

Doxygen Protobuf File Documentation

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Chapter 1

Protobuf Files

Primer From Google

The main gRPC webpage at <https://grpc.io> is a good resource for basic information about gRPC. As a primer, the link below talks about concepts relating to grpc, protobuf, and streaming.

<https://grpc.io/docs/what-is-grpc/core-concepts/>

Protobuf File Overview

The files in this folder are the 'uncompiled' protobuf files which define the messages and services which make up the BRIAR API. Using build-proto-stubs.sh in the repo's root folder, these .proto files can be compiled into stubs of multiple languages which will be used by both the BRIAR client and services which implement performer algorithms. Linked below are the three protobuf files defining the API

- briar.proto
- briar_service.proto
- briar_error.proto

briar.proto

This file defines the messages which represent objects such as detections, rectangles, and other pieces of information which need to be sent between clients and services. These objects will be contained inside the request and reply messages sent by the service and will not be sent between clients and services without an outer request or reply wrapper. Aside from those few details, these messages are not particularly remarkable and should be reasonably self documenting.

briar_service.proto

This file contains definitions for the BRIAR Service which defines the methods which the clients can invoke in services and the arguments they can pass between each other.

In BRIARService, you will notice multiple lines starting with 'rpc'. These define which methods are special 'gRPC methods' which can be invoked by the client. Upon compilation, the protobuf files will create BRIARServiceStub and BRIARServiceServicer classes, the former serves as the method calls for the client, and the latter which serves as the inheritable class for the service.

On the client side, after connecting a channel and initializing the stub, the stub can run a method on the service as simply as calling the method with an appropriate request as an argument. For example:

```
reply = stub.status(status_request)
```

where 'status_request' is an initialized StatusRequest class. This will run the code inside the status method in the service, which should return a 'StatusReply' which will then be assigned to the variable 'reply'

This will be different for rpc lines marked with the 'stream' argument in either the method field and/or the 'returns' field, which means the data will be streamed unilaterally or bi-laterally depending on which fields have the 'stream' declaration.

briar_error.proto

A simple error class for storing error information which can be returned as an argument in any of the reply messages. Used for telling the client that the service experienced a handled error and providing relevant details, especially since gRPC's error messages can be needlessly confounding at times

Chapter 2

File Index

2.1 File List

Here is a list of all files with brief descriptions:

briar.proto	5
briar_error.proto	41
briar_service.proto	43

Chapter 3

File Documentation

3.1 briar.proto File Reference

Enumerations

- enum [BriarServiceStatus](#) { [BUSY](#) = 3 }
- enum [ExtractFlags](#) { [EXTRACT_PROVIDED_DETECTION](#) = 2 }
- enum [VerifyFlags](#) { [VERIFY_PROVIDED_TEMPLATES](#) = 3 }
- enum [DataType](#) { [SOURCE_ONLY](#) = 20 }
- enum [EntryType](#) { [ENTRY_TYPE_MEDIA](#) = 2 }
- enum [BriarDataType](#) { [BUFFER](#) = 14 }
- enum [FeatureVectorType](#) { [BriarDouble](#) = 9 }

Variables

- [syntax](#) = "proto3"
- option [csharp_namespace](#) = "briar.BriarGrpc"
- package [briar](#)
- enum [ExtractFlags](#) [ENROLL_FULL_IMAGE](#) = 0
- [ENROLL_AUTO_DETECTION](#) = 1
- [ENROLL_PROVIDED_DETECTION](#) = 2
- [ENROLL_PROVIDED_TEMPLATE](#) = 3
- enum [VerifyFlags](#) [SEARCH_FULL_IMAGE](#) = 0
- [SEARCH_AUTO_DETECTION](#) = 1
- [SEARCH_PROVIDED_DETECTIONS](#) = 2
- [SEARCH_PROVIDED_TEMPLATES](#) = 3
- message [APIVersion](#)
- int32 [minor](#) = 2
- int32 [patch](#) = 3
- message [StringOption](#)
- string [value](#) = 2
- message [BoolOption](#)
- message [IntOption](#)
- message [FloatOption](#)
- message [BriarMedia](#)
- int32 [height](#) = 2
- int32 [channels](#) = 3

