

# JSONPath and XPath

These query languages can be used to extract values from JSON or XML. Each has its own syntax allowing you to select a node to extract a value from. The table below shows some of the syntax allowed by each language.

XPath	JSONPath	Description
/	\$	The base node in the object.
.	@	The current object in the node path.
/	. or []	Accessing a child node, or specific child node
..	n/a	Accessing the parent of the current node.
//	..	Recursive child decent.
*	*	Wildcard operator to access any node.
@	n/a	Accessing an attribute.
[]	[]	Accessing an element within a list of nodes.
	[,]	Union of two sets of nodes.
n/a	[start:end:step]	Accessing elements as a slice of a set of elements.
[]	?()	Accessing nodes with a filter applied.

Here is some example text in JSON and XML.

```

{
  "messages": {
    "staging": [
      {
        "author": "tim_bot",
        "category": "information",
        "message": "Building..."
      },
      {
        "author": "tim_bot",
        "category": "information",
        "message": "Testing..."
      },
      {
        "author": "tim_bot",
        "category": "information",
        "message": "Completed!"
      }
    ],
    "production": [
      {
        "author": "jill_bot",
        "category": "information",
        "message": "Building..."
      },
      {
        "author": "jill_bot",
        "category": "error",
        "message": "Build Failed!"
      }
    ]
  }
}

```

```

<?xml version="1.0" encoding="UTF-8" ?>
<messages>
  <staging>
    <author>tim_bot</author>
    <category>information</category>
    <message>Building...</message>
  </staging>
  <staging>
    <author>tim_bot</author>
    <category>information</category>
    <message>Testing...</message>
  </staging>
  <staging>
    <author>tim_bot</author>
    <category>information</category>
    <message>Completed!</message>
  </staging>
  <production>
    <author>jill_bot</author>
    <category>information</category>
    <message>Building...</message>
  </production>
  <production>
    <author>jill_bot</author>
    <category>error</category>
    <message>Build Failed!</message>
  </production>
</messages>

```

The following are XPath and JSONPath examples that could be used to extract information from the example text.

XPath	JSONPath	Result
/messages/staging/author	\$.messages.staging[*].author	The authors of all messages sent to staging
//author	\$..author	All the authors of all messages
/messages/*	\$.messages.*	All channels messages were sent to. Staging and production.
/messages//category	\$.messages..category	The categories of all messages.
//staging[3]	\$..staging[2]	The third message sent to staging.
//staging[last()]	\$..staging[(@.length-1)] \$..staging[-1:]	The last message sent to staging.
//staging[position()<3]	\$..staging[0,1] \$..staging[:2]	The first two messages sent to staging.
//staging[category="error"]	\$..staging[?(@.category="error")]	All the messages sent to staging with an error category. This would return no values.
//*	\$..*	All nodes in the response.