

Gdy uruchomienie normalne blokuje apparmor

```
$podman run --security-opt=no-new-privileges -p 5000:5000 --name curljq doc
ker.io/mazurkatarzyna/curl-jq-server:latest
* Serving Flask app 'app'
* Debug mode: off
WARNING: This is a development server. Do not use it in a production deployment.
Use a production WSGI server instead.
* Running on all addresses (0.0.0.0)
* Running on http://127.0.0.1:5000
* Running on http://10.0.2.100:5000
```

0.1 Wyświetl wszystkie informacje użytkownika Alice.

```
[user@parrot]~$ curl -X 'GET' 'http://127.0.0.1:5000/user/alice' -H 'accept:*/*' | jq
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload  Total   Spent    Left  Speed
100    116    100    116     0     0  49678      0 --:--:-- --:--:-- --:--:-- 58000
{
  "age": 25,
  "city": "Warsaw",
  "email": "alice@example.com",
  "hobbies": [
    "reading",
    "chess",
    "cycling"
  ],
  "name": "Alice Smith"
}
```

0.2 Wyświetl imię i nazwisko użytkownika Alice.

```
[user@parrot]~$ curl -X 'GET' 'http://127.0.0.1:5000/user/alice' -H 'accept:/' | jq -r ".name"
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload  Total   Spent    Left  Speed
100    116    100    116     0     0  43299      0 --:--:-- --:--:-- --:--:-- 58000
Alice Smith
```

◆ Bez `-r`:

bash

Skopiuj kod

```
jq '.hobbies[0]'
```

- `jq` zwraca dane w formacie **JSON**.
- Dlatego tekst jest w cudzysłowie `"reading"`.
- Jest to poprawny JSON-owy string.
- Taki wynik może być dalej przetwarzany przez inne narzędzia, które rozumieją JSON.

◆ Z `-r` (czyli `--raw-output`):

bash

Skopiuj kod

```
jq -r '.hobbies[0]'
```

- `jq` usuwa cudzysłowy i wypisuje czysty tekst.
- Zamiast `"reading"` dostajesz po prostu:

nginx

Skopiuj kod

```
reading
```

- To jest wygodne, gdy chcesz użyć tej wartości w dalszym poleceniu powłoki (np. przypisać do zmiennej w bashu).

◆ Podsumowanie:

Polecenie	Wynik na ekranie	Format
<code>jq '.hobbies[0]'</code>	<code>"reading"</code>	JSON
<code>jq -r '.hobbies[0]'</code>	<code>reading</code>	Tekst (raw)

0.3 Wyświetl adres e-mail użytkownika Bob.

```
[user@parrot]~$ curl -X 'GET' 'http://127.0.0.1:5000/user/bob' -H 'accept:/' | jq -r ".email"
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
   Dload  Upload  Total   Dload  Upload  Total   Dload  Upload    Spent    Left  Speed
100    105  100    105    0     0  49019      0 --:--:-- --:--:-- --:--:-- 52500
bob@example.com
```

0.4 Wyświetl wiek użytkownika Alice.

```
[user@parrot]~$ curl -X 'GET' 'http://127.0.0.1:5000/user/alice' -H 'accept:/' | jq -r ".age"
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload   Total     Spent    Left  Speed
100    116    100    116     0     0  46159      0 --:--:-- --:--:-- --:--:-- 58000
25
```

0.5 Wyświetl nazwę miasta, w którym mieszka użytkownik Bob.

```
[user@parrot]~$ curl -X 'GET' 'http://127.0.0.1:5000/user/bob' -H 'accept:/' | jq -r ".city"
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload   Total     Spent    Left  Speed
100    105    100    105     0     0  42321      0 --:--:-- --:--:-- --:--:-- 52500
Krakow
```

0.6 Wyświetl hobby użytkownika Alice.

```
[user@parrot]~$ curl -X 'GET' 'http://127.0.0.1:5000/user/bob' -H 'accept:/' | jq -r ".hobbies"
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload   Total     Spent    Left  Speed
100    105    100    105     0     0  54887      0 --:--:-- --:--:-- --:--:-- 102k
[
  "football",
  "games"
]
```

0.7 Sprawdź, czy jednym z hobby użytkownika Bob są gry.

```
[x]~[user@parrot]~$ curl -X 'GET' 'http://127.0.0.1:5000/user/bob' -H 'accept:/' | jq -r 'any(.hobbies[]; .=="games")'
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload   Total     Spent    Left  Speed
100    105    100    105     0     0  54235      0 --:--:-- --:--:-- --:--:-- 102k
true
```

```
[user@parrot]~$ curl -X 'GET' 'http://127.0.0.1:5000/user/bob' -H 'accept:/' | jq -r '(.hobbies | index("games")) != null'
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload   Total     Spent    Left  Speed
100    105    100    105     0     0  47967      0 --:--:-- --:--:-- --:--:-- 52500
true
```

