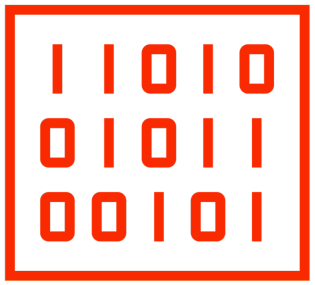
Exploring AVRO

Bogdan Sucaciu
SOFTWARE ENGINEER

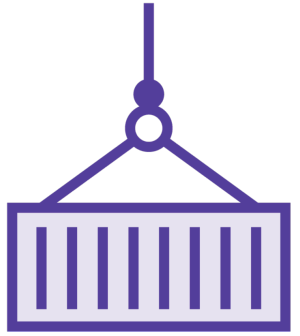
@BSucaciu bsucaciu.com

AVRO Features

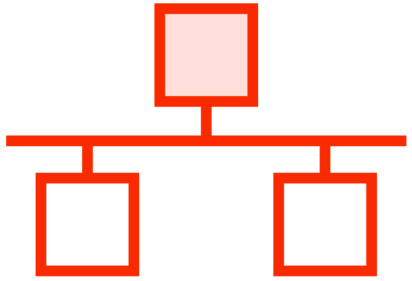
Rich Data Structures



Compact Binary Data



Container File



RPC

Integration

Schemas

AVRO Features

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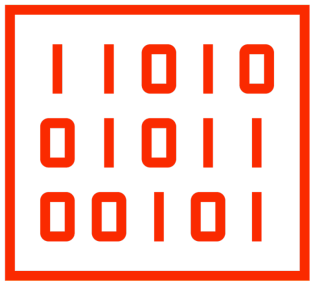

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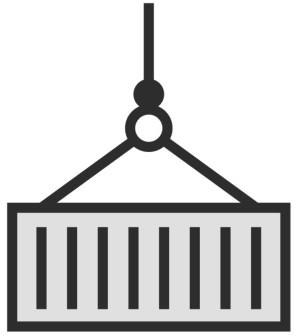

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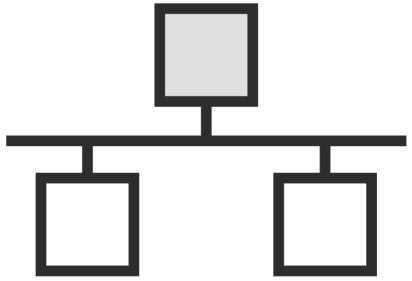

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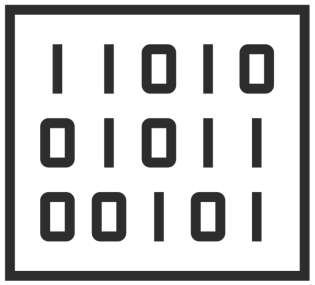

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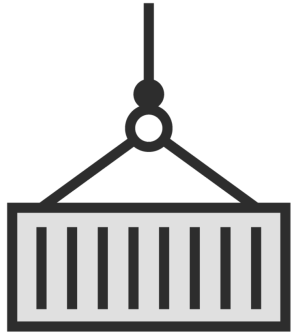

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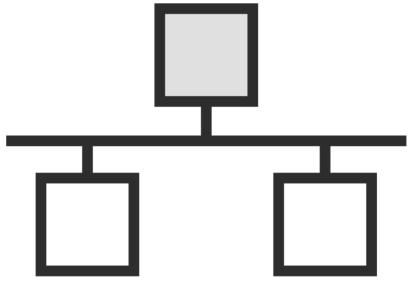

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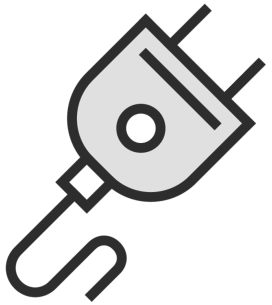

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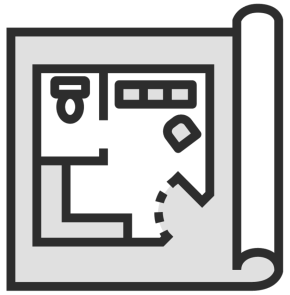

Schemas

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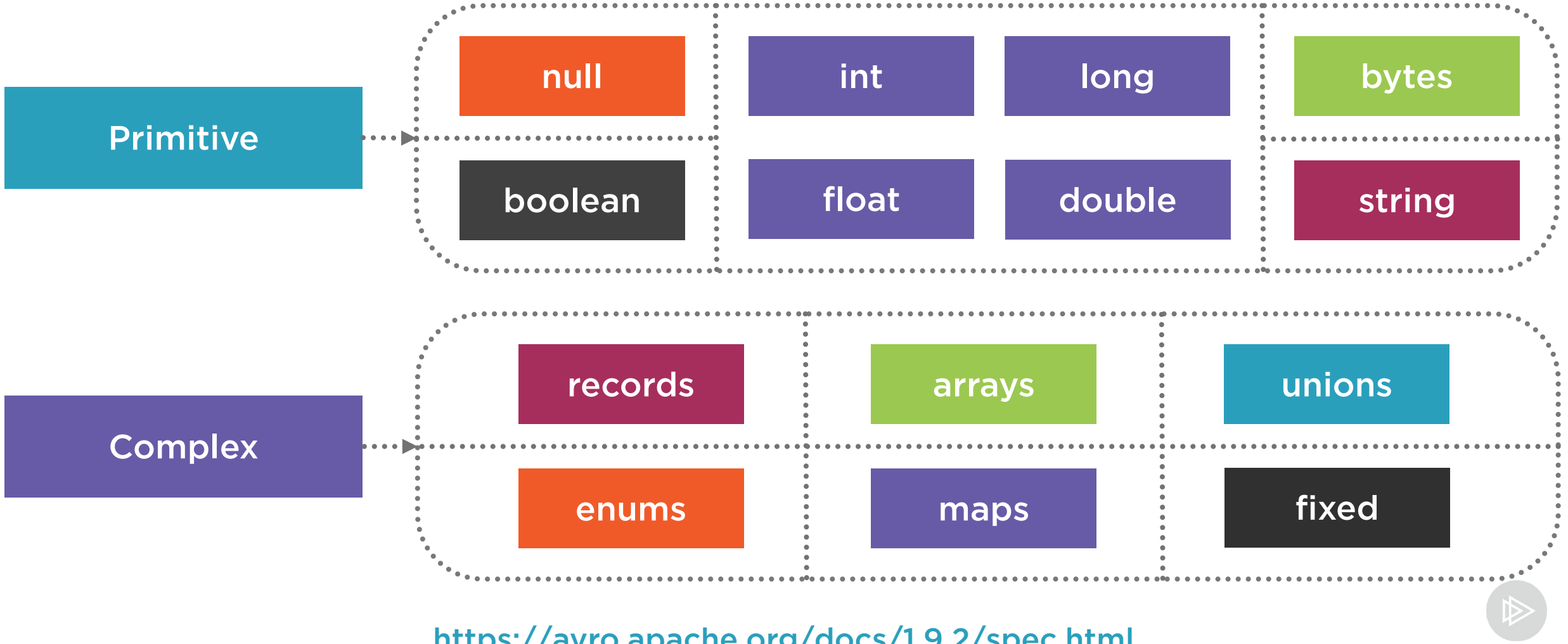

