

# APIs

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The VIVO APIs are HTTP end-points that can be used to read or write data, or to manage VIVO's operation. Other than [Triple Pattern Fragments](#), they have no user interface, and are intended to be called by external applications that are cooperating with VIVO.

The end-points include:

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| <b>Public Services</b>                   | <ul style="list-style-type: none"><li>• available without restriction</li><li>• provide filtered results, allowing restrictions on data</li></ul> |
| <a href="#">Linked Open Data</a>         | Information about an individual, its types, its data values, incoming and outgoing links.   |
| <a href="#">ListRDF</a>                  | Lists of individuals that belong to a particular class in the ontology. For example, a list of all People, or all Organizations.                  |
| <a href="#">Triple Pattern Fragments</a> | Lists of triples that match triple patterns. Can be used to retrieve all triples.   |
| <a href="#">Data Distribution API</a>    | Create custom end points to provide data in multiple formats  |
| <a href="#">Direct2Experts API</a>       | Provides data in response to a request from Direct2Experts.   |

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| <b>Access Controlled Services</b>   | <ul style="list-style-type: none"><li>• require account credentials on each request</li><li>• credentials are for an internal VIVO with sufficient authorization</li><li>• results are not filtered, and may return data that should be kept private</li></ul> |
| <a href="#">SPARQL Query API</a>    | Submit a SPARQL query to get information from VIVO. Supports SELECT, ASK, CONSTRUCT, and DESCRIBE query types.   |
| <a href="#">SPARQL Update API</a>   | Submit a SPARQL query to INSERT new triples or DELETE existing triples. Also, LOAD triples from a web-accessible file.   |
| <a href="#">Search Indexing API</a> | Submit a list of URIs that may have stale data in the search index. The search data for each of these URIs will be rebuilt.  |