# JSON Basics - Syntax

# What is JSON?

# What is JSON?

- JavaScript Object Notation

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- **J**ava**S**cript **O**bject **N**otation

- Lightweight data format for storing and exchanging data … plain text

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- Lightweight data format for storing and exchanging data … plain text

- Language independent … not just for **JavaScript**

- Can use with any programming language: **Java, C# , Python** etc …

# What is JSON?

- **J**ava**S**cript **O**bject **N**otation

- Lightweight data format for storing and exchanging data … plain text

- Language independent … not just for **JavaScript**

> **JSON is just plain text data**

- Can use with any programming language: **Java, C# , Python** etc …

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# Simple JSON Example

# Simple JSON Example

```
{
  "id": 14,
  "firstName": "Mario",
  "lastName": "Rossi",
  "active": true
}
```

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# Simple JSON Example

- Curley braces define objects in JSON

```
{
  "id": 14,
  "firstName": "Mario",
  "lastName": "Rossi",
  "active": true
}
```

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# Simple JSON Example

- Curley braces define objects in JSON

- Object members are name / value pairs

```
{
    "id": 14,
    "firstName": "Mario",
    "lastName": "Rossi",
    "active": true
}
```
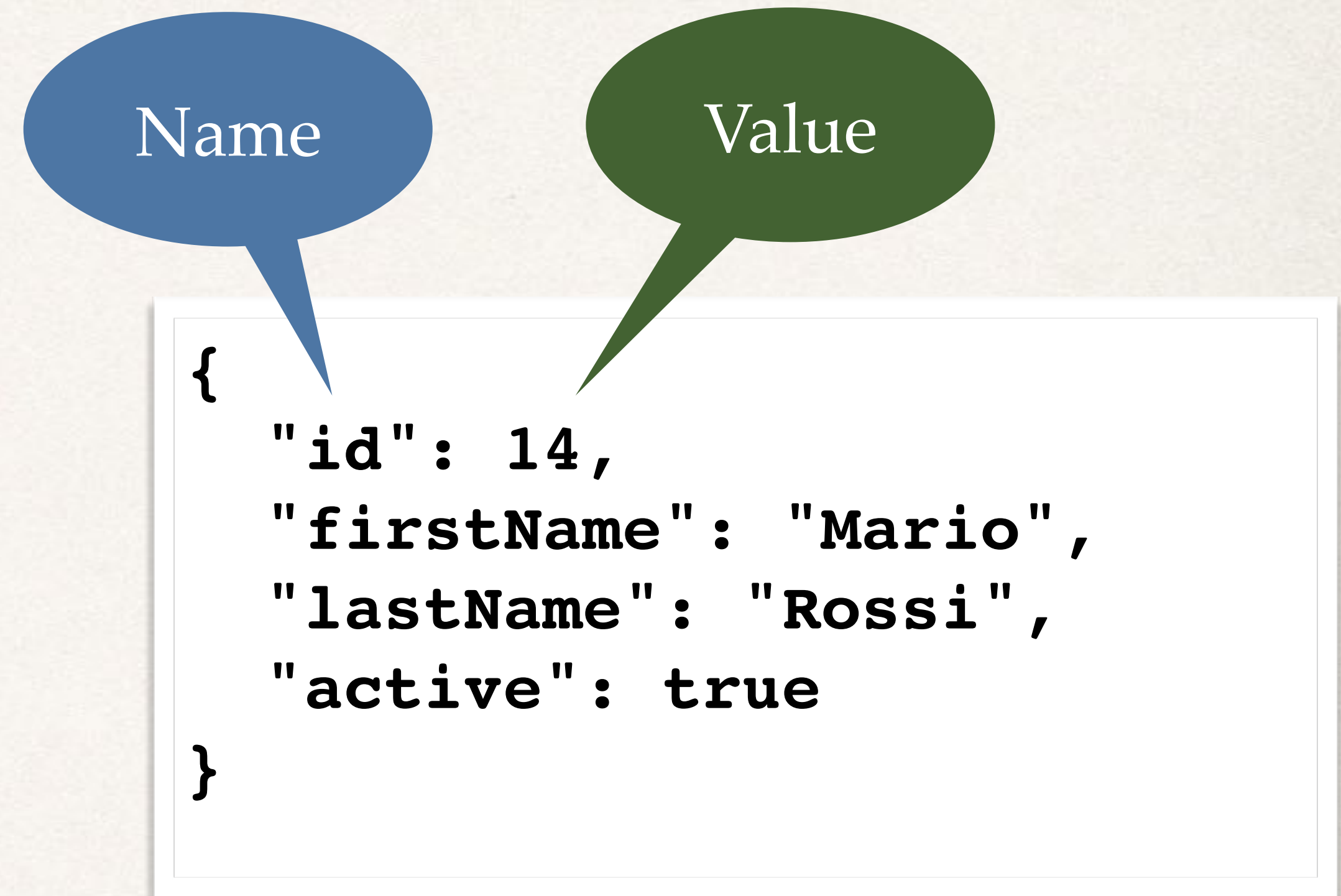
# Simple JSON Example