https://avro.apache.org/docs/1.9.2/spec.html

AVRO Features

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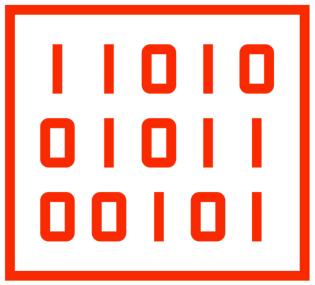

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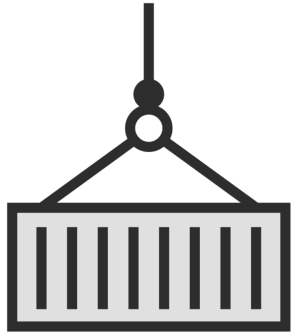

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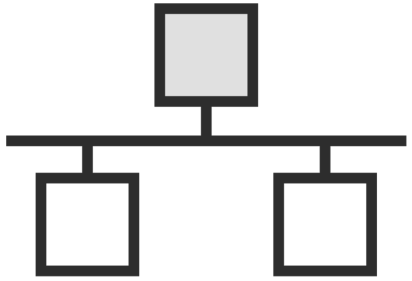

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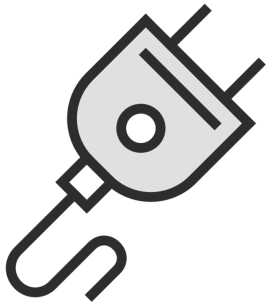

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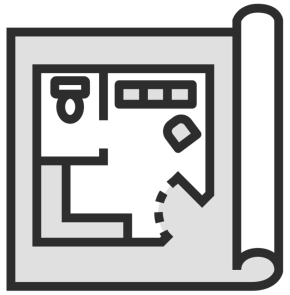

Schemas

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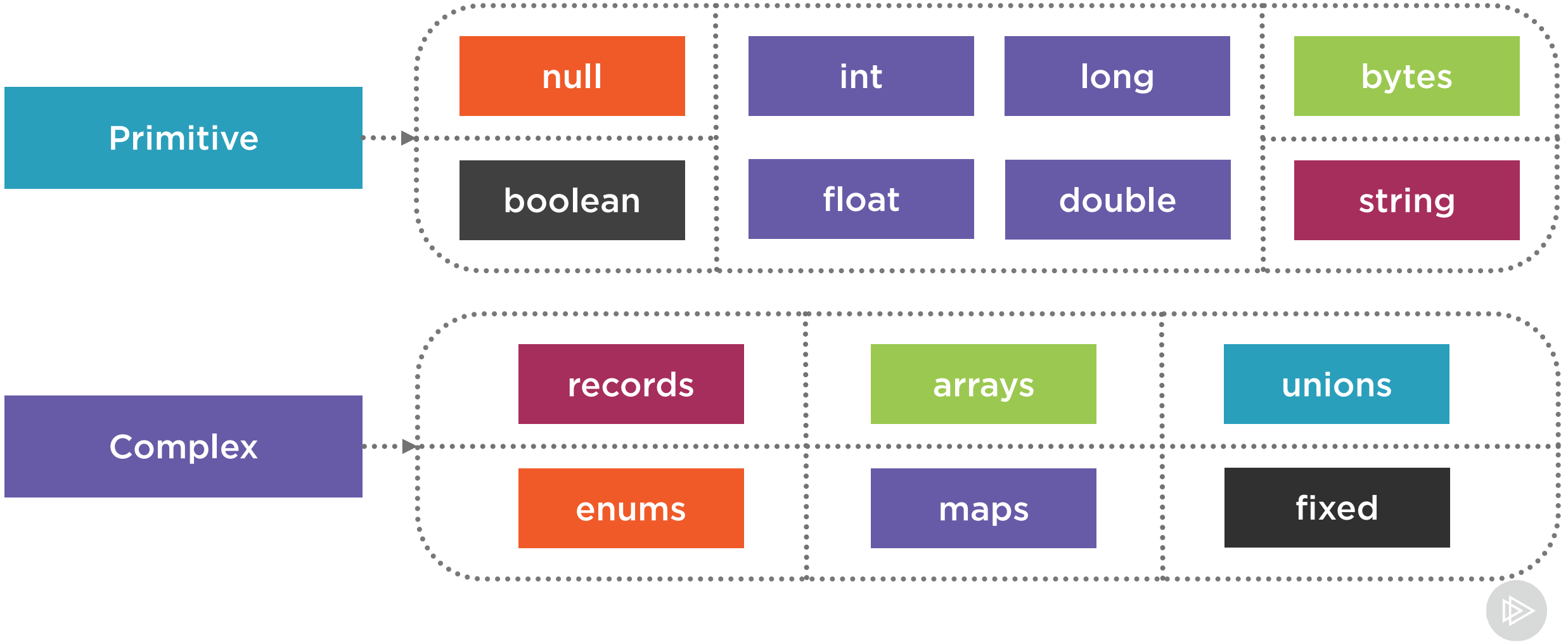