0.8 Wyświetl pierwsze hobby użytkownika Alice.

```
[user@parrot]~$ curl -X 'GET' 'http://127.0.0.1:5000/user/alice' -H 'accept:/' | jq -r '.hobbies[0]'
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload   Total     Spent    Left  Speed
100    116    100    116     0     0  84733      0 --:--:-- --:--:-- --:--:-- 113k
reading
```

Lista od tyłu V

```
[user@parrot]~$ curl -X 'GET' 'http://127.0.0.1:5000/user/alice' -H 'accept:/' | jq '.hobbies[-1]'
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload   Total   Spent    Left  Speed
100  116  100    116    0     0  11704      0 --:--:-- --:--:-- --:--:-- 12888
"cycling"
```

0.9 Sprawdź, ile hobby ma użytkownik Bob, a ile użytkownik Alice.

```
[user@parrot]~$ curl -X 'GET' 'http://127.0.0.1:5000/user/alice' -H 'accept:/' | jq '.hobbies | length'
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload   Total   Spent    Left  Speed
100  116  100    116    0     0  50434      0 --:--:-- --:--:-- --:--:-- 58000
3
```

Wariant 1: najprostszy (dwa `curl` w jednym poleceniu)

```
bash
echo "lista Alice:" && curl -s http://127.0.0.1:5000/user/alice | jq '.hobbies' && \
echo "lista Bob:" && curl -s http://127.0.0.1:5000/user/bob | jq '.hobbies'
```

Wynik może wyglądać tak:

```
ngern
lista Alice:
[
  "reading",
  "cycling"
]
lista Bob:
[
  "gaming",
  "cooking",
  "travelling"
]
```

Wariant 2: tylko liczba hobby (czyli odpowiedź na polecenie „ile mają”)

```
bash
echo "Alice ma:" $(curl -s http://127.0.0.1:5000/user/alice | jq '.hobbies | length') "hobby" && \
echo "Bob ma:" $(curl -s http://127.0.0.1:5000/user/bob | jq '.hobbies | length') "hobby"
```

Wynik:

```
per
Alice ma: 2 hobby
Bob ma: 3 hobby
```

Wariant 3: w jednym bloku JSON (ładne połączenie)

```
bash
jq -n --argjson alice "$(curl -s http://127.0.0.1:5000/user/alice | jq '.hobbies')" \
--argjson bob "$(curl -s http://127.0.0.1:5000/user/bob | jq '.hobbies')" \
'{"alice": $alice, "bob": $bob}'
```

Wynik:

```
json
{
  "alice": ["reading", "cycling"],
  "bob": ["gaming", "cooking", "travelling"]
}
```

0.10 Wyświetl nazwę użytkownika i miasto jako jeden ciąg znaków, np. "Alice Smith (Warsaw)". Zmodyfikuj polecenie, aby tekst był wyświetlany jako "Alice Smith from Warsaw".

```
[user@parrot]-[~]
→ $curl -X 'GET' 'http://127.0.0.1:5000/user/alice' -H 'accept:/' | jq -r "\(.name) (\(.city))"
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload  Total      Spent    Left     Speed
100    116  100    116    0      0  57142      0 --:--:-- --:--:-- --:--:-- 58000
Alice Smith (Warsaw)
[user@parrot]-[~]
→ $curl -X 'GET' 'http://127.0.0.1:5000/user/alice' -H 'accept:/' | jq -r "\(.name) from \(.city)"
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload  Total      Spent    Left     Speed
100    116  100    116    0      0  34876      0 --:--:-- --:--:-- --:--:-- 38666
Alice Smith from Warsaw
```

0.11 Wyświetl wszystkie przedmioty. Wyświetl nazwy wszystkich przedmiotów.

```
[x]-[user@parrot]-[~]
→ $curl -X 'GET' 'http://127.0.0.1:5000/items' -H 'accept:/' | jq -r
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload  Total      Spent    Left     Speed
100    157  100    157    0      0  58062      0 --:--:-- --:--:-- --:--:-- 78500
[
  {
    "id": 1,
    "name": "itemX",
    "price": 15.99
  },
  {
    "id": 2,
    "name": "superItem",
    "price": 99.9
  },
  {
    "id": 3,
    "name": "item123",
    "price": 5.49
  },
  {
    "id": 4,
    "name": "itemY",
    "price": 29
  }
]
```

```
[user@parrot]-[~]
→ $curl -X 'GET' 'http://127.0.0.1:5000/items' -H 'accept:/' | jq -r '.[].name'
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload  Total      Spent    Left     Speed
100    157  100    157    0      0  78894      0 --:--:-- --:--:-- --:--:-- 153k
itemX
superItem
item123
itemY
```

