



GRPC-Streamer Plugin

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Authentication

The following authentication types are supported:

- Basic (/ufmRest)
- Token (/ufmRestV3)

Create a Session to UFM from GRPC

Description: Creates a session to receive REST API results from the UFM's GRPC server. After a stream or one call, the session is deleted so the server would not save the authorizations.

- Call: CreateSession in the grpc
- Request Content Type – message SessionAuth
- Request Data:

```
message SessionAuth{
  string job_id=1;
  string username = 2;
  string password = 3;
  optional string token = 4;
}
```

- Job_id - The unique identifier for the client you want to have
- Username - The authentication username
- Password – The authentication password
- Token – The authentication token
- Response:

```
message SessionRespond{
  string respond=1;
}
```

- Respond types:
 - Success – Ok.
 - ConnectionError – UFM connection error (bad parameters or UFM is down).
 - Other exceptions – details sent in the respond.
- Console command:

```
client session --server_ip=server_ip --id=client_id --auth=username,password --token=token
```

Create New Subscription

- Description: Only after the server has established a session for this grpc client, add all the requested REST APIs with intervals and delta requests.
- Call: AddSubscriber
- Request Content Type – Message SubscriberParams
- Request Data:

```
message SubscriberParams{
  message APIParams {
    string ufm_api_name = 1;
    int32 interval = 2;
    optional bool only_delta = 3;
  }
  string job_id = 1;
  repeated APIParams apiParams = 2;
}
```

- Job_id – A unique subscriber identifier
- apiParams – The list of apiParams from the above message above:
 - ufm_api_name – The name from the known to server request api list
 - interval – The interval between messages conducted in a stream run. Presented in seconds.
 - only_delta – Receives the difference between the previous messages in a stream run.
- Response content type:

```
message SessionRespond{
  string respond=1;
}
```

- Respond Types:
 - Created a user with session and added new IP– Ok.
 - Cannot add subscriber that do no have an established session – need to create a session before creating subscriber.
 - The server already have the ID – need to create new session and new subscriber with a new unique ID.
- Console command:

```
client create --server_ip=localhost --id=client_id --apis=events;40;True,links,alarms;10
```

The API's list is separated by commas, and each modifier for the REST API is separated by a semi comma.

If the server is not given a modifier, default ones are used (where only_delta is False and interval is based on the API).

Edit Known Subscription

- Description: Changes a known IP. Whether the server has the IP or not.
- Call: AddSubscriber
- Request Content Type – Message SubscriberParams
- Request Data:

```
message SubscriberParams{
  message APIParams {
    string ufm_api_name = 1;
    int32 interval = 2;
    optional bool only_delta = 3;
  }
  string job_id = 1; //unique identifier for this job
  repeated APIParams apiParams = 2;
}
```

- Job_id – The subscriber unique identifier
- apiParams – A list of apiParams from the above message.
 - ufm_api_name – name from the known to server request api list
 - interval – The interval between messages conducted in a stream run. Presented in seconds.
 - only_delta – Receives the difference between the previous messages in a stream run.
- Response content type:

```
message SessionRespond{
  string respond=1;
}
```

- Respond Types:
 - Created user with new IP- Ok.
 - Cannot add subscriber without an established session – need to create a session before creating subscriber.
 - Cannot add subscriber illegal apis – cannot create subscriber with empty API list, call again with correct API list.

Get List of Known Subscribers

- Description: Gets the list of subscribers, including the requested list of APIs.
- Call: ListSubscribers
- Request Content Type: google.protobuf.Empty
- Response:

```
message ListSubscriberParams{  
  repeated SubscriberParams subscribers = 1;  
}
```

- Console command: server subscribes --server_ip=server_ip

Delete a Known Subscriber

- Description: Deletes an existing subscriber and removes the session.
- Call: DeleteSubscriber
- Request Content Type: Message gRPCStreamerID
- Request Data:

```
message gRPCStreamerID{  
  string job_id = 1;
```

```
}
```

- Response:protobuf.Empty

Run a Known Subscriber Once

- Description: Runs the Rest API list for a known subscriber once and returns the result in message runOnceRespond, and then delete the subscriber's session.
- Call: RunOnceJob
- Request Content Type: Message gRPCStreamerID
- Request Data:

```
message gRPCStreamerID{  
  string job_id = 1;  
}
```

- Response content type:

```
message runOnceRespond{  
  string job_id=1;  
  repeated gRPCStreamerParams results = 2;  
}
```

- Job_id- The first message unique identifier.
- Results – list of gRPCStreamerParams contains results from each REST API
- Responses:
 - Job id - Cannot run a client without an established session. Empty results – an existing session for this client is not found, and the client is not known to the server.