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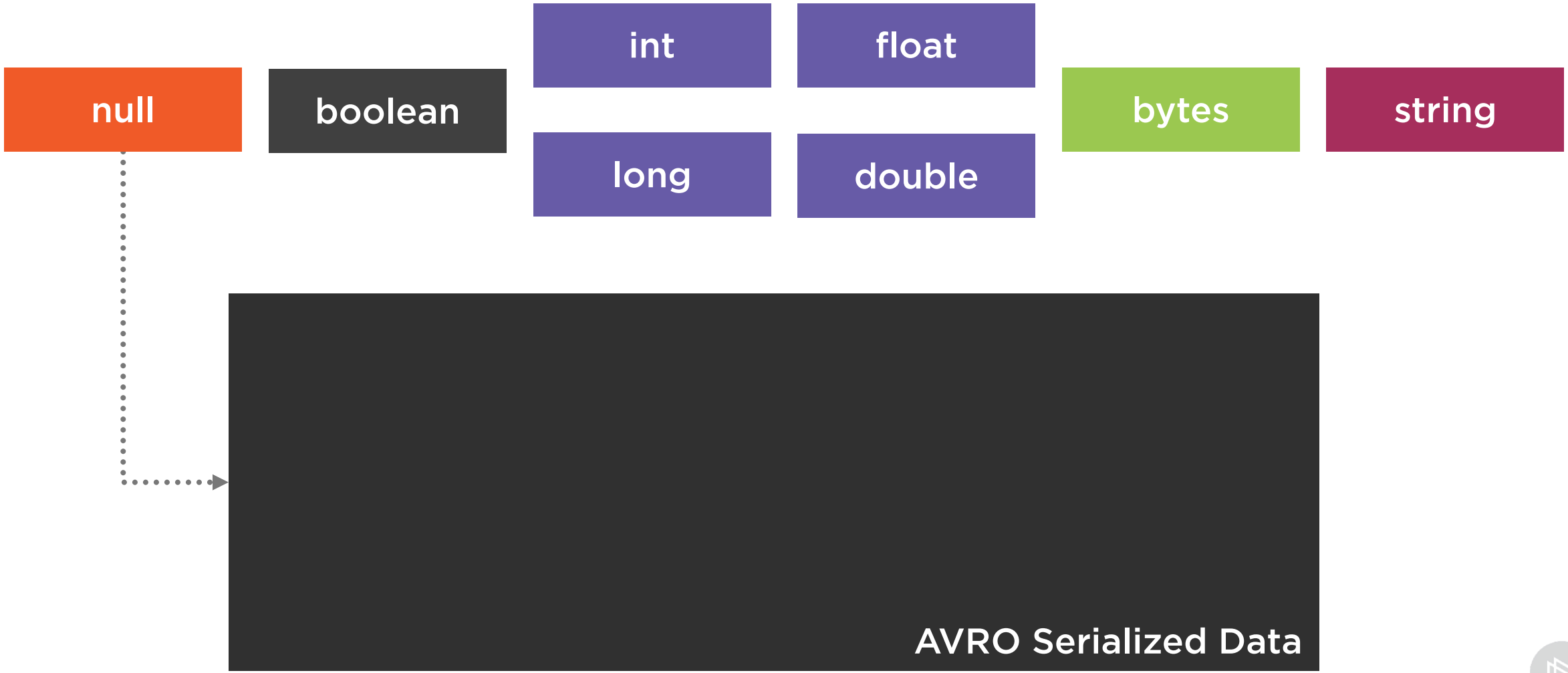

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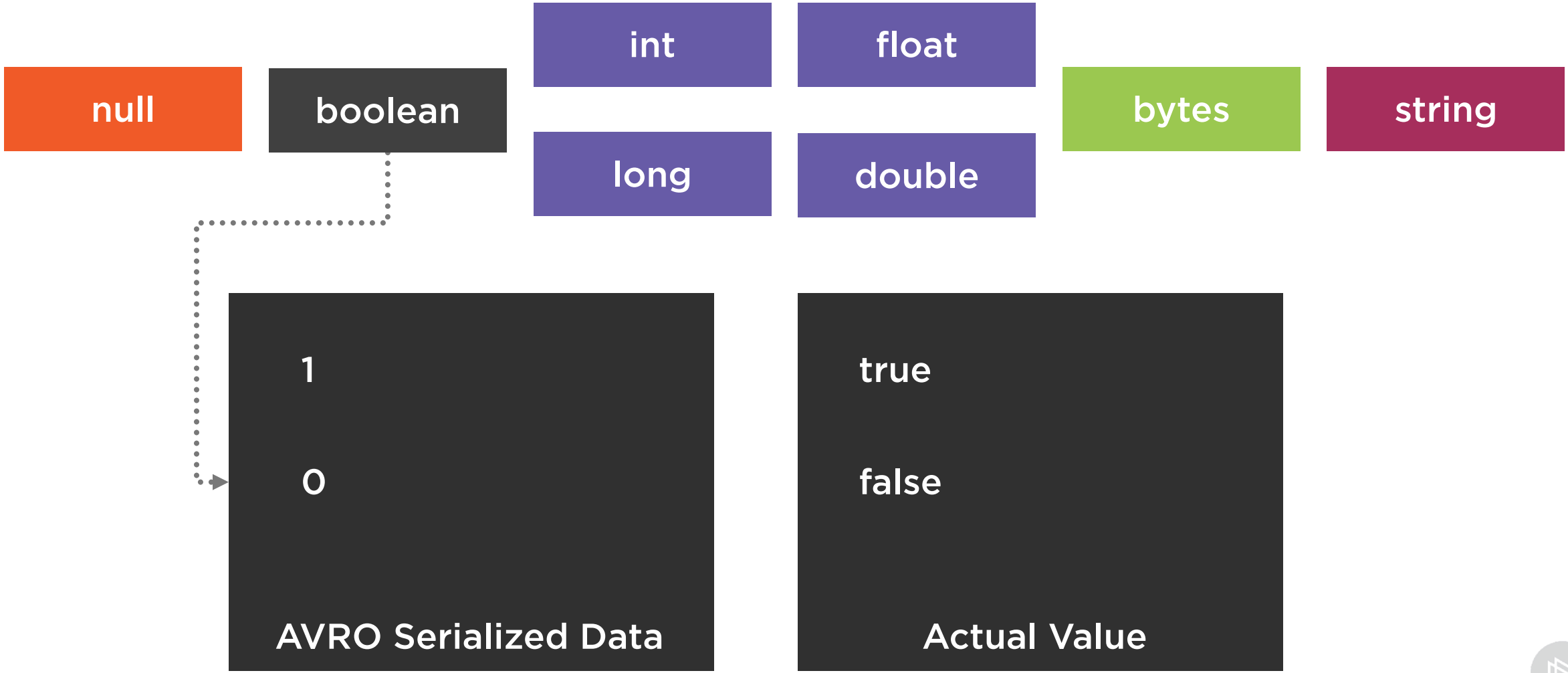