0.12 Wyświetl przedmioty droższe niż 20 pln.

```
[x]~[user@parrot]~[~]
$curl -X 'GET' 'http://127.0.0.1:5000/items' -H 'accept:/' | jq '.[].price > 20.00'
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload  Total      Spent    Left     Speed
100   157   100   157     0     0   72084      0 --:--:-- --:--:-- --:--:--   78500
false
true
false
true
[user@parrot]~[~]
$curl -X 'GET' 'http://127.0.0.1:5000/items' -H 'accept:/' | jq '.[] | (.price > 20.00)'
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload  Total      Spent    Left     Speed
100   157   100   157     0     0   17963      0 --:--:-- --:--:-- --:--:--   19625
false
true
false
true
```

```
[user@parrot]~[~]
$curl -X 'GET' 'http://127.0.0.1:5000/items' -H 'accept:/' | jq '.[] | select(.price > 20.00)'
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload  Total      Spent    Left     Speed
100   157   100   157     0     0   47880      0 --:--:-- --:--:-- --:--:--   52333
[
  {
    "id": 2,
    "name": "superItem",
    "price": 99.9
  },
  {
    "id": 4,
    "name": "itemY",
    "price": 29
  }
]
[user@parrot]~[~]
$curl -X 'GET' 'http://127.0.0.1:5000/items' -H 'accept:/' | jq '.[] | select(.price > 20.00)]'
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload  Total      Spent    Left     Speed
100   157   100   157     0     0   27485      0 --:--:-- --:--:-- --:--:--   31400
[
  {
    "id": 2,
    "name": "superItem",
    "price": 99.9
  },
  {
    "id": 4,
    "name": "itemY",
    "price": 29
  }
]
```

```
[user@parrot]~]
$ curl -X 'GET' 'http://127.0.0.1:5000/items' -H 'accept:/' | jq ' .[] | select(.price > 20.00) | .name'
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload  Total   Spent    Left  Speed
100    157    100    157     0     0   85792      0 --:--:-- --:--:-- --:--:--   153k
"superItem"
"itemY"
[user@parrot]~]
$ curl -X 'GET' 'http://127.0.0.1:5000/items' -H 'accept:/' | jq ' .[] | select(.price > 20.00) | length'
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload  Total   Spent    Left  Speed
100    157    100    157     0     0   49016      0 --:--:-- --:--:-- --:--:--   52333
3
3
[user@parrot]~]
$ curl -X 'GET' 'http://127.0.0.1:5000/items' -H 'accept:/' | jq '[.[] | select(.price > 20.00)] | length'
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload  Total   Spent    Left  Speed
100    157    100    157     0     0   56272      0 --:--:-- --:--:-- --:--:--   78500
2
```

```
[user@parrot]~]
$ curl -X 'GET' 'http://127.0.0.1:5000/items' -H 'accept:/' | jq 'map(select(.price > 20.00))'
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload  Total   Spent    Left  Speed
100    157    100    157     0     0   69530      0 --:--:-- --:--:-- --:--:--   78500
[
  {
    "id": 2,
    "name": "superItem",
    "price": 99.9
  },
  {
    "id": 4,
    "name": "itemY",
    "price": 29
  }
]
```

0.13 Wyświetl przedmioty tańsze niż 30 pln.

```

[user@parrot]~$ curl -X 'GET' 'http://127.0.0.1:5000/items' -H 'accept:/' | jq 'map(select(.price < 30.00))'
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload   Total   Spent    Left  Speed
100    157  100    157    0     0  68588      0 --:--:-- --:--:-- --:--:-- 78500
[
  {
    "id": 1,
    "name": "itemX",
    "price": 15.99
  },
  {
    "id": 3,
    "name": "item123",
    "price": 5.49
  },
  {
    "id": 4,
    "name": "itemY",
    "price": 29
  }
]

```

0.14 Posortuj przedmioty według ceny rosnąco, a następnie malejąco.

```

[x]~[user@parrot]~$ curl -X 'GET' 'http://127.0.0.1:5000/items' -H 'accept:/' | jq 'sort_by(.price)'
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload   Total   Spent    Left  Speed
100    157  100    157    0     0  46381      0 --:--:-- --:--:-- --:--:-- 52333
[
  {
    "id": 3,
    "name": "item123",
    "price": 5.49
  },
  {
    "id": 1,
    "name": "itemX",
    "price": 15.99
  },
  {
    "id": 4,
    "name": "itemY",
    "price": 29
  },
  {
    "id": 2,
    "name": "superItem",
    "price": 99.9
  }
]

