

TOML QUICK REFERENCE

Tables, strings, numbers, dates, arrays

Syntax

Basic Rules

- key = value** Key-value pair (one per line)
- #** Comment (to end of line)
- Case sensitive** Keys and values are case-sensitive
- UTF-8** Files must be valid UTF-8
- No null** TOML has no null type

Minimal Example

```
title = "My App"
debug = true
port = 8080
```

Strings

String Types

- "basic"** Basic string (supports escapes)
- 'literal'** Literal string (no escapes)
- """multi"""** Multi-line basic string
- '''multi'''** Multi-line literal string

Examples

```
basic = "Hello\nWorld"
literal = 'C:\Users\path'
multi = """
Line one
Line two"""
```

Escape Sequences

- \n \t \r** Newline, tab, carriage return
- ** Backslash
- \uXXXX** Unicode (4-digit hex)
- \UXXXXXXXX** Unicode (8-digit hex)

Numbers & Booleans

Numeric Types

- 42** Integer
- 1_000_000** Integer with underscores
- 0xif / 0o77 / 0b11** Hex, octal, binary
- 3.14** Float
- 5e+22 / 1e-2** Scientific notation
- inf / nan** Special float values
- true / false** Boolean (lowercase only)

Examples

```
count = 42
price = 19.99
hex_color = 0xFF5733
enabled = true
```

Dates

Date & Time Types

- 2026-03-26T10:30:00Z** Offset date-time (UTC)
- 2026-03-26T10:30:00-05:00** Offset date-time (EST)
- 2026-03-26T10:30:00** Local date-time (no timezone)
- 2026-03-26** Local date
- 10:30:00** Local time

Examples

```
created = 2026-03-26T10:30:00Z
birthday = 1990-05-15
alarm = 07:00:00
```

Tables

Table Syntax

```
[server]
host = "localhost"
port = 8080

[server.ssl]
enabled = true
cert = "/path/to/cert.pem"
```

Array of Tables

```
[[users]]
name = "Alice"
role = "admin"

[[users]]
name = "Bob"
role = "user"
```

Rules

- [name]** Standard table header
- [a.b.c]** Dotted key — nested table
- [[name]]** Array of tables
- No redefine** Cannot define same table twice

Arrays

Array Syntax

```
colors = ["red", "green", "blue"]
numbers = [1, 2, 3]
```

Multi-line Array

```
hosts = [
  "alpha.example.com",
  "beta.example.com",
]
```

Trailing comma is allowed in TOML arrays

Rules

- Same type** All elements must be the same type
- Trailing comma** Allowed after last element
- Newlines** Arrays can span multiple lines

Inline Tables

Inline Table Syntax

```
point = { x = 1, y = 2 }
user = { name = "Alice", admin = true }
```

Rules

- Single line** Must appear on one line
- No trailing comma** Trailing comma not allowed
- No newlines** Cannot span multiple lines
- No adding keys** Cannot add keys to inline table later

Inline vs Standard

```
# Inline - compact, one-liners
db = { host = "localhost", port = 5432 }
# Standard - readable, extendable
[db]
host = "localhost"
port = 5432
```

Common Patterns

pyproject.toml

```
[project]
name = "myapp"
version = "1.0.0"
dependencies = ["flask>=3.0"]
```

Cargo.toml

```
[package]
name = "myapp"
version = "0.1.0"
edition = "2021"
```

Tips

- taplo** TOML toolkit — formatter and linter
- No null** Omit the key instead of setting null
- No anchors** Unlike YAML, no reference/alias system
- Strict** No duplicate keys, no mixed-type arrays