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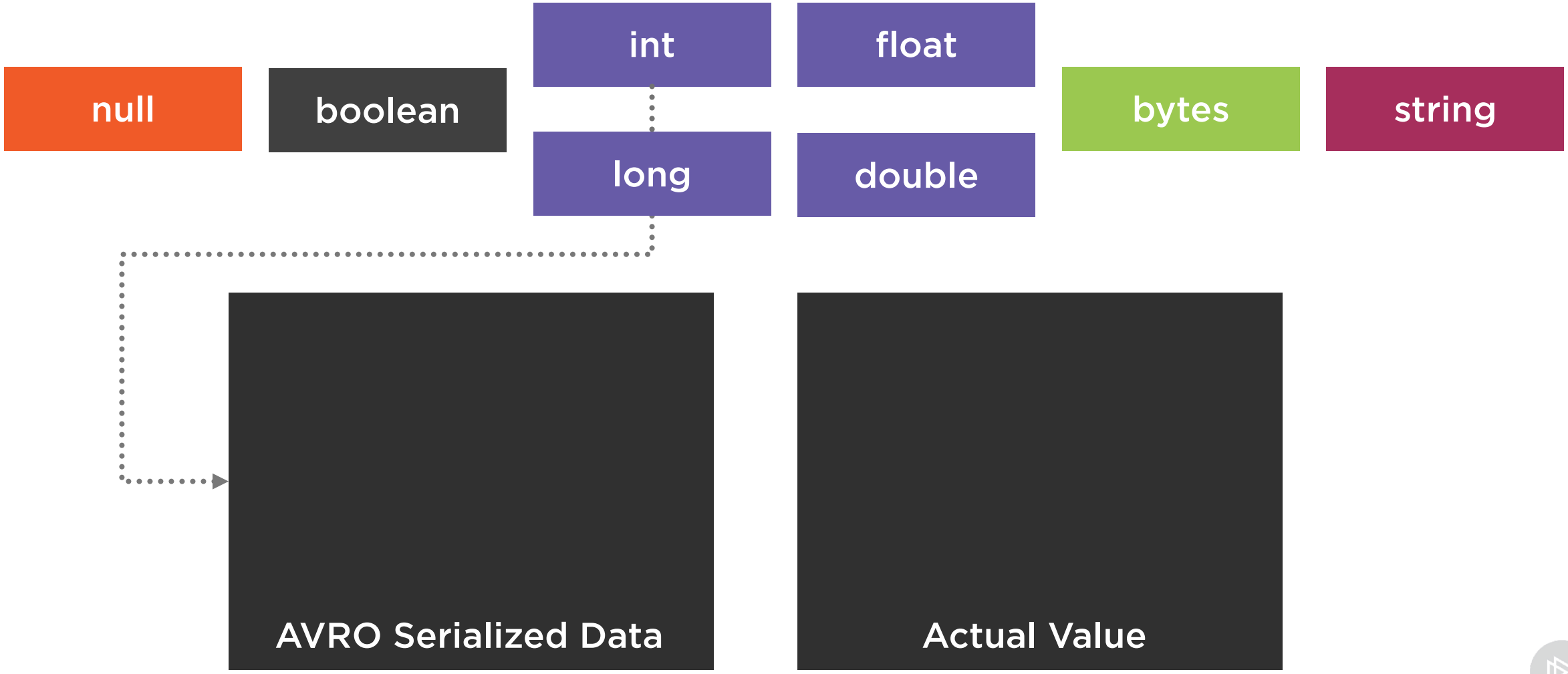
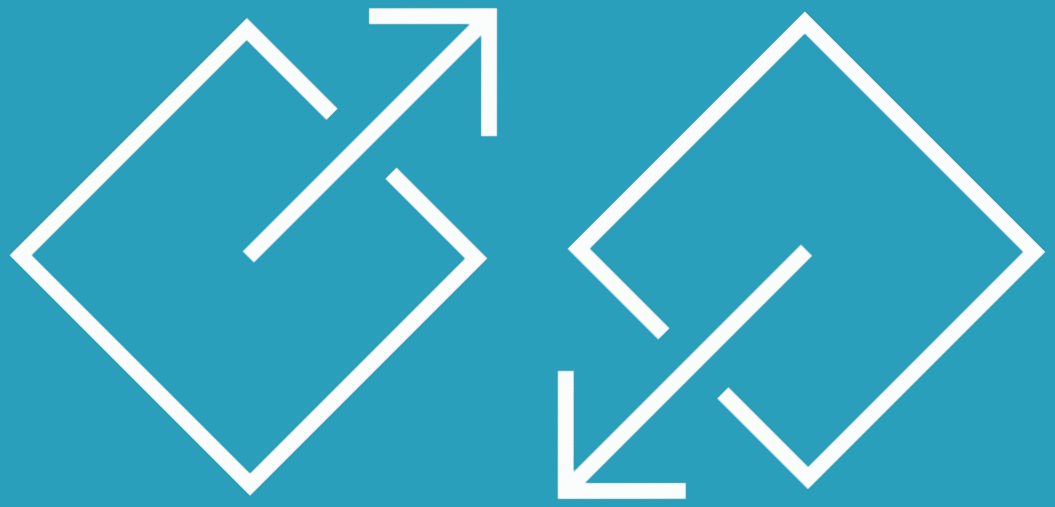
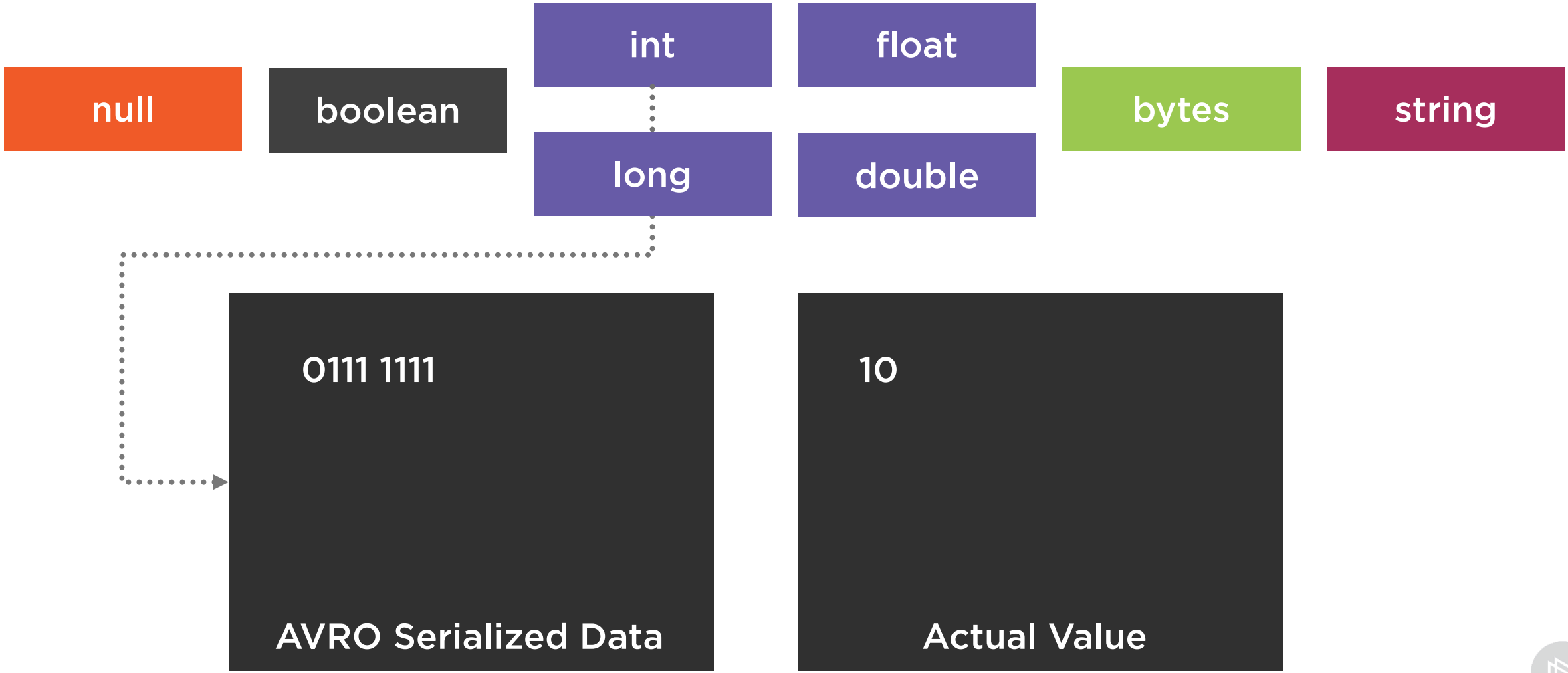