- Job id - Cannot run the client without creating a subscriber. Empty results – a session was created for the client but the subscription is not created.
- Job_id - Cannot connect to the UFM. empty result – the GRPC server cannot connect to the UFM machine and receive empty results, because it cannot create a subscriber with an empty API list. This means that the UFM machine is experiencing a problem.
- Job_id - The first unique message identifier of the messages. Not empty results – Ok
- Console command:

```
client once_id --server_ip=server_ip --id=client_id
```

Run Streamed Data of a Known Subscriber

- Description: Run a stream of results from the Rest API list for a known Subscriber and return the result as iterator, where each item is message gRPCStreamerParams. at the end, delete the session.
- Call: RunStreamJob
- Request Content Type: Message gRPCStreamerID
- Request Data:

```
message gRPCStreamerID{
  string job_id = 1;
}
```

- Response content type: iterator of messages gRPCStreamerParams

```
message gRPCStreamerParams{
  string message_id = 1; // unique identifier for messages
  string ufm_api_name = 2; // what rest api receive the data from
```

```
google.protobuf.Timestamp timestamp = 3; //what time we created the message, can be
converted to Datetime
string data = 4; // data of rest api call
}
```

- Response:
 - One message only containing "Cannot run a client without a session" – A session has not been established
 - No message – A session and/or a subscriber with this ID does not exist.
 - Messages with interval between with the modifiers – Ok
- Console command:

```
client stream_id --server_ip=server_ip --id=client_id
```

Run a New Subscriber Once

- Description: After ensuring that a session for this specific job ID is established, the server runs the whole REST API list for the new subscriber once and returns the following result in message `runOnceRespond`. This action does not save the subscribe ID or the established session in the server.
- Call: `RunOnce`
- Request Content Type: `Message SubscriberParams`
- Request Data:

```
message SubscriberParams{
  message APIParams {
    string ufm_api_name = 1;
    int32 interval = 2;
    optional bool only_delta = 3;
  }
  string job_id = 1; //unique identifier for this job
```

```
repeated APIParams apiParams = 2;
}
```

- Response content type:

```
message runOnceRespond{
  string job_id=1;
  repeated gRPCStreamerParams results = 2;
}
```

- Responses:
 - Job id = Cannot run a client without an established session. Empty results – no session for this client.
 - Job_id = 0 – The GRPC server cannot connect to the UFM machine and receive empty results, or it cannot create a subscriber with an empty API list.
 - Job_id = The messages' first unique identifier, and not an empty result – Ok.
- Console command:

```
client once --server_ip=server_ip --id=client_id --auth=username,password --token=token --
apis=events;40;True,links;20;False,alarms;10
```

- The console command creates a session for this specific client.
- A token or the basic authorization is needed, not both.

Run New Subscriber Streamed Data

- Description: After the server checks it has a session for this job ID, Run a stream of results from the Rest API list for a new Subscriber and return the result as iterator, where each item is message gRPCStreamerParams. at the end, delete the session.
- Call: RunPeriodically

- Request Content Type: Message SubscriberParams
- Request Data:

```
message SubscriberParams{
  message APIParams {
    string ufm_api_name = 1;
    int32 interval = 2;
    optional bool only_delta = 3;
  }
  string job_id = 1; //unique identifier for this job
  repeated APIParams apiParams = 2;
}
```

- Response content type: iterator of messages gRPCStreamerParams
- Response:
 - Only one message with data equals to Cant run client without session – no session
 - Messages with intervals between with the modifiers – Ok
- Console command:

```
client stream --server_ip=server_ip --id=client_id --auth=username,password --token=token --
apis=events;40;True,links;20;False,alarms;10
```

- console command also create session for that client.
- no need for both token and basic authorization, just one of them.

Run A Serialization on All the Running Streams

- Description: Run a serialization for each running stream. The serialization will return to each of the machines the results from the rest api list.
- Call: Serialization

- Request Content Type: google.protobuf.Empty
- Response: google.protobuf.Empty

Stop a Running Stream

- Description: Cancels running stream using the client id of the stream and stop it from outside, If found stop the stream.
- Call: StopStream
- Request Content Type: Message gRPCStreamerID
- Request Data:

```
message gRPCStreamerID{  
  string job_id = 1;  
}
```

- Response: google.protobuf.Empty

Run a subscribe stream

- Description: Create a subscription to a client identifier, all new messages that go to that client, will be copied and also sent to this stream.
- Call: Serialization
- Request Content Type: message gRPCStreamerID
- Response: iterator of messages gRPCStreamerParams

```
message gRPCStreamerParams{  
  string message_id = 1; // unique identifier for messages  
  string ufm_api_name = 2; // what rest api receive the data from  
  google.protobuf.Timestamp timestamp = 3; //what time we created the message, can be  
  converted to Datetime  
  string data = 4; // data of rest api call
```

```
}
```

- the identifier may or may not be in the grpc server.
- Cannot be stop streamed using StopStream.
- Console command:

```
client subscribe --server_ip=server_ip --id=client_id
```

Get the variables from a known subscriber

- Description: Get the variables of known subscriber if found, else return empty variables.
- Call: GetJobParams
- Request Content Type: message gRPCStreamerID
- Response:

```
message SubscriberParams{
  message APIParams {
    string ufm_api_name = 1; //currently the list of api from ufm that are supported are [Jobs,
Events, Links, Alarms]
    int32 interval = 2;
    optional bool only_delta = 3;
  }
  string job_id = 1; //unique identifier for this job
  repeated APIParams apiParams = 2;
}
```

Get Help / Version

- Description: Get help and the version of the plugin, how to interact with the server. What stages need to be done to extract the rest apis (Session>run once/stream or

Session>AddSubscriber>once_id/stream_id)

- Call: Help or Version
- Request Content Type: google.protobuf.Empty
- Response:

```
message SessionRespond{  
  string respond=1;  
}
```

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