

# JSON → XML Converter — Project Documentation

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## **Title**

JSON → XML Converter

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A compact, dependency-free Python utility that converts JSON to XML following a deterministic mapping.

## Overview

This tool converts JSON documents into a compact XML format. It supports object and array top-level values and maps JSON types to XML elements (object, array, string, number, boolean, null). The converter uses Python standard libraries only and escapes XML characters to preserve validity.

## Features

- Pure Python (standard library)
- Deterministic mapping of JSON types to XML tags
- CLI usage: `python converter.py <input.json> <output.xml>`
- Proper XML escaping

## **JSON → XML Mapping**

Objects -> <object> (object children include name="key"),

Arrays -> <array> (arrays are positional),

String -> <string>, Number -> <number>, Boolean -> <boolean> (lowercase true/false), Null -> <null/>

## **Usage & Examples**

Usage: python converter.py <input.json> <output.xml>

Example: python converter.py tests/sample1.json result.xml

Example output snippet (compact): <?xml version="1.0" encoding="UTF-8"?> <object>...

## **Implementation Notes & Limitations**

- Top-level JSON must be an object or array.
- The converter loads entire JSON into memory (not streaming).
- No pretty-print option in current version; output is compact.

## **Tests & Future Work**

- Tests provided as tests/sample1.json and tests/sample2.json.

Potential improvements: add --pretty flag, streaming parsing for large files, unit tests and CI, schema validation.

## **Contact & License**

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