Variable-length zig-zag encoding

Value	Hex
0	00
-1	01
1	02
-2	03
2	04
...	...

Compact Binary Data



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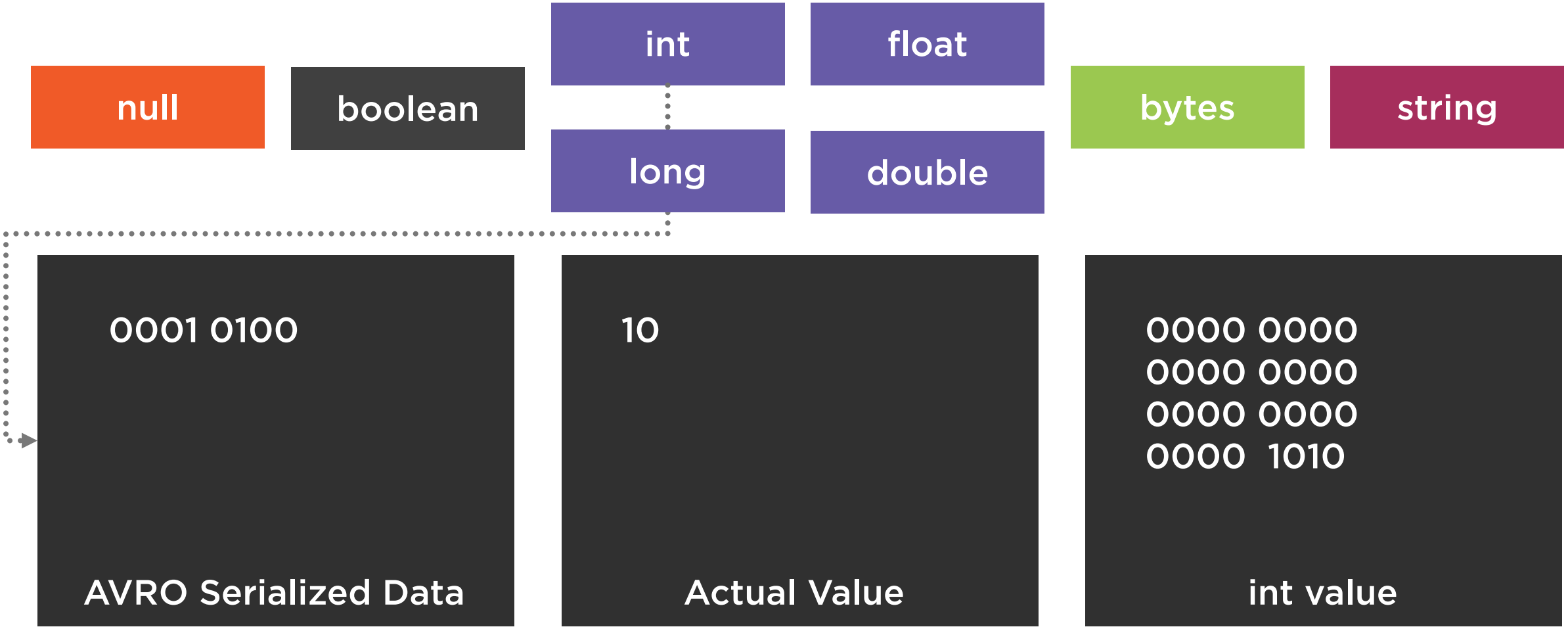

