

# Assignment 6

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# Websites Containing Data Representations

- **Using JSON (JavaScript Object Notation):**

- App sends server information and server sends the app back information as a request and response (sends objects not plain texts)
  - YouTube
  - Ancestry.com
  - Facebook

- **Using XML (Extensible Markup Language):**

- Language markup to store and transport data
  - Amazon
  - NASA
  - Instagram

# YouTube

✕

Headers

Payload

Preview

Response

Initiator

Timing

Cookies

▼ General

Request URL:

https://www.youtube.com/youtubei/v1/log\_event?alt=json&key=AlzaSyAO\_FJ2SlqU8Q4STEHLGCilw\_Y9\_11qcW8

Request Method:

POST

Status Code:

200 OK

Remote Address:

142.250.115.91:443

Referrer Policy:

strict-origin-when-cross-origin

▼ Response Headers

Alt-Svc:

h3=":443"; ma=2592000,h3-29=":443"; ma=2592000

Filter	<input type="checkbox"/> Invert	<input type="checkbox"/> Hide data URLs	<input type="checkbox"/> Hide extension URLs	All	Fetch/XHR	Doc	CSS	JS	Font	Img	Media	Manifest	WS	Wasm	Other
<input type="checkbox"/> Blocked response cookies	<input type="checkbox"/> Blocked requests	<input type="checkbox"/> 3rd-party requests													
<div><div></div><div>5000 ms10000 ms15000 ms20000 ms25000 ms30000 ms35000 ms40000 ms45000 ms50000 ms55000 ms60000 ms65000 ms70000 ms75000 ms80000 ms85000 ms90000 ms</div></div>															
Name	Status	Type	Initiator	Size	Time	Fulfilled by	Waterfall								
log_event?alt=json&key=AlzaSyAO_FJ2SlqU8Q4STEHLGCilw_Y9_11qcW8	200	xhr	desktop-polymer.js:1438	75 B	44 ms										
GenerateT	200	xhr	base.js:8074	134 B	21 ms										
animated_like_icon_v2_light.json	200	fetch	desktop-polymer.js:2085	0 B	1 ms	(disk cache)									
animated_like_icon_v2_light.json	200	fetch	desktop-polymer.js:2085	0 B	1 ms	(disk cache)									
playback?ms=ytf&el=detailpage&cpn=IO9VYiyhK0Mvsq&...	204	xhr	desktop-polymer.js:1438	30 B	51 ms										
tracking?html5=1&video_id=6HhUle-gbnd&cpn=...	204	xhr	base.js:1978	30 B	32 ms										
get?prettyPrint=false	200	xhr	base.js:9206	23.4 kB	49 ms										
subscribe_action_container_light.json	200	xhr	lottie_light.js:37	0 B	1 ms	(disk cache)									
subscribe_action_sparkle_light.json	200	xhr	lottie_light.js:37	0 B	1 ms	(disk cache)									
subscribe_action_bell_icon_light.json	200	xhr	lottie_light.js:37	0 B	1 ms	(disk cache)									
id	200	xhr	desktop-polymer.js:1438	159 B	24 ms										
log_event?alt=json&key=AlzaSyAO_FJ2SlqU8Q4STEHLGCilw_Y9_11qcW8	200	xhr	desktop-polymer.js:1438	73 B	36 ms										
get_unseen_count?prettyPrint=false	200	fetch	desktop-polymer.js:9261	1.4 kB	41 ms										
atr?ms=ytf&el=detailpage&cpn=IO9VYiyhK0Mvsq&...	204	xhr	desktop-polymer.js:1438	33 B	46 ms										
qoe?fmt=397&afmt=251&cpn=IO9VYiyhK0Mvsq&...	204	xhr	base.js:1978	33 B	29 ms										
watchtime?ms=ytf&el=detailpage&cpn=IO9VYiyhK0Mvsq&...	204	xhr	desktop-polymer.js:1438	27 B	30 ms										
watchtime?ms=ytf&el=detailpage&cpn=IO9VYiyhK0Mvsq&...	204	xhr	desktop-polymer.js:1438	27 B	30 ms										
log?format=json&hasfast=true&authuser=0	200	xhr	base.js:8074	154 B	42 ms										
log?format=json&hasfast=true&authuser=0	200	xhr	base.js:8074	154 B	32 ms										
log?format=json&hasfast=true&authuser=0	200	xhr	desktop-polymer.js:2976	154 B	28 ms										
log?format=json&hasfast=true&authuser=0	200	xhr	base.js:8074	154 B	35 ms										
log_event?alt=json&key=AlzaSyAO_FJ2SlqU8Q4STEHLGCilw_Y9_11qcW8	200	xhr	desktop-polymer.js:1438	55 B	36 ms										
29 / 97 requests: 781 kB / 4.2 MB transferred, 955 kB / 17.5 MB resources. Finish: 1.1 min. DOMContentLoaded: 1.89 s. Load: 2.55 s															
Console Issues +															

```
{
  "kind": "youtube#searchListResponse",
  "etag": etag ↗,
  "nextPageToken": string ↗,
  "prevPageToken": string ↗,
  "regionCode": string ↗,
  "pageInfo": {
    "totalResults": integer ↗,
    "resultsPerPage": integer ↗
  },
  "items": [
    search Resource
  ]
}
```

```
serviceTrackingParams : [
  {
    "service": "CSI",
    "params": [
      {
        "key": "c",
        "value": "WEB"
      },
      {
        "key": "cver",
        "value": "2.20240313.05.00"
      },
      {
        "key": "yt_li",
        "value": "1"
      },
      {
        "key": "GetUnseenNotificationCount_rid",
        "value": "0xd274dd59e6e5a2fd"
      }
    ]
  },
  {
    "service": "GFEEDBACK",
    "params": [
      {
        "key": "logged_in",
        "value": "1"
      }
    ]
  }
]
```

