

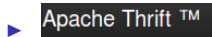
Formal schema definitions

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Spil Games

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Binary protocols

With schema more efficient (no boxing)



▶ More?

VS

Textual protocols

(Since) Old days: XML.

Textual protocols

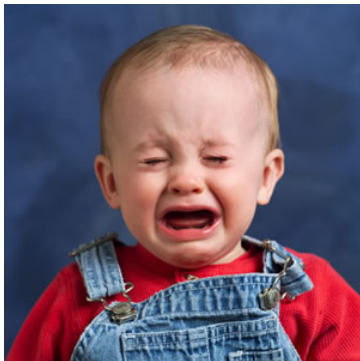
(Since) Old days: XML.

- ▶ SOAP, XSD

Textual protocols

(Since) Old days: XML.

- ▶ SOAP, XSD



We need something for JSON

```
curl -XGET 'http://localhost:9200/test/range/_search?pretty=true' -d '{
  "query" : {
    "range" : {
      "age" : {
        "from" : "10",
        "to" : "20",
        "include_lower" : true,
        "include_upper": true
      }
    }
  }
}
```

Example from Elasticsearch API

json schema

- ▶ Who's heard of it?
- ▶ (personal opinion) like XSD for XML.



```
.custom-field erlang-type-prefix
.erlang-type-prefix ""

.record [
    .name person
    .field [ .name name .type string ]
    .field [ .name id .type int ]
    .field [ .name email .type string .optional ]
    .field [ .name phone .type phone-number .repeated ]
]

.record [
    .name phone-number
    .field [ .name number .type string ]
    .field [ .name type .type phone-type .optional .default.home ]
]

.enum [
    .name phone-type
    .option [ .name mobile ]
    .option [ .name home ]
    .option [ .name work ]
]

.list [ .name person-list .type person ]
```

Python API is extends gpb api

```
>>> p1 = person()
>>> p1.id = 0
>>> p1.name = "J. Random Hacker"
>>> p1.email = "j.r.hacker@example.com"
>>> n1 = p1.phone.add()
>>> n1.type = home; n1.number = "(111) 123 45 67"
>>> p1.SerializeToJson()
'{'
  "name": "J. Random Hacker",
  "id": 0,
  "email": "j.r.hacker@example.com",
  "phone": [{"number": "(111) 123 45 67", "type": "work"}]
}'
>>> p1.SerializeToXML()
'<?xml version="1.0" encoding="UTF-8"?>
<value>
  <name>J. Random Hacker</name>
  <id>0</id>
  <email>j.r.hacker@example.com</email>
  <phone>
    <number>(111) 123 45 67</number>
    <type>work</type>
  </phone>
</value>'
>>> p1.SerializeToString()
# serialize to gpb. Terminal hangs.
```

Show time

- ▶ GET via json/xml

Show time

- ▶ GET via json/xml
- ▶ show service definition

Python status

- ▶ Started two days ago
- ▶ Now going on holiday

Python status

- ▶ Started two days ago
- ▶ Now going on holiday
- ▶ I'm doing Erlang at work
- ▶ Ping me on piqi mailing

Links

- ▶ `piqi.org`
- ▶ `groups.google.com/group/piqi`
- ▶ `github.com/Motiejus/ep2013`
- ▶ `@mo_kelione`