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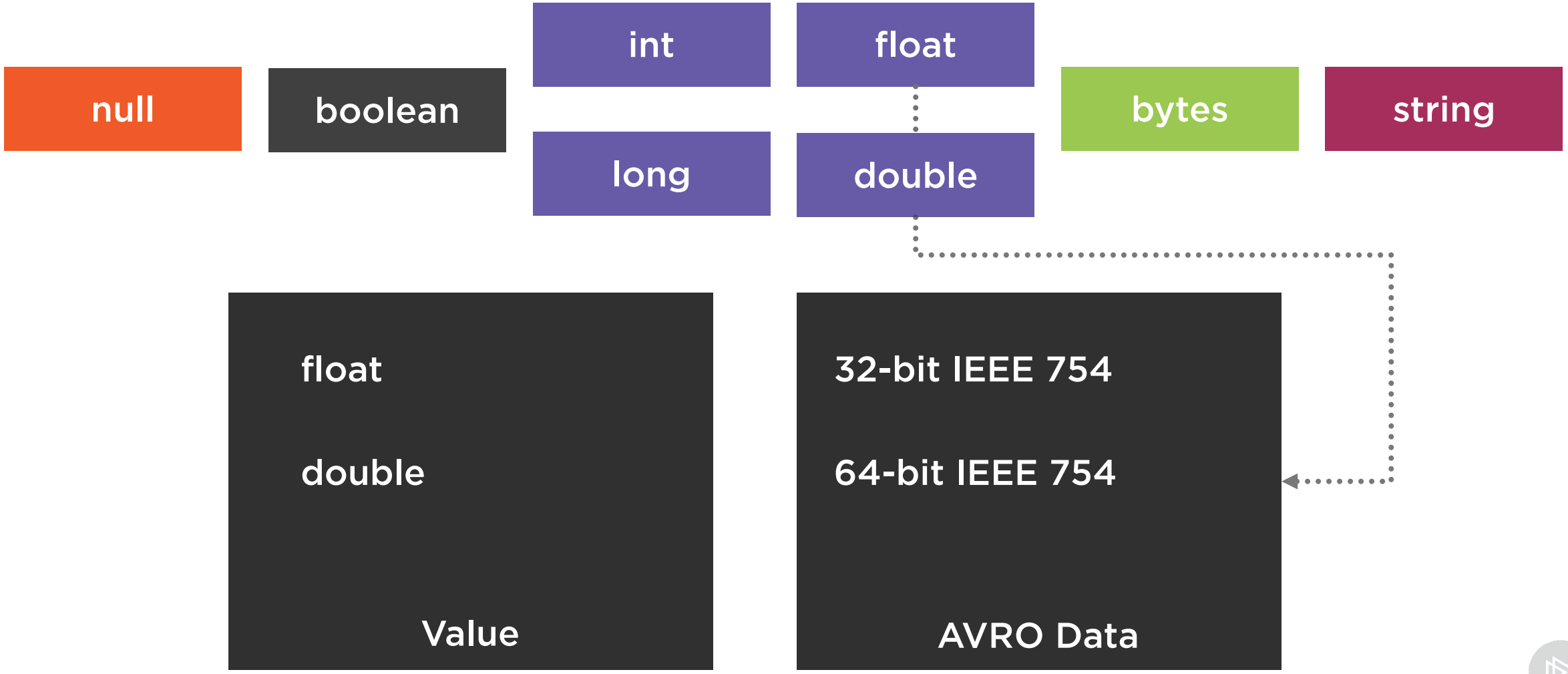

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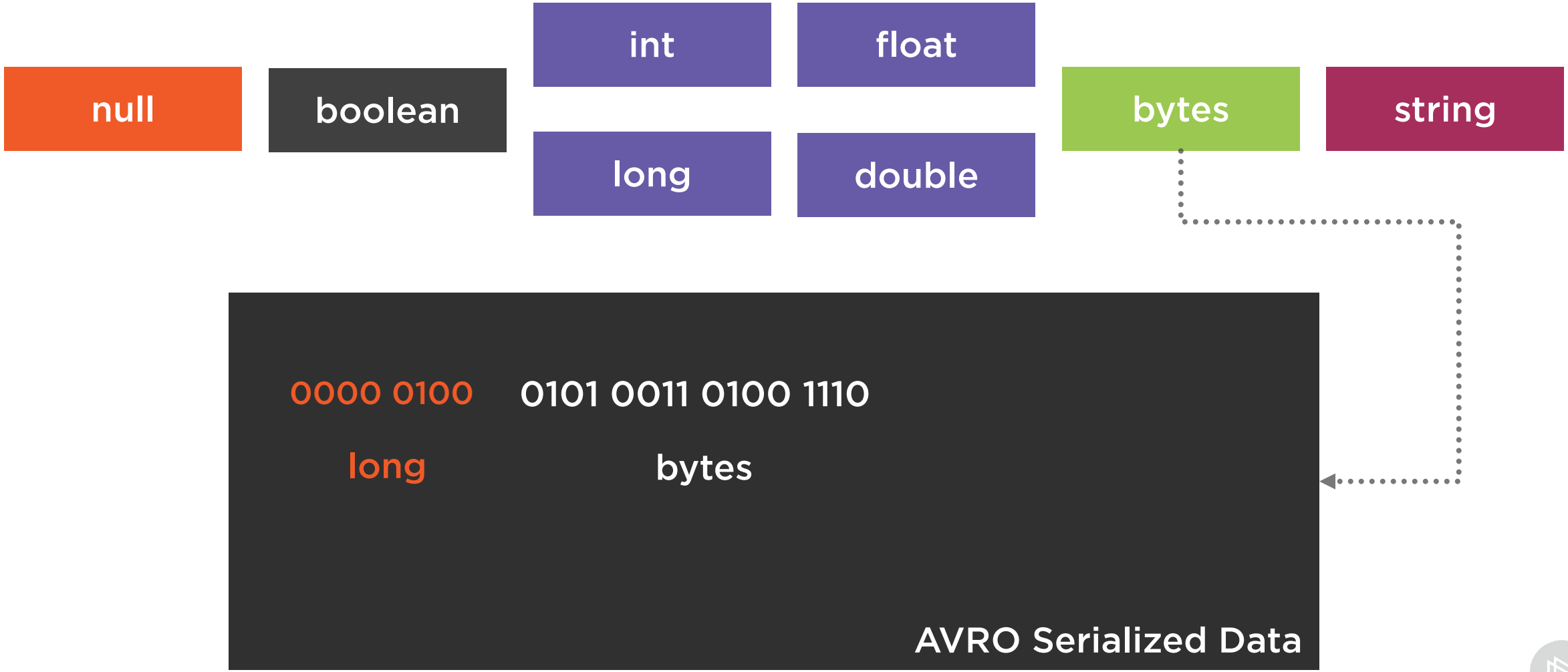