# NASA

```
<?xml version="1.0" encoding="UTF-8" ?>
<rss version="2.0" xmlns:content="http://purl.org/rss/1.0/modules/content/" xmlns:wfw="http://wellformedweb.org/CommentAPI/"
xmlns:atom="http://www.w3.org/2005/Atom" xmlns:sy="http://purl.org/rss/1.0/modules/syndication/" xmlns:slash="http://purl.or
<channel>
  <title>NASA Image of the Day</title>
  <description>The latest NASA &quot;Image of the Day&quot; image.</description>
  <link>https://www.nasa.gov/image-of-the-day/</link>
  <atom:link href="https://www.nasa.gov/feeds/iotd-feed" rel="self" type="application/rss+xml" />
  <language>en-us</language>
  <managingEditor>brian.dunbar@nasa.gov (Brian Dunbar)</managingEditor>
  <webMaster>brian.dunbar@nasa.gov (Brian Dunbar)</webMaster>
  <docs>http://blogs.law.harvard.edu/tech/rss</docs>
  <item>
    <title>Gemini VI Astronauts Thomas P. Stafford and Walter M. Schirra Jr.</title>
    <link>https://www.nasa.gov/image-detail/s65-5615lorig/</link>
    <description>Gemini VI astronauts Thomas P. Stafford (left), pilot, and Walter M. Schirra Jr., command pilot, are shown during suiting up exercises at Cape Kennedy, Florida.

    <enclosure url="https://www.nasa.gov/wp-content/uploads/2024/03/s65-5615lorig.jpg" length="803344" type="image/jpeg" />
    <guid isPermaLink="false">https://www.nasa.gov/image-detail/s65-5615lorig/</guid>
    <pubDate>Tue, 19 Mar 2024 14:29 GMT</pubDate>
    <source url="https://www.nasa.gov/feeds/iotd-feed">NASA Image of the Day</source>
  </item>
  <item>
    <title>St. Patrick's Aurora Illuminates the Night Sky</title>
    <link>https://www.nasa.gov/image-detail/gsf-20171208-archive-e000760orig-stpatricksaurora-iotd/</link>
    <description>This majestic image of the dazzling green lights of the aurora borealis was captured on March 17, 2015, around 5:30 a.m. EDT in Donnelly Creek, Alaska.</description>
    <enclosure url="https://www.nasa.gov/wp-content/uploads/2024/03/gsf-20171208-archive-e000760orig-stpatricksaurora-iotd.jpg" length="1832166" type="image/jpeg" />
    <guid isPermaLink="false">https://www.nasa.gov/image-detail/gsf-20171208-archive-e000760orig-stpatricksaurora-iotd/</guid>
    <pubDate>Fri, 15 Mar 2024 17:53 GMT</pubDate>
    <source url="https://www.nasa.gov/feeds/iotd-feed">NASA Image of the Day</source>
  </item>
  <item>
    <title>Celebrating Pi Day on the International Space Station</title>
    <link>https://www.nasa.gov/image-detail/iss068e075336/</link>
    <description>NASA astronaut and Expedition 68 Flight Engineer Stephen Bowen holds a small pie that is festively decorated in commemoration of Pi Day aboard the International Space

    <enclosure url="https://www.nasa.gov/wp-content/uploads/2024/03/iss068e075336orig-iotd.jpg" length="3345615" type="image/jpeg" />
    <guid isPermaLink="false">https://www.nasa.gov/image-detail/iss068e075336/</guid>
    <pubDate>Thu, 14 Mar 2024 18:47 GMT</pubDate>
    <source url="https://www.nasa.gov/feeds/iotd-feed">NASA Image of the Day</source>
  </item>
  <item>
    <title>Apollo 9 Crew Comes Home</title>
    <link>https://www.nasa.gov/image-detail/s69-27919orig/</link>
    <description>Immediately after splashdown, a recovery helicopter from the USS Guadalcanal hovers over the Apollo 9 spacecraft. Still inside the Command Module are astronauts James
A. McDivitt, David R. Scott, and Russell L. Schweickart. Splashdown occurred at 12:00:53 p.m. EST March 13, 1969, only 4.5 nautical miles from the USS Guadalcanal, the prime recovery ship, to conclude a
successful 10-day Earth-orbital mission in space.</description>
    <enclosure url="https://www.nasa.gov/wp-content/uploads/2024/03/s69-27919orig.jpg" length="3495600" type="image/jpeg" />
```