- int32 [frame_count](#) = 4
- int32 [frame_start](#) = 5
- int32 [frame_end](#) = 6
- float [frame_rate](#) = 7
- int32 [segment_id](#) = 8
- int32 [segment_total](#) = 9
- int32 [frame_number](#) = 10
- [DataType](#) [type](#) = 11
- [DataType](#) [source_type](#) = 12
- bytes [data](#) = 13
- string [source](#) = 14
- string [serverside_source](#) = 15
- string [description](#) = 16
- string [datetime](#) = 17
- bool [isCropped](#) = 18
- repeated [MediaMetadata](#) [metadata](#) = 19
- message [EnrollOptions](#)
- [BoolOption](#) [debug](#) = 2
- [EntryType](#) [entry_type](#) = 3
- repeated string [subject_ids](#) = 4
- string [media_id](#) = 5
- [IntOption](#) [enroll_batch](#) = 7
- [EnrollFlags](#) [enroll_flag](#) = 8
- [BiometricModality](#) [modality](#) = 9
- [BoolOption](#) [return_media](#) = 10
- [BoolOption](#) [store_media](#) = 11
- repeated [Attribute](#) [attributes](#) = 12
- [BoolOption](#) [use_subject_integer_id](#) = 15
- [IntOption](#) [subject_id_integer](#) = 16
- message [SearchOptions](#)
- [StringOption](#) [output_type](#) = 2
- [StringOption](#) [search_database](#) = 3
- [StringOption](#) [probe_database](#) = 4
- [FloatOption](#) [search_threshold](#) = 5
- [IntOption](#) [max_results](#) = 6
- [IntOption](#) [search_batch](#) = 7
- [BoolOption](#) [use_detections](#) = 8
- [BoolOption](#) [use_templates](#) = 9
- [SearchFlags](#) [flag](#) = 10
- [BoolOption](#) [full](#) = 13
- [BoolOption](#) [return_matrix](#) = 14
- message [VerifyOptions](#)
- [BoolOption](#) [use_whole_image](#) = 10
- enum [EntryType](#) [UNSPECIFIED](#) = 0
- [WHOLE_BODY](#) = 1
- [FACE](#) = 2
- [GAIT](#) = 3
- [BODY](#) = 4
- [ANTHROPOMETRY](#) = 5
- [HEAD](#) = 6
- [BEHAVIOR](#) = 7
- [SOFT_BIOMETRICS](#) = 8
- [FINGERPRINT](#) = 9
- [IRIS](#) = 10
- [VOICE](#) = 11

- [HAND](#) = 12
- [EAR](#) = 13
- [PALM](#) = 14
- [OTHER](#) = 15
- message [BriarRect](#)
- int32 [y](#) = 2
- int32 [width](#) = 3
- message [BriarPoint2D](#)
- message [BriarProgress](#)
- int64 [totalSteps](#) = 2
- message [BriarVector](#)
- message [BriarMatrix](#)
- repeated string [row_headers](#) = 2
- repeated int32 [column_headers_integer](#) = 3
- repeated int32 [row_headers_integer](#) = 4
- repeated string [column_sources](#) = 5
- repeated string [row_sources](#) = 6
- repeated [Attribute](#) [column_attributes](#) = 7
- repeated [Attribute](#) [row_attributes](#) = 8
- repeated [BriarVector](#) [rows](#) = 9
- message [Attribute](#)
- bytes [buffer](#) = 3
- float [fvalue](#) = 4
- int32 [ivalue](#) = 5
- string [text](#) = 6
- bytes [pickle](#) = 7
- bytes [json](#) = 8
- [BriarMatrix](#) [matrix](#) = 9
- [BriarVector](#) [vector](#) = 10
- [BriarMedia](#) [media](#) = 11
- [BriarPoint2D](#) [point](#) = 12
- [BriarRect](#) [rect](#) = 13
- bytes [xml](#) = 14
- message [FrameMetadata](#)
- message [MediaMetadata](#)
- repeated [FrameMetadata](#) [frame_metadata](#) = 2
- message [Detection](#)
- [BriarRect](#) [location](#) = 2
- int32 [frame](#) = 3
- int64 [detection_id](#) = 4
- int64 [tracklet_id](#) = 5
- string [detection_class](#) = 6
- [BriarMedia](#) [mask](#) = 8
- message [Tracklet](#)
- string [tracklet_class](#) = 3
- [TrackingOptions](#) [options](#) = 5
- message [DetectionOptions](#)
- [BoolOption](#) [best](#) = 2
- [FloatOption](#) [face_threshold](#) = 3
- [FloatOption](#) [body_threshold](#) = 4
- [IntOption](#) [face_min_height](#) = 5
- [IntOption](#) [body_min_height](#) = 6
- [IntOption](#) [detect_batch](#) = 7
- [BoolOption](#) [enable_metadata](#) = 8
- [TrackingOptions](#) [tracking_options](#) = 11