- Curley braces define objects in JSON

- Object members are name / value pairs
  - Delimited by colons

```
{
    "id": 14,
    "firstName": "Mario",
    "lastName": "Rossi",
    "active": true
}
```
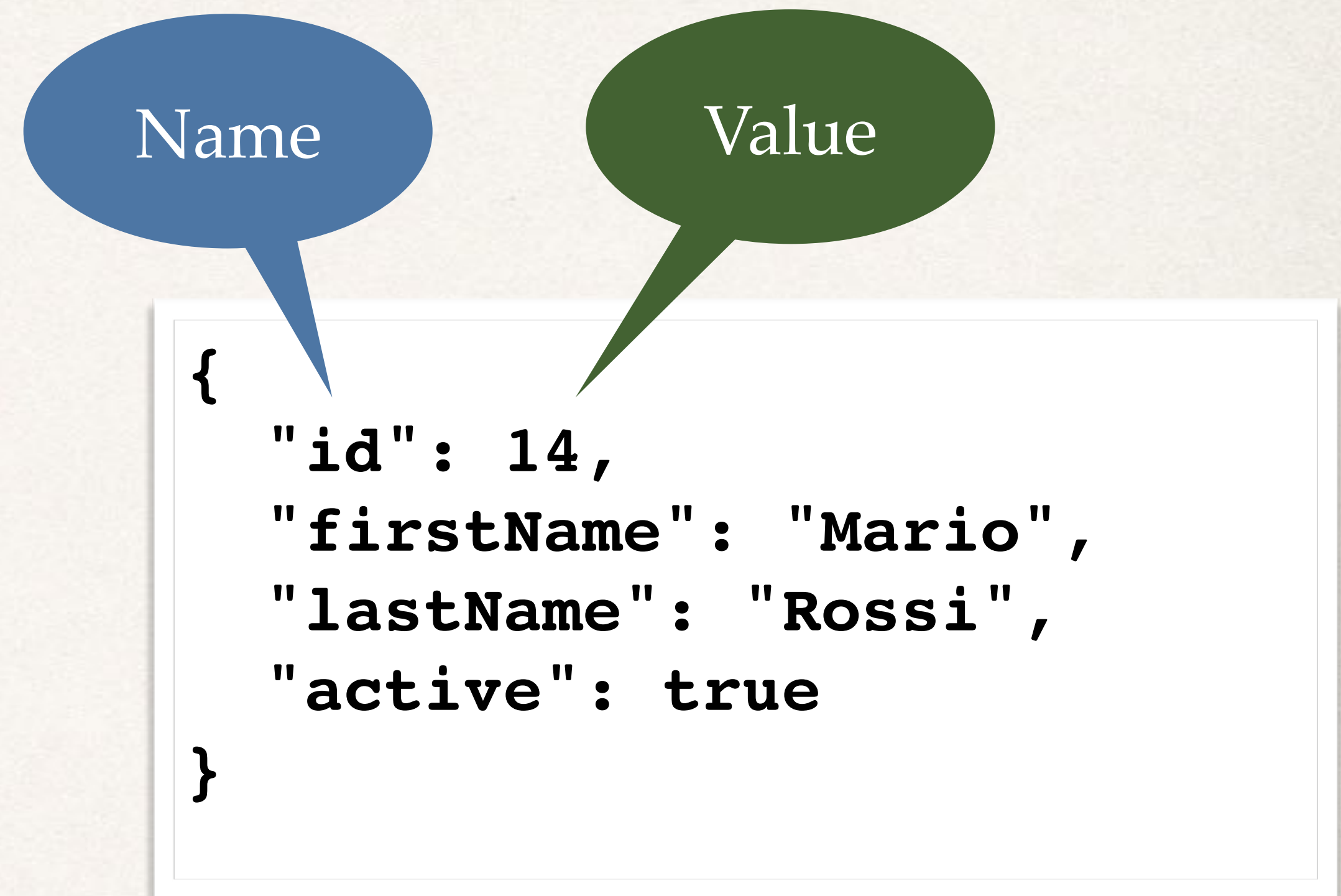
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# Simple JSON Example

