

# Everybody's Talkin'

Starting Data Conversations using APIs

# Uses of APIs

- Extracts
  - where only one by one access is available in interface
  - full data
  - hidden data
- Updating
- QA
- Conversations

# You can do it!

- Using APIs is easier than you might think
  - It's just URLs, which aren't that difficult to interpret
- Using APIs is harder than it should be
  - Documentation is usually written by people who created the APIs
- Sooooo many people want to help you
  - People love answering quick questions and they love correcting you
  - Instead of "I'd like to use APIs to make my life easier", say, "I tried x, y, z already and I got these results, but something's missing"
- You can do it! Yes, you!

# Start off easy

- curl – can use on your Windows PC Command Prompt app
- Typing in URLs in browser (limited to GET)
- PowerShell / Postman
- Python, perl, java, ???

# Getting fancier

- Messaging data
- Webhooks / Plugins
- Data conversations

# What is returned?

- What is its structure?
- What is predictable and what varies?
- How are errors flagged?

# Authentication

- API keys
- Username / password
- Session ID or other

# API call dissected

- `https://api.trove.nla.gov.au/v2/result?zone=book&q=thomas%20manifold&key=AVOCADO1MASHEDPOTATO1PERFECTION1`
  - `https://api.trove.nla.gov.au/v2` Base API URL
  - `/result` The specific call or operator
  - `?zone=book` Parameter 1: zone
  - `&q=thomas%20manifold` Parameter 2: query
  - `&key=AVO...` Parameter 3: API key (authentication)
- That's quite simple!



# Curl on Windows

```
{
  "id" : "18327053",
  "url" : "https://api.trove.nla.gov.au/v3/work/18327053",
  "troveUrl" : "https://trove.nla.gov.au/work/18327053",
  "title" : "The wished-for-land : the migration and settlement of the Manifolds of Western Victoria / W.G. Manifold",
  "contributor" : [ "Manifold, W. G" ],
  "issued" : "1900-1990",
  "type" : [ "Book/Illustrated", "Book", "Audio book", "Unpublished" ],
  "snippet" : [ "The wished-for-land the migration and settlement of the <b>Manifolds</b> of Western Victoria.", "The wished-for-land : the migration and settlement of the <b>manifolds</b> of Western Victoria /", "An account of the <b>Manifold</b> family in Australia 1831 - 1885, told partly through correspondence", " wished-for-land : the migration and settlement of the <b>Manifolds</b> of Western Victoria / W.G. <b>Manifold</b>" ],
  "hasCorrections" : "N",
  "relevance" : {
    "score" : 38.60087585449219,
    "value" : "very relevant"
  },
  "holdingsCount" : 31,
  "versionCount" : 6,
  "identifier" : [ {
    "type" : "url",
    "linktype" : "unknown",
    "value" : "http://catalogue.aiatsis.gov.au/client/en_AU/external/search/detailnonmodal/ent:$002f$002fSD_ILS$002f0$002fSD_ILS:256363/ada"
  } ]
}
```

