

# chapter9

## PUT create\_pipeline\_range\_ratio

http://localhost:9200/\_ingest/pipeline/range\_ratio

### HEADERS

Content-Type

application/json

accept

application/json

### BODY

```
{
  "description": "calculate the range of high and low and divide by the close price",
  "processors": [
    {
      "script": {
        "source": "ctx.range_ratio = (ctx.high-ctx.low)/ctx.close"
      }
    }
  ]
}
```

### Example Request

create pipeline range ratio

```
curl --location --request PUT "http://localhost:9200/_ingest/pipeline/range_ratio" --header "Content-Type: application/json" --header "accept: application/json" --data '${ "description": "calculate the range of high and low and divide by the close price", "processors": [ { "script": { "source": "ctx.range_ratio = (ctx.high-ctx.low)/ctx.close" } } ] }'
```

## DEL delete\_pipeline\_range\_ratio

http://localhost:9200/\_ingest/pipeline/range\_ratio

## HEADERS

Content-Type

application/json

accept

application/json

BODY

```
{
  "description": "calculate the range of high and low and divide by the close price",
  "processors": [
    {
      "set": {
        "field": "range_ratio",
        "value": "({{high}}-{{low}})/{{close}}"
      }
    }
  ]
}
```

## Example Request

delete\_pipeline\_range\_ratio

```
curl --location --request DELETE "http://localhost:9200/_ingest/pipeline/range_ratio"
--header "Content-Type: application/json" --header "accept: application/json" --data
'{"description": "calculate the range of high and low and divide by the close price", "processors": [ { "set": { "field": "range_ratio", "value": "({{high}}-{{low}})/{{close}}" } } ] }'
```

## DEL delete\_pipeline\_wildcard\_expression

http://localhost:9200/\_ingest/pipeline/range\_ratio\*

## HEADERS

Content-Type

application/json

accept

application/json

## BODY

```
{
  "description": "calculate the range of high and low and divide by the close price",
  "processors": [
    {
      "set": {
        "field": "range_ratio",
        "value": "({{high}}-{{low}})/{{close}}"
      }
    }
  ]
}
```

## Example Request

### delete\_pipeline\_wildcard\_expression

```
curl --location --request DELETE "http://localhost:9200/_ingest/pipeline/range_ratio*"
--header "Content-Type: application/json" --header "accept: application/json" --data
$'{  "description": "calculate the range of high and low and divide by the close price",
  "processors": [ { "set": { "field": "range_ratio", "value": "({{high}}-{{low}})/{{close}}" } } ] }'
```

## POST simulate\_pipeline\_range\_ratio

http://localhost:9200/\_ingest/pipeline/range\_ratio/\_simulate

## HEADERS

### Content-Type

application/json

### accept

application/json

## BODY

```
{
  "docs" : [
    { "_source": { "date": "2018-12-26", "open": 24.8706, "high": 25.6553,
"low": 24.7117, "close": 25.6553, "volume": 422158, "unadjustedVolume": 422158,
"change": 0.84425, "changePercent": 3.403, "vwap": 25.2926, "label": "Dec 26, 18",
"changeOverTime": 0, "symbol": "ACWF"}}
```

```
}  
}
```

## Example Request

### simulate\_pipeline\_range\_ratio

```
curl --location --request POST  
"http://localhost:9200/_ingest/pipeline/range_ratio/_simulate" --header "Content-Type:  
application/json" --header "accept: application/json" --data  
$'{  \"docs\"  :[ {\"_source\": {\"date\": \"2018-12-26\", \"open\": 24.8706,  
\"high\": 25.6553, \"low\": 24.7117, \"close\": 25.6553, \"volume\": 422158,  
\"unadjustedVolume\": 422158, \"change\": 0.84425, \"changePercent\": 3.403, \"vwap\":  
25.2926, \"label\": \"Dec 26, 18\", \"changeOverTime\": 0, \"symbol\": \"ACWF\"}} ] }'
```