- message [TrackingOptions](#)
- [BoolOption](#) `tracking_disable` = 2
- [FloatOption](#) `threshold` = 3
- [IntOption](#) `tracking_batch` = 4
- message [EnhanceOptions](#)
- [IntOption](#) `enhance_batch` = 3
- bool `cropped` = 5
- message [ExtractOptions](#)
- [IntOption](#) `extract_batch` = 4
- enum [BriarDataType](#) `im` = 1
- repeated [BriarRect](#) `detections` = 2
- message [TemplateData](#)
- string `submodality` = 16
- string `source_id` = 17
- message [Template](#)
- int64 `associated_detection_id` = 2
- int64 `associated_tracklet_id` = 3
- string `algorithm` = 4
- repeated [TemplateData](#) `parts` = 5
- message [TemplateList](#)
- message [TemplateListGroup](#)
- message [EnrollmentInfo](#)
- string `subject_id` = 3
- string `name` = 5
- message [Record](#)
- string `entry_id` = 2
- string `notes` = 8
- map< string, [BriarMedia](#) > `media_previews` = 9
- map< string, [BriarMedia](#) > `subject_previews` = 10
- [Detection](#) `detection` = 14
- string `templates` = 11
- string `tracklets` = 12
- message [RecordList](#)
- message [SearchMatchInfo](#)
- float `theoretical_min` = 2
- float `theoretical_max` = 3
- string `subject_id_probe` = 4
- string `subject_id_gallery` = 5
- string `entry_id_probe` = 8
- string `entry_id_gallery` = 9
- string `subject_name` = 7
- [BriarMedia](#) `face` = 11
- [BriarMedia](#) `body` = 12
- [BriarMedia](#) `gate` = 13
- bool `uses_integer_subject_id_gallery` = 14
- int32 `integer_subject_id_gallery` = 15
- message [VerifyMatchInfo](#)
- string `subject_id_verify` = 4
- string `subject_id_reference` = 5
- string `entry_id_reference` = 6
- string `entry_id_verification` = 7
- bool `uses_integer_gallery_id` = 13
- message [SearchMatchList](#)
- message [VerifyMatchList](#)
- message [BriarDatabase](#)

- message [BriarDatabaseInfo](#)
- int64 [entry_count](#) = 2
- int64 [template_count](#) = 3
- int64 [failed_enrollment_count](#) = 4
- float [total_database_size](#) = 5
- float [average_entry_size](#) = 6
- repeated BiometricModality [modalities](#) = 9
- repeated string [entry_ids](#) = 11
- repeated int32 [templates_per_entry](#) = 12
- repeated float [entry_sizes](#) = 13
- message [Templatelds](#)
- int32 [length](#) = 2
- message [ClusterIds](#)
- message [ClusterConfidence](#)
- message [BriarDuration](#)
- double [end](#) = 2
- message [BriarDurations](#)
- [BriarDuration](#) [client_duration_frame_level](#) = 2
- [BriarDuration](#) [grpc_outbound_transfer_duration](#) = 3
- [BriarDuration](#) [grpc_inbound_transfer_duration](#) = 4
- [BriarDuration](#) [service_duration](#) = 5
- map< string, [BriarDuration](#) > [sub_durations](#) = 6
- [BriarDuration](#) [total_duration](#) = 7
- message [BriarDurationsList](#)

3.1.1 Enumeration Type Documentation

3.1.1.1 BriarDataType

enum [BriarDataType](#)

Enumerator

BUFFER	
--------	--

3.1.1.2 BriarServiceStatus

enum [BriarServiceStatus](#)