# Raw XML

```
Command Prompt
C:\Users\alan>curl "https://api.trove.nla.gov.au/v2/result?zone=book&q=thomas%20manifold&key=AVC
<?xml version="1.0" encoding="UTF-8"?><response><query>thomas manifold</query><zone name="book">
&zone=book&s=AoIIQXWMCCpzdTI4NDY5Mzc1" nextStart="AoIIQXWMCCpzdTI4NDY5Mzc1"><work id="18327053"
/18327053</troveUrl><title>The wished-for-land : the migration and settlement of the Manifolds of
G</contributor><issued>1900-1990</issued><type>Book/Illustrated</type><type>Book</type><type>Audio
ount><versionCount>6</versionCount><hasCorrections>N</hasCorrections><relevance score="38.842644">
on and settlement of the &lt;b>Manifolds</b> of Western Victoria.</snippet><snippet>The wished-for-land : the migrati
ifolds</b> of Western Victoria </snippet><snippet>An account of the &lt;b>Manifold</b> family in Australia 1831 - 1885, told partly through corresp
ondence</snippet><snippet> wished-for-land : the migration and settlement of the &lt;b>Manifolds</b> of Western Victoria / W.G. &lt;b>Manifold</b>
;</snippet><identifier type="url" linktype="unknown">http://catalogue.aiatsis.gov.au/client/en_AU/external/search/detailnonmodal/ent:$002f$002fSD_ILS$002f0$002fSD_
ILS:256363/ada</identifier></work><work id="167940700" url="/work/167940700"><troveUrl>https://trove.nla.gov.au/work/167940700</troveUrl><title>His excellency Sir
Thomas Fairfax, taking [notice?] of the manifold abuses and injuries committed ... rude part of soldiers (especially where they quarter) ... great damage and prej
udice of the people, and to n[...] dishonour and scandall of the whole army, notwithstanding the wholesome lawes and ordinances to the contrary [...] and provided
, and the severe punishments inflicted upon the knowne offenders. ... Dated the [blank] day of [blank] 164[blank]</title><contributor>England and Wales. Army. Coun
cil</contributor><issued>1645</issued><type>Government publication</type><type>Book</type><holdingsCount>3</holdingsCount><versionCount>1</versionCount><hasCorrect
ions>N</hasCorrections><relevance score="37.455486">very relevant</relevance><snippet>is excellency Sir &lt;b>Thomas</b> Fairfax, taking notice of the &lt;b>manifold</b>
&lt;b>Manifold</b> abuses and injuries committed</snippet><snippet>His excellency Sir &lt;b>Thomas</b> Fairfax, taking [notice?] of the &lt;b>manifold</b> abuses and injuries committed</snippet><identifier type="url" linktype="restricted">http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_val_fmt=&rft_id=xri:eebo:image:153211</identifier></work><work id="7267969" url="/work/7267969"><troveUrl>https://trove.nla.gov.au/work/7267969</troveUrl><title>Space / Stephen Baxter</title><contributor>Baxter, Stephen, 1957-</contributor><issued>1900-2015</issued><type>Book</type><holdingsCount>19</holdingsCount><versionCount>7</versionCount><hasCorrections>N</hasCorrections><relevance score="29.10984">very relevant</relevance><snippet>Space [electronic resource] : &lt;b>Manifold</b> Series, Book 2 </snippet><snippet>Space &lt;b>Manifold</b> Series, Book 2 </snippet><identifier type="url" linktype="restricted" linktext="OverDrive (EPUB)">http://www.contentreserve.com/TitleInfo.asp?ID={B982A22C-40C6-4F48-B7BD-40597B55ABFD}&Format=410</identifier></work><work id="231899820" url="/work/231899820"><troveUrl>https://trove.nla.gov.au/work/231899820</troveUrl><title>An answer to Thomas Bels late challeng named by him The dovnfal of popery wherin al his argvments are answered, his manifold vntruths, slaunders, ignorance, contradictions, and corruption of Scripture, &amp; Fathers discovered and disproued: vvith one</title><contributor>Smith, Richard, 1566-1655</contributor><issued>1900-2023</issued><type>Book/Illustrated</type><type>Book</type><holdingsCount>1</holdingsCount><versionCount>1</versionCount><hasCorrections>N</hasCorrections><relevance score="28.884624">very relevant</relevance><snippet>are answered, his &lt;b>manifold</b> vntruths, slaunders, ignorance, contradictions, and corruption of Scripture</snippet><snippet>An answer to &lt;b>Thomas</b> Bels late challeng named by him The dovnfal of popery wherin al his argvments</snippet></work><work id="28970474" url="/work/28970474"><troveUrl>https://trove.nla.gov.au/work/28970474</troveUrl><title>A right Christian treatise, entituled S. Augustines praiers: published in more ample sort than yet it hath bin in the English tong; purged from diuers superstitious points; and adorned with manifold places of the S. Scripture, by Thomas Rogers. Wherevnto is annexed Saint Augustines psalter: translated and quoted by the same T.R.</title><contributor>Augustine, of Hippo, Saint, 354-430</contributor><issued>1581-1591</issued><type>Book</type><holdingsCount>4</holdingsCount><versionCount>4</versionCount><hasCorrections>N</hasCorrections><relevance score="28.343044">very relevant</relevance><snippet> it hath bin in the English tounge; purged from diuers superstitious points; and adorned with &lt;b>manifold</b> places of the S. Scripture, by &lt;b>Thomas</b> Rogers. Wherevnto is annexed Saint Augustines psalter: translated</snippet><identifier type="url" linktype="restricted">http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&res_id=xri:eebo&rft_val_fmt=&rft_id=xri:eebo:image:429</identifier></work><work id="29008915" url="/work/29008915"><troveUrl>https://trove.nla.gov.au/work/29008915</troveUrl><title>An answer to Thomas Bels late challeng named by him The dovnfal of popery : wherin al his arguments are answered, his manifold vntruths, slaunders, ignorance, contradictions, and corruption of Scripture, &amp; Fathers discovered and disproued : with one table of the articles and chapter, and an other of the more markable things conteyned in this booke. VVhat controuersies be here handled is d
```