## POST simulate\_pipeline\_ad\_hoc\_range\_ratio

http://localhost:9200/\_ingest/pipeline/\_simulate

### HEADERS

Content-Type

application/json

accept

application/json

BODY

```
{  
  "pipeline": {  
    "description": "calculate the range of high and low and divide by the  
close price",  
    "processors": [{  
      "script": {  
        "source": "ctx.range_ratio = (ctx.high-ctx.low)/ctx.close"  
      }  
    }]  
  },  
  "docs" : [  
    { "_source": { "date": "2018-12-26", "open": 24.8706, "high": 25.6553,  
"low": 24.7117, "close": 25.6553, "volume": 422158, "unadjustedVolume": 422158,  
"change": 0.84425, "changePercent": 3.403, "vwap": 25.2926, "label": "Dec 26, 18",  
"changeOverTime": 0, "symbol": "ACWF"}}  
  ]  
}
```

```
}
```

## Example Request

### simulate\_pipeline\_ad\_hoc\_range\_ratio

```
curl --location --request POST "http://localhost:9200/_ingest/pipeline/_simulate" --header "Content-Type: application/json" --header "accept: application/json" --data '$'{  \"pipeline\": { \"description\": \"calculate the range of high and low and divide by the close price\", \"processors\": [{ \"script\": { \"source\": \"ctx.range_ratio = (ctx.high-ctx.low)/ctx.close\" } }] }, \"docs\": [ { \"_source\": { \"date\": \"2018-12-26\", \"open\": 24.8706, \"high\": 25.6553, \"low\": 24.7117, \"close\": 25.6553, \"volume\": 422158, \"unadjustedVolume\": 422158, \"change\": 0.84425, \"changePercent\": 3.403, \"vwap\": 25.2926, \"label\": \"Dec 26, 18\", \"changeOverTime\": 0, \"symbol\": \"ACWF\"} } ] }'
```

## POST index\_with\_pipeline\_range\_ratio

[http://localhost:9200/cf\\_etf\\_pipeline/\\_doc/1?pipeline=range\\_ratio](http://localhost:9200/cf_etf_pipeline/_doc/1?pipeline=range_ratio)

### HEADERS

#### Content-Type

application/json

#### accept

application/json

### PARAMS

#### pipeline

range\_ratio

### BODY

```
{  \"date\": \"2018-12-26\",  \"open\": 24.8706,  \"high\": 25.6553,  \"low\": 24.7117,  \"close\": 25.6553,  \"volume\": 422158,  \"unadjustedVolume\": 422158,  \"change\": 0.84425,  \"changePercent\": 3.403,
```

```
"vwap": 25.2926,  
"label": "Dec 26, 18",  
"changeOverTime": 0,  
"symbol": "ACWF"  
}
```

## Example Request

index\_with\_pipeline\_range\_ratio

```
curl --location --request POST  
"http://localhost:9200/cf_etf_pipeline/_doc/1?pipeline=range_ratio" --header "Content-Type: application/json" --header "accept: application/json" --data '${  
  \"date\":  
  \"2018-12-26\",  
  \"open\": 24.8706,  
  \"high\": 25.6553,  
  \"low\": 24.7117,  
  \"close\": 25.6553,  
  \"volume\": 422158,  
  \"unadjustedVolume\": 422158,  
  \"change\": 0.84425,  
  \"changePercent\": 3.403,  
  \"vwap\": 25.2926,  
  \"label\": \"Dec 26, 18\",  
  \"changeOverTime\": 0,  
  \"symbol\": \"ACWF\" }'
```

## DEL index\_with\_pipeline\_range\_ratio\_doc

http://localhost:9200/cf\_etf\_pipeline/\_doc/1

### HEADERS

Content-Type

application/json

accept

application/json

BODY

```
{  
  "date": "2018-12-26",  
  "open": 24.8706,  
  "high": 25.6553,  
  "low": 24.7117,  
  "close": 25.6553,  
  "volume": 422158,  
  "unadjustedVolume": 422158,  
  "change": 0.84425,  
  "changePercent": 3.403,  
  "vwap": 25.2926,  
  "label": "Dec 26, 18",  
  "changeOverTime": 0,  
}
```

```
"symbol": "ACWF"
}
```