```



```
[user@parrot]~$ curl -X 'GET' 'http://127.0.0.1:5000/items' -H 'accept:/' | jq 'sort_by(.price) | reverse'
```

% Total	% Received	% Xferd	Average	Speed	Time	Time	Time	Current
			Dload	Upload	Total	Spent	Left	Speed
100	157	100	157	0	0	31813	0	--:--:-- --:--:-- --:--:-- 39250

```
[
  {
    "id": 2,
    "name": "superItem",
    "price": 99.9
  },
  {
    "id": 4,
    "name": "itemY",
    "price": 29
  },
  {
    "id": 1,
    "name": "itemX",
    "price": 15.99
  },
  {
    "id": 3,
    "name": "item123",
    "price": 5.49
  }
]
```

0.15 Pobierz sumę cen wszystkich przedmiotów.

```
[x]-[user@parrot]~$ curl -X 'GET' 'http://127.0.0.1:5000/items' -H 'accept:/' | jq 'map(.price) | add'
```

% Total	% Received	% Xferd	Average	Speed	Time	Time	Time	Current
			Dload	Upload	Total	Spent	Left	Speed
100	157	100	157	0	0	65994	0	--:--:-- --:--:-- --:--:-- 78500

150.38

0.16 Wyświetl przedmioty, których nazwa zawiera "item".

```
[user@parrot]~$ curl -X 'GET' 'http://127.0.0.1:5000/items' -H 'accept:/' | jq '.[ ] | select(.name | test("item"))'
```

% Total	% Received	% Xferd	Average	Speed	Time	Time	Time	Current
			Dload	Upload	Total	Spent	Left	Speed
100	157	100	157	0	0	71624	0	--:--:~ --:~:~ --:~:~ 78500

```
[
  {
    "id": 1,
    "name": "itemX",
    "price": 15.99
  },
  {
    "id": 3,
    "name": "item123",
    "price": 5.49
  },
  {
    "id": 4,
    "name": "itemY",
    "price": 29
  }
]
```

Z ingorowaniem wielkości liter V

```
[user@parrot]~$ curl -X 'GET' 'http://127.0.0.1:5000/items' -H 'accept:/' | jq '.[] | select(.name | test("item"; "i"))'
```

% Total	% Received	% Xferd	Average	Speed	Time	Time	Time	Current
			Dload	Upload	Total	Spent	Left	Speed
100	157	100	157	0	0	64849	0	--:--:-- --:--:-- --:--:-- 78500

```
{
  "id": 1,
  "name": "itemX",
  "price": 15.99
}
{
  "id": 2,
  "name": "superItem",
  "price": 99.9
}
{
  "id": 3,
  "name": "item123",
  "price": 5.49
}
{
  "id": 4,
  "name": "itemY",
  "price": 29
}
```

0.17 Wyświetl przedmioty w przedziale cenowym 10-30 pln.

```
[user@parrot]~$ curl -X 'GET' 'http://127.0.0.1:5000/items' -H 'accept:/' | jq 'map(select(.price >= 10.00 and .price <= 30.00))'
```

% Total	% Received	% Xferd	Average	Speed	Time	Time	Time	Current
			Dload	Upload	Total	Spent	Left	Speed
100	157	100	157	0	0	57614	0	--:--:-- --:--:-- --:--:-- 78500

```
[
  {
    "id": 1,
    "name": "itemX",
    "price": 15.99
  },
  {
    "id": 4,
    "name": "itemY",
    "price": 29
  }
]
```

0.18 Wyświetl użytkowników, którzy mają więcej niż 2 hobby.

0.19 Wyślij do serwera request typu POST (endpoint /echo) i wyświetl odpowiedź.

```
[x]~[user@parrot]~$ curl -X 'POST' 'http://localhost:5000/echo' -H 'accept:/' -H 'Content-Type: application/json' -d '{}'
```

```
{"received":{}}
```

0.20 Wyślij do serwera request typu POST, który doda nowy przedmiot (użyj endpointa /items). Wyświetl wszystkie przedmioty po dodaniu.

```
[user@parrot]~[~]
$ curl -X 'POST' 'http://localhost:5000/items' -H 'accept:/' -H 'Content-Type: application/json' -d '{"id":5, "name":"item5", "price":15}'
{"id":5,"name":"item5","price":15}
[user@parrot]~[~]
$ curl -X 'GET' 'http://localhost:5000/items' -H 'accept: */*'
[{"id":1,"name":"itemX","price":15.99},{id:2,"name":"superItem","price":99.9},{id:3,"name":"item123","price":5.49},{id:4,"name":"itemY","price":29.0},{id:5,"name":"item5","price":15}]
```