Enumerator

BUSY	
------	--

3.1.1.3 DataType

enum `DataType`

Enumerator

SOURCE_ONLY	
-------------	--

3.1.1.4 EntryType

enum `EntryType`

Enumerator

ENTRY_TYPE_MEDIA	
------------------	--

3.1.1.5 ExtractFlags

enum `ExtractFlags`

Enumerator

EXTRACT_PROVIDED_DETECTION	
----------------------------	--

3.1.1.6 FeatureVectorType

enum `FeatureVectorType`

Enumerator

BriarDouble	
-------------	--

3.1.1.7 VerifyFlags

enum `VerifyFlags`

Enumerator

VERIFY_PROVIDED_TEMPLATES	
---------------------------	--

3.1.2 Variable Documentation

3.1.2.1 algorithm

```
string algorithm = 4
```

3.1.2.2 ANTHROPOMETRY

```
ANTHROPOMETRY = 5
```

3.1.2.3 APIVersion

```
message APIVersion
```

Initial value:

```
{  
    int32 major = 1
```

3.1.2.4 associated_detection_id

```
int64 associated_detection_id = 2
```

3.1.2.5 associated_tracklet_id

```
int64 associated_tracklet_id = 3
```

3.1.2.6 Attribute

message Attribute

Initial value:

```
{  
    string key = 1
```

3.1.2.7 attributes

repeated Attribute attributes = 12

3.1.2.8 average_entry_size

float average_entry_size = 6

3.1.2.9 BEHAVIOR

BEHAVIOR = 7

3.1.2.10 best

BoolOption best = 2

3.1.2.11 BODY

BODY = 4

3.1.2.12 body

BriarMedia body = 12

3.1.2.13 body_min_height

```
IntOption body_min_height = 6
```

3.1.2.14 body_threshold

```
FloatOption body_threshold = 4
```

3.1.2.15 BoolOption

```
message BoolOption
```

Initial value:

```
{  
    bool override_default = 1
```

3.1.2.16 briar

```
package briar
```

3.1.2.17 BriarDatabase

```
message BriarDatabase
```

Initial value:

```
{  
  
    string name = 1
```

3.1.2.18 BriarDatabaseInfo

```
message BriarDatabaseInfo
```

Initial value:

```
{  
    string name = 1
```

3.1.2.19 BriarDuration

```
message BriarDuration
```

Initial value:

```
{  
    double start = 1
```

3.1.2.20 BriarDurations

```
message BriarDurations
```

Initial value:

```
{  
    BriarDuration client_duration_file_level = 1
```

3.1.2.21 BriarDurationsList

```
message BriarDurationsList
```

Initial value:

```
{  
    repeated BriarDurations durations_list = 1
```

3.1.2.22 BriarMatrix

```
message BriarMatrix
```

Initial value:

```
{  
    repeated string column_headers = 1
```

3.1.2.23 BriarMedia

```
message BriarMedia
```

Initial value:

```
{  
    int32 width = 1
```


3.1.2.24 BriarPoint2D

```
message BriarPoint2D
```

Initial value:

```
{  
    float x = 1
```

3.1.2.25 BriarProgress

```
message BriarProgress
```

Initial value:

```
{  
    int64 currentStep = 1
```

3.1.2.26 BriarRect

```
message BriarRect
```

Initial value:

```
{  
    int32 x = 1
```

3.1.2.27 BriarVector

```
message BriarVector
```

Initial value:

```
{  
    repeated float data = 1
```

3.1.2.28 buffer

```
bytes buffer = 3
```

3.1.2.29 channels

```
int32 channels = 3
```

3.1.2.30 client_duration_frame_level

```
BriarDuration client_duration_frame_level = 2
```

3.1.2.31 ClusterConfidence

```
message ClusterConfidence
```

Initial value:

```
{  
    double confidences = 1
```

3.1.2.32 ClusterIds

```
message ClusterIds
```

Initial value:

```
{  
    repeated string ids = 1
```

3.1.2.33 column_attributes

```
repeated Attribute column_attributes = 7
```

3.1.2.34 column_headers_integer

```
repeated int32 column_headers_integer = 3
```