#### Example Request

index\_with\_pipeline\_range\_ratio\_doc

```
curl --location --request DELETE "http://localhost:9200/cf_etf_pipeline/_doc/1" --header "Content-Type: application/json" --header "accept: application/json" --data '${ \ "date\": \ "2018-12-26\ ", \ "open\ ": 24.8706, \ "high\ ": 25.6553, \ "low\ ": 24.7117, \ "close\ ": 25.6553, \ "volume\ ": 422158, \ "unadjustedVolume\ ": 422158, \ "change\ ": 0.84425, \ "changePercent\ ": 3.403, \ "vwap\ ": 25.2926, \ "label\ ": \ "Dec 26, 18\ ", \ "changeOverTime\ ": 0, \ "symbol\ ": \ "ACWF\ " }'
```

### GET get\_document\_from\_index\_with\_pipeline\_range\_ratio

http://localhost:9200/cf\_etf\_pipeline/\_doc/1

#### HEADERS

Content-Type

application/json

accept

application/json

BODY

```
{
}
```

#### Example Request

get\_document\_from\_index\_with\_pipeline\_range\_ratio

```
curl --location --request GET "http://localhost:9200/cf_etf_pipeline/_doc/1"
```

### POST simulate\_pipeline\_ad\_hoc\_kv\_processor

http://localhost:9200/\_ingest/pipeline/\_simulate

#### HEADERS

Content-Type

application/json

accept

application/json

BODY

```
{
  "pipeline": {
    "description": "kv processor demo",
    "processors": [
      { "kv": {
        "field": "input_field",
        "field_split": ",",
        "value_split": ":",
        "target_field": "output_field",
        "trim_key": " ",
        "trim_value": " "
      }},
      { "remove" : { "field": ["input_field"]}}
    ]
  },
  "docs" : [
    { "_source": { "input_field": " a:b , c:d " }}
  ]
}
```

Example Request

simulate pipeline ad hoc kv processor

```
curl --location --request POST "http://localhost:9200/_ingest/pipeline/_simulate" --header "Content-Type: application/json" --header "accept: application/json" --data '$'{
  \"pipeline\": {
    \"description\": \"kv processor demo\",
    \"processors\": [
      { \"kv\": {
        \"field\": \"input_field\",
        \"field_split\": \",\",
        \"value_split\": \":\",
        \"target_field\": \"output_field\",
        \"trim_key\": \" \",
        \"trim_value\": \" \"
      }},
      { \"remove\" : { \"field\": [\"input_field\"]}}
    ]
  },
  \"docs\" : [
    { \"_source\": { \"input_field\": \" a:b , c:d \" }}
  ]
}
```

**POST** simulate\_pipeline\_grok\_processor

http://localhost:9200/\_ingest/pipeline/\_simulate



## HEADERS

Content-Type

application/json

accept

application/json

BODY

```
{
  "pipeline": {
    "description": "grok processor demo",
    "processors": [
      { "grok": {
        "field": "message",
        "patterns": [ "\\[%{TIMESTAMP_ISO8601:timestamp}\\]\\[%{LOGLEVEL:log-
level}%{SPACE}\\]\\[%{JAVACLASS:class}\\]\\[%{SPACE}\\]\\[%{DATA:node}\\]\\[%{SPACE}\\]\\[%{DATA:i
ndex_doc}\\]\\[%{GREEDYDATA:action}\\]",
        "ignore_missing": true
      } },
      { "remove": { "field": ["message"] } }
    ]
  },
  "docs" : [
    { "_source": { "message": "[2019-06-
20T00:04:58,856][INFO ][o.e.c.m.MetadataDeleteIndexService] [WTW.local]
[cf_etf/RiYRsKyxTGStNcHczbUxcQ] deleting index"] }
  ]
}
```

## Example Request

simulate\_pipeline\_grok\_processor

```
curl --location --request POST "http://localhost:9200/_ingest/pipeline/_simulate" --
header "Content-Type: application/json" --header "accept: application/json" --data
$'{
  "pipeline": { "description": "grok processor demo",
  "processors": [ { "grok": { "field": "message", "patterns":
[ "\\[%{TIMESTAMP_ISO8601:timestamp}\\]\\[%{LOGLEVEL:log-
level}%{SPACE}\\]\\[%{JAVACLASS:class}\\]\\[%{SPACE}\\]\\[%{DATA:node}\\]\\[%{SPACE}\\]\\[%{DATA:index_doc}\\]\\[%{GREEDYDATA:action}\\]", "ignore_missing": true } },
{ "remove": { "field": ["message"] } } ] }, "docs" : [ { "_source":
{ "message": "[2019-06-20T00:04:58,856][INFO ][o.e.c.m.MetadataDeleteIndexService]
[WTW.local] [cf_etf/RiYRsKyxTGStNcHczbUxcQ] deleting index"] } } ] }'
```

