

## И3 xml в json

```
pip install xmltodict

import xmltodict, json

with open('data.xml', 'r', encoding='utf-8') as myfile:
    data = xmltodict.parse(myfile.read())

with open('data.json', 'w') as file:
    json.dump(data, file, indent=2, ensure_ascii=False)
```

## И3 xml в csv

```
import xmltodict, csv

with open('data.xml', 'r', encoding='utf-8') as myfile:
    data = xmltodict.parse(myfile.read())

csvfile=open('data.csv', 'w', encoding='utf-8')
csv_writer=csv.writer(csvfile)

csvfile2=open('data2.csv', 'w', encoding='utf-8')
csv_writer2=csv.writer(csvfile2)

csv_writer.writerow(['id', 'year', 'title', 'director'])
for movie in data['movies']['movie']:
    id = movie['@id']
    year = movie['@year']
    title = movie['title']
    directorfirst = movie['director']['firstname']
    directorlast = movie['director']['lastname']
    director = directorfirst + ' ' + directorlast
    csvline = [id, year, title, director]
    csv_writer.writerow(csvline)

csv_writer2.writerow(['movie_id', 'actor_id', 'actor'])

movie_id = data['movies']['movie'][0]['@id']
for actor in data['movies']['movie'][0]['actors']['actor']:
    actor_id = actor['@id']
    actorfirst = actor['firstname']
    actorlast = actor['lastname']
    actorname = actorfirst + ' ' + actorlast
    csvline = [movie_id, actor_id, actorname]
    csv_writer2.writerow(csvline)

movie_id = data['movies']['movie'][1]['@id']
actor_id = data['movies']['movie'][1]['actors']['actor']['@id']
actorfirst = data['movies']['movie'][1]['actors']['actor']['firstname']
actorlast = data['movies']['movie'][1]['actors']['actor']['lastname']
actorname = actorfirst + ' ' + actorlast
csvline = [movie_id, actor_id, actorname]
csv_writer2.writerow(csvline)

movie_id = data['movies']['movie'][2]['@id']
for actor in data['movies']['movie'][2]['actors']['actor']:
    actor_id = actor['@id']
    actorfirst = actor['firstname']
    actorlast = actor['lastname']
    actorname = actorfirst + ' ' + actorlast
    csvline = [movie_id, actor_id, actorname]
    csv_writer2.writerow(csvline)
```