

YANG Schema registry integration update

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Registering new yang schema

We use the same message format to register new YANG schema as other formats: AVRO, JSON, and ProtoBuf.

```
{  
  "schemaType": "YANG",  
  "references": [  
    {  
      "name": "module-name",  
      "subject": "registered subject name",  
      "version": 1  
    }  
  ],  
  "schema": "... yang schema text"  
}
```

YANG Schema Provider

- We're contributing yang-schema-provider to Confluent schema registry
- We used the following external dependencies
 - Yangkit for parsing and validating YANG models <https://github.com/yang-central/yangkit>
 - yang-comparator for backward compatibility checks <https://github.com/HuaweiDatacomm/yang-comparator>

Registering: Common YANG types

- RFC 6021
 - `curl -X POST -H "Content-Type: application/vnd.schemaregistry.v1+json" -d @ietf-yang-types@2010-09-24.json http://localhost:8081/subjects/ietf-yang-types/versions`
- RFC 6991
 - `curl -X POST -H "Content-Type: application/vnd.schemaregistry.v1+json" -d @ietf-yang-types@2013-07-15.json http://localhost:8081/subjects/ietf-yang-types/versions`

Checking the registered schemas

- Listing all subjects
 - curl <http://localhost:8081/subjects/> | jq
- Checking the versions of a given subjects
 - curl <http://localhost:8081/subjects/ietf-yang-types/versions>
- Retrieving the registered schema
 - curl <http://localhost:8081/subjects/ietf-yang-types/versions/1>

Registering: IETF Interfaces

- RFC 7223
 - `curl -X POST -H "Content-Type: application/vnd.schemaregistry.v1+json" -d @ietf-interfaces@2014-05-08.json http://localhost:8081/subjects/ietf-interfaces/versions`
- RFC 8343: This will fail since the new version is not backward compatible
 - `curl -X POST -H "Content-Type: application/vnd.schemaregistry.v1+json" -d @ietf-interfaces@2018-02-20.json http://localhost:8081/subjects/ietf-interfaces/`

Next steps

- Contribute the current code upstream to <https://github.com/confluentinc/schema-registry>
- Develop Serialization/Deserialization libraries for Java
- Develop Serialization/Deserialization libraries for C