3.1.2.35 column_sources

```
repeated string column_sources = 5
```

3.1.2.36 cropped

```
bool cropped = 5
```

3.1.2.37 csharp_namespace

```
option csharp_namespace = "briar.BriarGrpc"
```

3.1.2.38 data

```
BriarVector data = 13
```

3.1.2.39 datetime

```
string datetime = 17
```

3.1.2.40 debug

```
BoolOption debug = 2
```

3.1.2.41 description

```
string description = 16
```

3.1.2.42 detect_batch

```
IntOption detect_batch = 7
```

3.1.2.43 Detection

```
message Detection
```

Initial value:

```
{  
    float confidence = 1
```

3.1.2.44 detection

```
Detection detection = 14
```

3.1.2.45 detection_class

```
string detection_class = 6
```

3.1.2.46 detection_id

```
int64 detection_id = 4
```

3.1.2.47 DetectionOptions

```
message DetectionOptions
```

Initial value:

```
{  
    StringOption algorithm_id = 1
```

3.1.2.48 detections

```
repeated BriarRect detections = 2
```

3.1.2.49 EAR

```
EAR = 13
```

3.1.2.50 enable_metadata

```
BoolOption enable_metadata = 8
```

3.1.2.51 end

```
double end = 2
```

3.1.2.52 enhance_batch

```
IntOption enhance_batch = 3
```

3.1.2.53 EnhanceOptions

```
message EnhanceOptions
```

Initial value:

```
{  
    StringOption algorithm_id = 1
```

3.1.2.54 ENROLL_AUTO_DETECTION

```
ENROLL_AUTO_DETECTION = 1
```

3.1.2.55 enroll_batch

```
IntOption enroll_batch = 7
```

3.1.2.56 enroll_flag

```
EnrollFlags enroll_flag = 8
```

3.1.2.57 ENROLL_FULL_IMAGE

```
enum ExtractFlags ENROLL_FULL_IMAGE = 0
```

3.1.2.58 ENROLL_PROVIDED_DETECTION

```
ENROLL_PROVIDED_DETECTION = 2
```

3.1.2.59 ENROLL_PROVIDED_TEMPLATE

```
ENROLL_PROVIDED_TEMPLATE = 3
```

3.1.2.60 EnrollmentInfo

```
message EnrollmentInfo
```

Initial value:

```
{  
    string database_id = 1
```

3.1.2.61 EnrollOptions

```
message EnrollOptions
```

Initial value:

```
{  
    BoolOption save_metadata = 1
```

3.1.2.62 entry_count

```
int64 entry_count = 2
```

3.1.2.63 entry_id

```
string entry_id = 2
```

3.1.2.64 entry_id_gallery

```
string entry_id_gallery = 9
```

3.1.2.65 entry_id_probe

```
string entry_id_probe = 8
```

3.1.2.66 entry_id_reference

```
string entry_id_reference = 6
```

3.1.2.67 entry_id_verification

```
string entry_id_verification = 7
```

3.1.2.68 entry_ids

```
repeated string entry_ids = 11
```

3.1.2.69 entry_sizes

```
repeated float entry_sizes = 13
```

3.1.2.70 entry_type

```
EntryType entry_type = 3
```

3.1.2.71 extract_batch

```
IntOption extract_batch = 4
```

3.1.2.72 ExtractOptions

message ExtractOptions

Initial value:

```
{  
  StringOption algorithm_id = 1
```

3.1.2.73 FACE

FACE = 2

3.1.2.74 face

BriarMedia face = 11

3.1.2.75 face_min_height

IntOption face_min_height = 5

3.1.2.76 face_threshold

FloatOption face_threshold = 3

3.1.2.77 failed_enrollment_count

int64 failed_enrollment_count = 4

3.1.2.78 FINGERPRINT

FINGERPRINT = 9

3.1.2.79 flag

```
ExtractFlags flag = 10
```

3.1.2.80 FloatOption

```
message FloatOption
```

Initial value:

```
{  
    bool override_default = 1
```

3.1.2.81 frame

```
int32 frame = 3
```

3.1.2.82 frame_count

```
int32 frame_count = 4
```

3.1.2.83 frame_end

```
int32 frame_end = 6
```

3.1.2.84 frame_metadata

```
repeated FrameMetadata frame_metadata = 2