## POST simulate\_pipeline\_dissect\_processor

http://localhost:9200/\_ingest/pipeline/\_simulate

### HEADERS

Content-Type

application/json

accept

application/json

### BODY

```
{
  "pipeline": {
    "description": "dissect processor demo",
    "processors": [
      {
        "dissect": {
          "field": "message",
          "pattern": "[%{timestamp}][%{log-level}][%{class}] [%{node}][%{index_doc}]%{action}",
          "ignore_missing": true
        },
        "remove": { "field": ["message"] }
      }
    ],
    "docs": [
      {
        "_source": {
          "message": "[2019-06-20T00:04:58,856][INFO][o.e.c.m.MetaDataDeleteIndexService][WTW.local][cf_etf/RiYRsKyxTGStNcHczbUxcQ] deleting index"
        }
      }
    ]
  }
}
```

### Example Request

simulate pipeline dissect processor

```
curl --location --request POST "http://localhost:9200/_ingest/pipeline/_simulate" --header "Content-Type: application/json" --header "accept: application/json" --data '{"pipeline": {"description": "dissect processor demo", "processors": [{"dissect": {"field": "message", "pattern": "[%{timestamp}][%{log-level}][%{class}] [%{node}][%{index_doc}]%{action}", "ignore_missing": true}}, {"remove": {"field": ["message"]}} ] }, "docs": [{"_source": {"message": "[2019-06-20T00:04:58,856][INFO][o.e.c.m.MetaDataDeleteIndexService][WTW.local][cf_etf/RiYRsKyxTGStNcHczbUxcQ] deleting index"}}]}
```

```
\\"docs\\" :[ {\"_source\": {\"message\\\":\\\"[2019-06-20T00:04:58,856][INFO ][o.e.c.m.MetadataDeleteIndexService] [WTW.local][cf_etf/RiYRsKyxTGStNcHczbUxcQ] deleting index\\\"}} ] }'
```

## POST simulate\_pipeline\_simple\_conditional\_execution

[http://localhost:9200/\\_ingest/pipeline/\\_simulate](http://localhost:9200/_ingest/pipeline/_simulate)

### HEADERS

Content-Type

application/json

accept

application/json

### BODY

```
{
  "pipeline": {
    "description": "remove the rating field is the rating is equal to a single space string",
    "processors": [{
      "remove": {
        "field": "rating",
        "if": "ctx.rating == ' '"
      }
    ]
  },
  "docs" : [
    {
      "_source": {
        "symbol": "AGT",
        "fund_name": "iShares MSCI Argentina and Global Exposure ETF",
        "rating": " ",
        "morningstar_category": "Miscellaneous Region",
        "category": "International",
        "family": "iShares",
        "market_cap": "mid",
        "description": "The investment seeks to track the investment results of the MSCI All Argentina 25\\50 Index (the \\\"underlying index\\\").\\n The fund generally will invest at least 90% of its assets in the component securities of the underlying index and in investments that have economic characteristics that are substantially identical to the component securities of the underlying index. The index is designed to measure the broad Argentina equity universe, while including a minimum number of constituents, as defined by MSCI, Inc. (the \\\"index provider\\\" or \\\"MSCI\\\"). The fund is non-diversified.",
        "exchange": "Cboe Global Markets EDGX"
      }
    }
  ]
}
```