- Curley braces define objects in JSON

- Object members are name / value pairs

  - Delimited by colons

Name

Value

```
{
    "id": 14,
    "firstName": "Mario",
    "lastName": "Rossi",
    "active": true
}
```

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# Simple JSON Example

- Curley braces define objects in JSON

- Object members are name / value pairs
  - Delimited by colons

- Name is **always** in double-quotes

Name

Value

```
{
    "id": 14,
    "firstName": "Mario",
    "lastName": "Rossi",
    "active": true
}
```

# JSON Values

# JSON Values

```
{
  "id": 14,
  "firstName": "Mario",
  "lastName": "Rossi",
  "active": true,
  "courses" : null
}
```

# JSON Values

Value

```
{
    "id": 14,
    "firstName": "Mario",
    "lastName": "Rossi",
    "active": true,
    "courses" : null
}
```

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# JSON Values

- Numbers: no quotes

Value

```
{
    "id": 14,
    "firstName": "Mario",
    "lastName": "Rossi",
    "active": true,
    "courses" : null
}
```

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# JSON Values

- Numbers: no quotes

- String: in double quotes

Value

```
{
  "id": 14,
  "firstName": "Mario",
  "lastName": "Rossi",
  "active": true,
  "courses" : null
}
```

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# JSON Values

- Numbers: no quotes

- String: in double quotes

- Boolean: **true**, **false**

Value

```
{
   "id": 14,
   "firstName": "Mario",
   "lastName": "Rossi",
   "active": true,
   "courses" : null
}
```

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# JSON Values

- Numbers: no quotes

- String: in double quotes

- Boolean: **true**, **false**

- Nested JSON object

Value

```
{
    "id": 14,
    "firstName": "Mario",
    "lastName": "Rossi",
    "active": true,
    "courses" : null
}
```

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# JSON Values

- Numbers: no quotes

- String: in double quotes

- Boolean: **true**, **false**

- Nested JSON object

- Array

Value

```
{
    "id": 14,
    "firstName": "Mario",
    "lastName": "Rossi",
    "active": true,
    "courses" : null
}
```

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# JSON Values

- Numbers: no quotes

- String: in double quotes

- Boolean: **true**, **false**

- Nested JSON object

- Array

- **null**

Value

```
{
    "id": 14,
    "firstName": "Mario",
    "lastName": "Rossi",
    "active": true,
    "courses" : null
}
```

# Nested JSON Objects

# Nested JSON Objects

```
{
  "id": 14,
  "firstName": "Mario",
  "lastName": "Rossi",
  "active": true,
  "address" : {
                "street" : "100 Main St",
                "city" : "Philadelphia",
                "state" : "Pennsylvania",
                "zip" : "19103",
                "country" : "USA"
              }
}
```

# Nested JSON Objects

```json
{
  "id": 14,
  "firstName": "Mario",
  "lastName": "Rossi",
  "active": true,
  "address" : {
                "street" : "100 Main St",
                "city" : "Philadelphia",
                "state" : "Pennsylvania",
                "zip" : "19103",
                "country" : "USA"
              }
}
```

Nested

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# JSON Arrays

# JSON Arrays

```
{
  "id": 14,
  "firstName": "Mario",
  "lastName": "Rossi",
  "active": true,
  "languages" : ["Java", "C#", "Python", "Javascript"]
}
```

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# JSON Arrays

```json
{
  "id": 14,
  "firstName": "Mario",
  "lastName": "Rossi",
  "active": true,
  "languages" : ["Java", "C#", "Python", "Javascript"]
}
```

Array