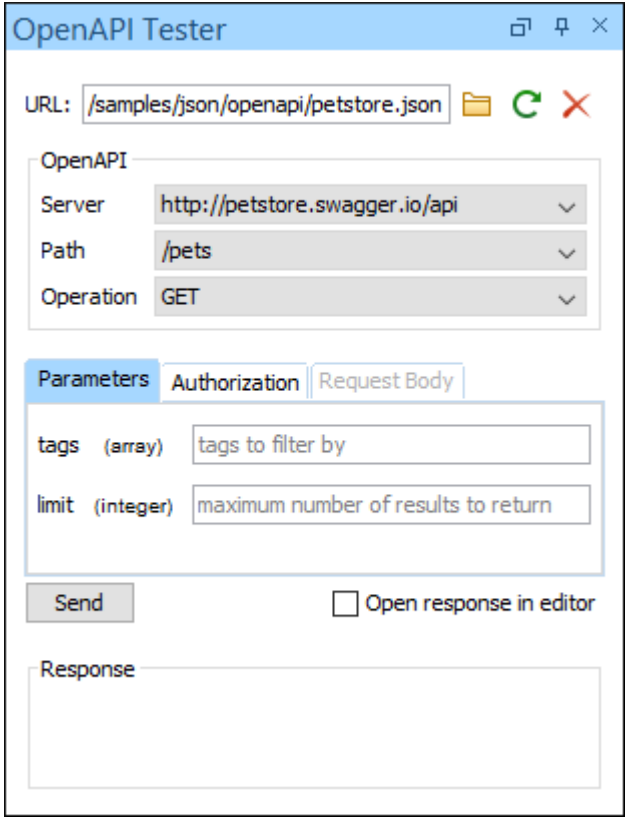
# OpenAPI Documentation

- Tool for generating detailed documentation for a OpenAPI documents in HTML format



# OpenAPI Tester Tool

- GUI interface testing tool for OpenAPI files
- Execute API requests and validate responses on the fly
- OpenAPI files in JSON or YAML format



# Other APIs

- AsyncAPI - defines the interfaces of asynchronous APIs
- JSON-LD - is a lightweight Linked Data format


# Conclusion

- Edit and validate JSON documents
- Edit/Design JSON Schema documents
- JSON/JSON Schema Tools
- Edit, validate, generate documentation, and test OpenAPI

# Future Plans

- Search and Refactor in JSON Diagram
- Better JSON Schema Documentation
- Quick fixes for JSON problems
- Improve OpenAPI support
- Content completion in YAML

# Resources

- oxygenxml.com/json.html
- oxygenxml.com/openapi.html
- oxygenxml.com/doc/ug-editor/topics/editing-JSON.html
- oxygenxml.com/doc/ug-editor/topics/json-tools.html
- https://www.json.org
- https://json-schema.org/
- https://www.openapis.org
- https://www.asyncapi.com
- w3.org/TR/json-ld11/

# Video Demos

- oxygenxml.com/demo/json_schema_palette.html
- oxygenxml.com/demo/introducing_the_json_schema_design.html
- oxygenxml.com/demo/json_author.html
- oxygenxml.com/demo/json_tools.html
- oxygenxml.com/demo/json_validation.html
- oxygenxml.com/demo/json_editing.html
- oxygenxml.com/demo/json_query.html

# Questions?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