Example Request

#### simulate\_pipeline\_simple\_conditional\_execution

```
curl --location --request POST "http://localhost:9200/_ingest/pipeline/_simulate" --header "Content-Type: application/json" --header "accept: application/json" --data '$'{  \"pipeline\": { \"description\": \"remove the rating field is the rating is equal to a single space string\", \"processors\": [{ \"remove\": { \"field\": \"rating\", \"if\": \"ctx.rating == ' '\" } } ] }, \"docs\": [ { \"_source\": { \"symbol\": \"AGT\", \"fund_name\": \"iShares MSCI Argentina and Global Exposure ETF\", \"rating\": \" \", \"morningstar_category\": \"Miscellaneous Region\", \"category\": \"International\", \"family\": \"iShares\", \"market_cap\": \"mid\", \"description\": \"The investment seeks to track the investment results of the MSCI All Argentina 25\\50 Index (the \"underlying index\"). The fund generally will invest at least 90% of its assets in the component securities of the underlying index and in investments that have economic characteristics that are substantially identical to the component securities of the underlying index. The index is designed to measure the broad Argentina equity universe, while including a minimum number of constituents, as defined by MSCI, Inc. (the \"index provider\" or \"MSCI\"). The fund is non-diversified.\", \"exchange\": \"Cboe Global Markets EDGX\" } } ] }'
```

## POST get\_document\_empty\_rating\_from\_cf\_etf

http://localhost:9200/cf\_etf/\_search

### HEADERS

Content-Type

application/json

accept

application/json

### BODY

```
{  \"query\": {    \"match\": {      \"symbol\": \"AGT\"    }  } }
```

### Example Request

get\_document\_empty\_rating\_from\_cf\_etf

```
curl --location --request POST "http://localhost:9200/cf_etf/_search" --header
"Content-Type: application/json" --header "accept: application/json" --data
$'{  \ "query\ ": { \ "match\ ": { \ "symbol\ ": \ "AGT\ " } } }'
```

## POST simulate\_pipeline\_conditional\_execution\_null\_safe\_operator

[http://localhost:9200/\\_ingest/pipeline/\\_simulate](http://localhost:9200/_ingest/pipeline/_simulate)

### HEADERS

Content-Type

application/json

accept

application/json

BODY

```
{
  "pipeline": {
    "description": "calculate the range of high and low and divide by the
close price",
    "processors": [
      { "set": {
        "field": "new_id",
        "value": "{{id}}",
        "if": "ctx.parent?.child != null"
      } }
    ]
  },
  "docs" : [
    { "_source": { "id": 1, "parent": { "child": "value" } } },
    { "_source": { "id": 2, "parent": { } } },
    { "_source": { "id": 3 } }
  ]
}
```

### Example Request

[simulate\\_pipeline\\_conditional\\_execution\\_null\\_safe\\_operator](#)

```
curl --location --request POST "http://localhost:9200/_ingest/pipeline/_simulate" --
header "Content-Type: application/json" --header "accept: application/json" --data
$'{  \ "pipeline\ ": { \ "description\ ": \ "calculate the range of high and divide
```

```
by the close price\", \"processors\":[ {\"set\":{ \"field\": \"new_id\", \"value\":  
\"{{id}}\", \"if\": \"ctx.parent?.child != null\" }} ] }, \"docs\" :[ {\"_source\":  
{\"id\":1, \"parent\": {\"child\": \"value\"}}, {\"_source\": {\"id\":2, \"parent\":  
{}}}, {\"_source\": {\"id\":3}} ] }'
```

## PUT define\_for\_market\_cap\_null\_processor

[http://localhost:9200/\\_ingest/pipeline/for\\_market\\_cap\\_null\\_processor](http://localhost:9200/_ingest/pipeline/for_market_cap_null_processor)

### HEADERS

Content-Type

application/json

accept

application/json

### BODY

```
{  
  "description": "for_market_cap_null_processor",  
  "processors": [  
    { "set": {  
      "field": "market_cap_type",  
      "value": "no_market_cap ETF"  
    }  
  ]  
}
```

### Example Request

[define\\_for\\_market\\_cap\\_null\\_processor](#)

```
curl --location --request PUT  
"http://localhost:9200/_ingest/pipeline/for_market_cap_null_processor" --header  
"Content-Type: application/json" --header "accept: application/json" --data  
$'{ \"description\": \"for_market_cap_null_processor\",  
\"processors\": [ { \"set\": { \"field\": \"market_cap_type\", \"value\":  
\"no_market_cap ETF\" }} ] }'
```

## PUT define\_for\_market\_cap\_processor

[http://localhost:9200/\\_ingest/pipeline/for\\_market\\_cap\\_processor](http://localhost:9200/_ingest/pipeline/for_market_cap_processor)