# XML

XML was designed to store and transport data

The XML language has no predefined tags

eXtensible markup language, it lets you define your own tags

XML separates information from presentation

## XML STRUCTURE

```
<?xml version="1.0"?>
<productListing title="My Products">
  <product>
    <name>Product One</name>
    <description>Product One is an exciting new widget that will
simplify your life.</description>
    <cost>$19.95</cost>
    <shipping>$2.95</shipping>
  </product>
  <product>
    <name>Product Two</name>
  </product>
  <product>
    <name>Product Three</name>
    <description>This is such a terrific widget that you will
most certainly want to buy one for your home and another one
for your office!</description>
    <cost>$24.95</cost>
    <shipping>$0.00</shipping>
  </product>
</productListing>
```

# Express the Query

```
select ID
from student
except
select s id
from advisor
where i ID is not null
```

- SELECT s.id FROM student s LEFT OUTER JOIN advisor a ON s.id = a.s\_id WHERE a.i\_id IS NULL OR a.s\_id IS NULL;

# University Schema Query

- `SELECT name, ID FROM instructor as I WHERE EXCEPT ( SELECT course_ID FROM Course as c WHERE i.dept_name= c.dept_name AND c.course_id NOT IN SELECT ct.course_id FROM teaches ct WHERE ct.ID=i.ID) ORDER BY name`