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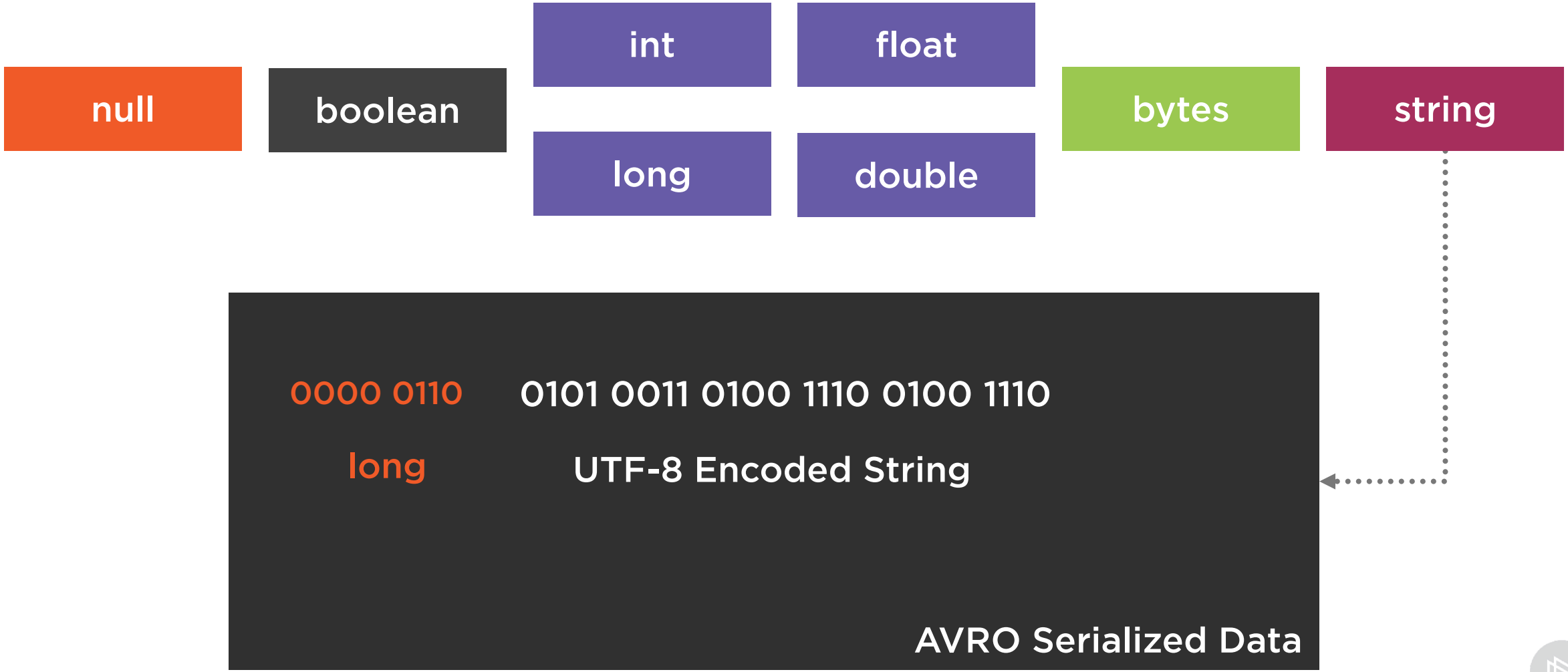

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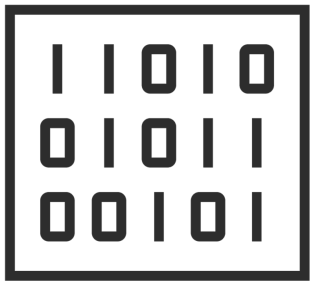

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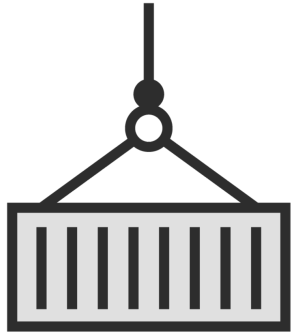

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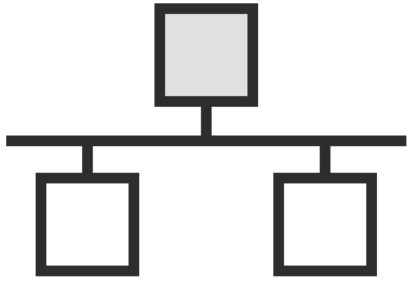