## HEADERS

Content-Type

application/json

accept

application/json

BODY

```
{
  "description": "for_market_cap_processor",
  "processors": [
    { "set": {
      "field": "market_cap_type",
      "value": "market_cap ETF"
    } }
  ]
}
```

## Example Request

define\_for\_market\_cap\_processor

```
curl --location --request PUT
"http://localhost:9200/_ingest/pipeline/for_market_cap_processor" --header "Content-
Type: application/json" --header "accept: application/json" --data
$'{"description": "for_market_cap_processor",
  "processors": [ {"set": { "field": "market_cap_type", "value":
  "market_cap ETF" }} ] }'
```

## GET symbo\_bil\_market\_cap\_null\_etf

[http://localhost:9200/cf\\_etf/\\_search?q=symbol:BIL](http://localhost:9200/cf_etf/_search?q=symbol:BIL)

## HEADERS

Content-Type

application/json

accept

application/json

PARAMS

q

symbol:BIL

Example Request

symbo\_bil market\_cap\_null\_etf

```
curl --location --request GET "http://localhost:9200/cf_etf/_search?q=symbol:BIL" --header "Content-Type: application/json" --header "accept: application/json"
```

## POST simulate\_pipeline\_conditional\_execution\_switch\_case

http://localhost:9200/\_ingest/pipeline/\_simulate

HEADERS

Content-Type

application/json

accept

application/json

BODY

```
{
  "pipeline": {
    "description": "calculate the range of high and low and divide by the close price",
    "processors": [
      {
        "pipeline": {
          "name": "for_market_cap_null_processor",
          "if": "ctx.market_cap == null"
        }
      },
      {
        "pipeline": {
          "name": "for_market_cap_processor",
          "if": "ctx.market_cap != null"
        }
      }
    ]
  },
  "docs" : [
    { "_source": { "id": 1, "market_cap": null } },
    { "_source": { "id": 2, "market_cap": "large" } }
  ]
}
```



## Example Request

simulate\_pipeline\_conditional\_execution\_switch\_case

```
curl --location --request POST "http://localhost:9200/_ingest/pipeline/_simulate" --header "Content-Type: application/json" --header "accept: application/json" --data '${ \
  "pipeline\": { \
    "description\":"calculate the range of high and low and divide by the close price\"," \
    "processors\":[ { \
      "pipeline\":{ \
        "name\":"for_market_cap_null_processor\"," \
        "if\":"ctx.market_cap == null\"," \
      }, \
      { \
        "pipeline\":{ \
          "name\":"for_market_cap_processor\"," \
          "if\":"ctx.market_cap != null\"," \
        } \
      } \
    ] \
  }, \
  "docs\":"[ { \
    "_source\": { \
      "id\":1, \
      "market_cap\": null \
    } \
  }, { \
    "_source\": { \
      "id\":2, \
      "market_cap\":"large" \
    } \
  } ] \
}'
```

## POST simulate\_pipeline\_hit\_exception\_error

http://localhost:9200/\_ingest/pipeline/\_simulate

### HEADERS

Content-Type

application/json

accept

application/json

### BODY

```
{
  "pipeline": {
    "description": "test parameter on_failure when error occurs",
    "processors": [
      {
        "remove": {
          "field": "rating",
          "on_failure": [
            {
              "set": {
                "field": "error",
                "value": -1
              },
              {
                "set": {
                  "field": "message",
                  "value": "remove processor failure: {{ _ingest.on_failure_message }}"
                }
              }
            ]
          }
        }
      }
    ],
    "docs": [
      {
        "_source": {
          "id": 3
        }
      }
    ]
  }
}
```

## Example Request

simulate\_pipeline\_hit\_exception\_error

```
curl --location --request POST "http://localhost:9200/_ingest/pipeline/_simulate" --header "Content-Type: application/json" --header "accept: application/json" --data '$'{  \"pipeline\": { \"description\": \"test parameter on_failure when error occurs\", \"processors\": [{ \"remove\": { \"field\": \"rating\", \"on_failure\": [ { \"set\": { \"field\": \"error\", \"value\": -1 } }, { \"set\": { \"field\": \"message\", \"value\": \"remove processor failure: {{ _ingest.on_failure_message }}\" } } ] } } ], \"docs\": [ { \"_source\": { \"id\": 3 } } ] }
```