# The same call in a browser

This XML file does not appear to have any style information associated with it. The document tree is shown below:

```
<?xml version="1.0" encoding="UTF-8" ?>
<response>
  <query>thomas manifold</query>
  <zone name="book">
    <records s="*" n="20" total="1212" next="/result?q=thomas+manifold&zone=book&s=AoIIQXaiSipzdTI4NDY5Mzc1" nextStart="AoIIQXaiSipzdTI4NDY5Mzc1">
      <work id="18327053" url="/work/18327053">
        <troveUrl>https://trove.nla.gov.au/work/18327053</troveUrl>
        <title>The wished-for-land : the migration and settlement of the Manifolds of Western Victoria / W.G. Manifold</title>
        <contributor>Manifold, W. G</contributor>
        <issued>1900-1990</issued>
        <type>Book/Illustrated</type>
        <type>Book</type>
        <type>Audio book</type>
        <type>Unpublished</type>
        <holdingsCount>31</holdingsCount>
        <versionCount>6</versionCount>
        <hasCorrections>N</hasCorrections>
        <relevance score="38.600674">very relevant</relevance>
        <snippet>The wished-for-land the migration and settlement of the <b>Manifolds</b> of Western Victoria.</snippet>
        <snippet>The wished-for-land : the migration and settlement of the <b>manifolds</b> of Western Victoria /</snippet>
        <snippet>An account of the <b>Manifold</b> family in Australia 1831 - 1885, told partly through correspondence</snippet>
        <snippet> wished-for-land : the migration and settlement of the <b>Manifolds</b> of Western Victoria / W.G. <b>Manifold</b></snippet>
        <identifier type="url" linktype="unknown">http://catalogue.aiatsis.gov.au/client/en_AU/external/search/detailnonmodal/ent:$002f$002fSD_ILS$002f0$002fSD_ILS:256363/ada</identifier>
      </work>
    </records>
  </zone>
</response>
```

# Analyse the returned data

```
<work id="18327053" url="/work/18327053">
  <troveUrl>https://trove.nla.gov.au/work/18327053</troveUrl>
  <title>The wished-for-land : the migration and settlement of the Manifolds of Western
Victoria / W.G. Manifold</title>
  <contributor>Manifold, W. G</contributor>
  <issued>1900-1990</issued>
  <type>Book/Illustrated</type>
  <type>Book</type>
  <type>Audio book</type>
  <type>Unpublished</type>
  <holdingsCount>31</holdingsCount>
  <versionCount>6</versionCount>
  <hasCorrections>N</hasCorrections>
  <relevance score="38.600674">very relevant</relevance>
  <snippet>The wished-for-land the migration and settlement of the <b>Manifolds</b> of Western
Victoria.</snippet>
  <snippet>The wished-for-land : the migration and settlement of the <b>manifolds</b> of
Western Victoria </snippet>
  <snippet>An account of the <b>Manifold</b> family in Australia 1831 - 1885, told partly
through correspondence</snippet>
  <snippet> wished-for-land : the migration and settlement of the <b>Manifolds</b> of Western
Victoria / W.G. <b>Manifold</b></snippet>
  <identifier type="url" linktype="unknown">http://catalogue.aiatsis.gov.au/client/en_AU/
externa
  1/search/detailnonmodal/ent:$002f$002fSD_ILS$002f0$002fSD_ILS:256363/ada</identifier>
</work>
```

What is critical?

How are critical fields identified?

What fields are repeated?

What is stable and what varies?

# Data conversation

```
Get an ArchivesSpace session ID;  
Perform an ArchivesSpace API search on unpublished changed records;  
for (each result record)  
{  
    Perform a Primo API search to see if the ArchivesSpace record is there;  
    if (it's there)  
    {  
        Create a delete record for it;  
    }  
}  
}
```



Get an ArchivesSpace session ID;

```
curl -X POST "http://as.slv.vic.gov.au:0000/users/XXXXX/login?
expiring=true" -d "password=ZZZZZ"
```

```
Get an ArchivesSpace session ID;
Perform an ArchivesSpace API search on unpublished changed records;
for (each result record)
{
    Perform a Primo API search to see if the ArchivesSpace record is there;
    if (it's there)
    {
        Create a delete record for it;
    }
}
```

```
{"session": "8c5d349c0ecd5e773c5acc600267b2fd437ce6c21946ded338ca0e4f8
3b7fd8a", "user": {"lock_version": 6919, "username": "XXXXX", "name": "AS
XXXXX", "is_system_user": false, "created_by": "amanifold", "create_time": "2021-
03-14T21:52:20Z", "system_mtime": "2023-07-
03T23:56:20Z", "user_mtime": "2023-07-
03T23:56:20Z", "is_active_user": true, "jsonmodel_type": "user"}}
```







# Delete record

```
<ListRecords>
```

```
  <record>
```

```
    <header status="deleted">
```

```
      <identifier>oai:archivesspace:3333333333</identifier>
```

```
    </header>
```

```
  </record>
```

```
</ListRecords>
```

# You can do it!

- Study the documentation
- Figure out the API call syntax and semantics
- Analyse the data returned
  - What do you need?
  - What does it look like?
- Keep at it until you get it
- Ask for help when you're completely stuck
  - Be specific about what you've done and what you need
- You can do it!

Thank you!

You can do it!