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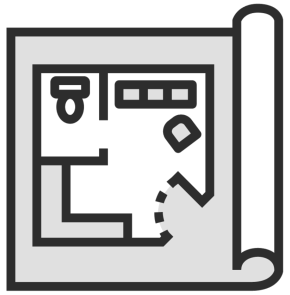
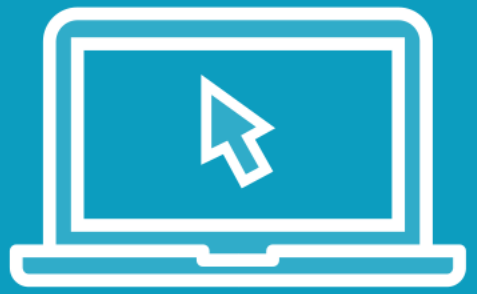


Schemas

Demo



Java integration

Set up Schema Repository

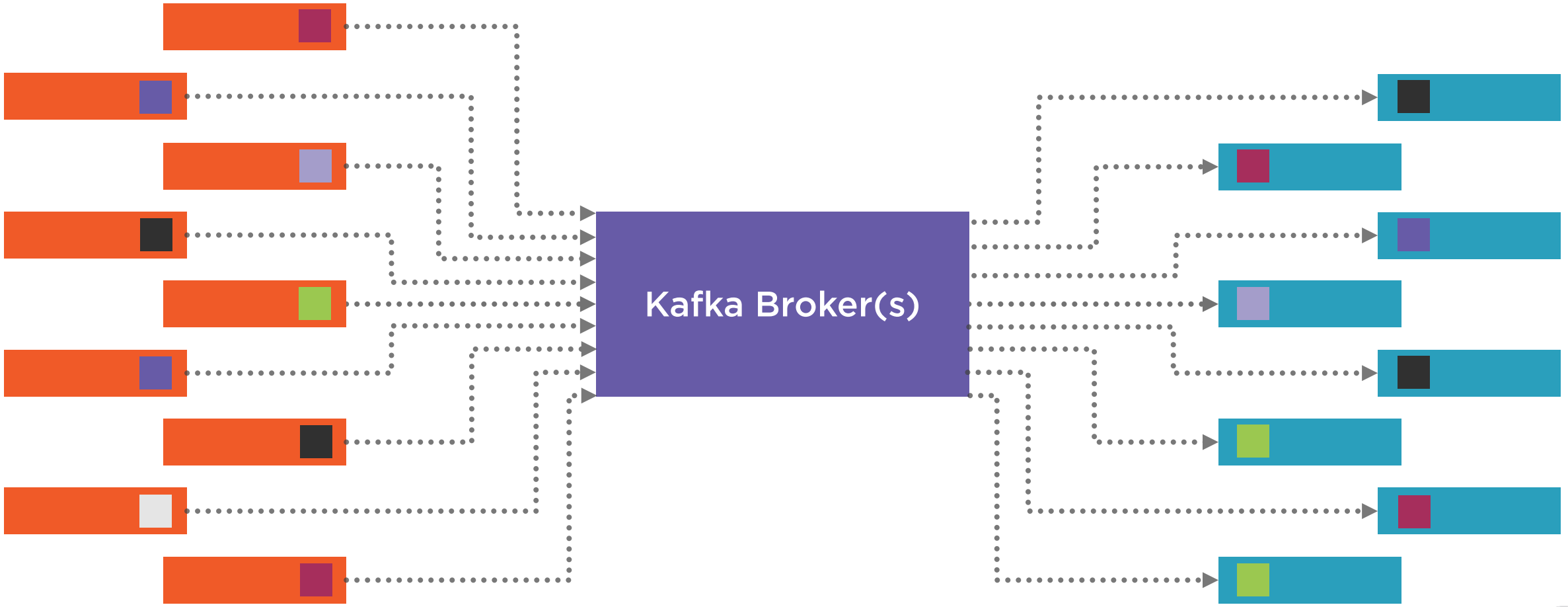
Kafka-powered System

Microservices

Data Pipelines

Kafka-powered System

Kafka-powered System



Centralized Schema Repository

Schemas

AVRO Schema

Schema.avsc

```
{
  "type": "string"
}
```

AVRO Schema

Schema.avsc

```
{
  "name": ”Schema",
  "namespace": "com.pluralsight",
  …
}
```

AVRO Schema

Schema.avsc

```
{
  "name": ”Schema",
  "namespace": "com.pluralsight",
  "type": ”record”,
  ...
}
```

AVRO Schema

Schema.avsc

```
{
  "name": ”Schema",
  "namespace": "com.pluralsight",
  "type": "record",
  "fields": [
  ...
  ]
}
```

AVRO Schema

Schema.avsc

```
{
  "name": ”Schema",
  "namespace": "com.pluralsight",
  "type": "record",
  "fields": [
    {
      "name": ”age",
      "type": "int"
    },
    ...
  ]
}
```

AVRO Schema

Schema.avsc

```
{
  "name": ”Schema",
  "namespace": "com.pluralsight",
  "type": "record",
  "fields": [
    {
      "name": ”address",
      "type": "record",
      "fields": [
        ...
      ]
    },
    ...
  ]
}
```

AVRO Schema

Schema.avsc

```
{
  "name": ”Schema",
  "namespace": "com.pluralsight",
  "type": "record",
  "fields": [
    {
      "name": "daysOfTheWeek",
      "type": "enum",
      "symbols": ["MON", ”TUE", ”WEN", ”THU", ”FRI", ”SAT", ”SUN"]
    },
    ...
  ]
}
```

AVRO Schema

Schema.avsc

```
{
  "name": ”Schema",
  "namespace": "com.pluralsight",
  "type": "record",
  "fields": [
    {
      "name": ”middleName",
      "type": ["null", "string"]
    },
    ...
  ]
}
```

AVRO Schema

Schema.avsc

```
{
  "name": ”Schema",
  "namespace": "com.pluralsight",
  "type": "record",
  "fields": [
    {
      "name": "md5",
      "type": "fixed",
      "size": 16
    },
    ...
  ]
}
```

Demo

AVRO schemas

Produce / Consume using AVRO

Summary

AVRO features

Building schemas