0.21 Za pomocą requestu typu PUT, aktualizuj cenę przedmiotu o numerze 1. Wyświetl wszystkie przedmioty.

```
[user@parrot]~[~]
$ curl -X 'PUT' 'http://localhost:5000/items/1' -H 'Content-Type: application/json' -d '{"name":"newname", "price":90}'
{"id":1,"name":"newname","price":90}
[user@parrot]~[~]
$ curl -X 'GET' 'http://localhost:5000/items' -H 'accept: */*'
[{"id":1,"name":"newname","price":90},{id:2,"name":"superItem","price":99.9},{id:3,"name":"item123","price":5.49},{id:4,"name":"itemY","price":29.0},{id:5,"name":"item5","price":15}]
```

0.22 Za pomocą requestu typu DELETE, usuń przedmiot o numerze 3. Wyświetl wszystkie przedmioty.

```
[user@parrot]~[~]
$ curl -X DELETE http://localhost:5000/items/1
{"result":"Item deleted if existed"}
[user@parrot]~[~]
$ curl -X 'GET' 'http://localhost:5000/items' -H 'accept: */*'
[{"id":2,"name":"superItem","price":99.9},{id:3,"name":"item123","price":5.49},{id:4,"name":"itemY","price":29.0},{id:5,"name":"item5","price":15}]
```

0.23 Wyświetl przedmiot o największej cenie.

```
[user@parrot]~[~]
$ curl -X 'GET' 'http://localhost:5000/items' -H 'accept:/' | jq 'max_by(.price | tonumber)'
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload  Total   Spent    Left  Speed
100  158  100  158    0     0  108k      0 --:--:-- --:--:-- --:--:--  154k
{
  "id": 2,
  "name": "superItem",
  "price": 99.9
}
```

0.24 Wyświetl wszystkie przedmioty z ceną podwyższoną o 10%.

```
[user@parrot]~[~]
$ curl -X 'GET' 'http://localhost:5000/items' -H 'accept:/' | jq 'map(.price | tonumber * 1.1)'
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload  Total   Spent    Left  Speed
100  158  100  158    0     0  14342      0 --:--:-- --:--:-- --:--:--  14363
[
  109.89000000000001,
  6.039000000000001,
  31.900000000000002,
  16.5
]
```

```

[user@parrot]~$ curl -X 'GET' 'http://localhost:5000/items' -H 'accept:/' | jq 'map(.price = (.price | tonumber * 1.1))'
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload   Total   Spent    Left  Speed
100    158    100    158     0     0  81950      0 --:--:-- --:--:-- --:--:--   154k
[
  {
    "id": 2,
    "name": "superItem",
    "price": 109.89000000000001
  },
  {
    "id": 3,
    "name": "item123",
    "price": 6.039000000000001
  },
  {
    "id": 4,
    "name": "itemY",
    "price": 31.900000000000002
  },
  {
    "id": "5",
    "name": "item5",
    "price": 16.5
  }
]

```

0.25 Pobierz nazwy wszystkich użytkowników i ich wiek.

0.26 Wyświetl hobby Alice jako string połączony przecinkami.

```

[user@parrot]~$ curl -X 'GET' 'http://localhost:5000/user/alice' | jq '.hobbies | join(", ")'
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload   Total   Spent    Left  Speed
100    116    100    116     0     0  39549      0 --:--:-- --:--:-- --:--:--   58000
"reading, chess, cycling"

```

0.27 Pobierz pierwszy i ostatni przedmiot z listy.

```
[user@parrot]~  
$ curl -s 'http://localhost:5000/items' | jq '. | [.[0], .[-1]]'  
[  
  {  
    "id": 2,  
    "name": "superItem",  
    "price": 99.9  
  },  
  {  
    "id": "5",  
    "name": "item5",  
    "price": "15"  
  }  
]
```

0.28 Sprawdź, czy są przedmioty droższe niż 100 pln.

```
[user@parrot]~  
$ curl -s 'http://localhost:5000/items' | jq '.[ ] | select((.price | tonumber) > 100)'
```

0.29 Utwórz nowy przedmiot za pomocą POST /items. Wyświetl odpowiedź serwera i następnie listę wszystkich przedmiotów.

0.30 Zaktualizuj przedmiot id=2. Wyświetl odpowiedź serwera i następnie listę wszystkich przedmiotów.