```

3.1.2.85 frame_number

```
int32 frame_number = 10
```

3.1.2.86 frame_rate

```
float frame_rate = 7
```

3.1.2.87 frame_start

```
int32 frame_start = 5
```

3.1.2.88 FrameMetadata

```
message FrameMetadata
```

Initial value:

```
{  
  repeated Attribute attributes = 1
```

3.1.2.89 full

```
BoolOption full = 13
```

3.1.2.90 fvalue

```
float fvalue = 4
```

3.1.2.91 GAIT

```
GAIT = 3
```

3.1.2.92 gate

```
BriarMedia gate = 13
```

3.1.2.93 grpc_inbound_transfer_duration

```
BriarDuration grpc_inbound_transfer_duration = 4
```

3.1.2.94 grpc_outbound_transfer_duration

```
BriarDuration grpc_outbound_transfer_duration = 3
```

3.1.2.95 HAND

```
HAND = 12
```

3.1.2.96 HEAD

```
HEAD = 6
```

3.1.2.97 height

```
int32 height = 2
```

3.1.2.98 im

```
enum BriarDataType im = 1
```

3.1.2.99 integer_subject_id_gallery

```
int32 integer_subject_id_gallery = 15
```

3.1.2.100 IntOption

message IntOption

Initial value:

```
{  
    bool override_default = 1
```

3.1.2.101 IRIS

IRIS = 10

3.1.2.102 isCropped

bool isCropped = 18

3.1.2.103 ivalue

int32 ivalue = 5

3.1.2.104 json

bytes json = 8

3.1.2.105 length

int32 length = 2

3.1.2.106 location

BriarRect location = 2

3.1.2.107 mask

```
BriarMedia mask = 8
```

3.1.2.108 matrix

```
BriarMatrix matrix = 9
```

3.1.2.109 max_results

```
IntOption max_results = 6
```

3.1.2.110 media

```
BriarMedia media = 11
```

3.1.2.111 media_id

```
string media_id = 5
```

3.1.2.112 media_previews

```
map<string, BriarMedia> media_previews = 9
```

3.1.2.113 MediaMetadata

```
message MediaMetadata
```

Initial value:

```
{  
    repeated Attribute attributes = 1
```

3.1.2.114 metadata

```
repeated Attribute metadata = 19
```

3.1.2.115 minor

```
int32 minor = 2
```

3.1.2.116 modalities

```
repeated BiometricModality modalities = 9
```

3.1.2.117 modality

```
BiometricModality modality = 9
```

3.1.2.118 name

```
string name = 5
```

3.1.2.119 notes

```
string notes = 8
```

3.1.2.120 options

```
TrackingOptions options = 5
```

3.1.2.121 OTHER

```
OTHER = 15
```

3.1.2.122 output_type

```
StringOption output_type = 2
```

3.1.2.123 PALM

```
PALM = 14
```

3.1.2.124 parts

```
repeated TemplateData parts = 5
```

3.1.2.125 patch

```
int32 patch = 3
```

3.1.2.126 pickle

```
bytes pickle = 7
```

3.1.2.127 point

```
BriarPoint2D point = 12
```

3.1.2.128 probe_database

```
StringOption probe_database = 4
```

3.1.2.129 Record

message Record

Initial value:

```
{  
  
    BriarDatabase database_id = 1
```

3.1.2.130 RecordList

message RecordList

Initial value:

```
{  
  
    repeated Record records = 1
```

3.1.2.131 rect

BriarRect rect = 13

3.1.2.132 return_matrix

BoolOption return_matrix = 14

3.1.2.133 return_media

BoolOption return_media = 10

3.1.2.134 row_attributes

repeated Attribute row_attributes = 8

3.1.2.135 row_headers

```
repeated string row_headers = 2
```

3.1.2.136 row_headers_integer

```
repeated int32 row_headers_integer = 4
```

3.1.2.137 row_sources

```
repeated string row_sources = 6
```

3.1.2.138 rows

```
repeated BriarVector rows = 9
```

3.1.2.139 SEARCH_AUTO_DETECTION

```
SEARCH_AUTO_DETECTION = 1
```

3.1.2.140 search_batch

```
IntOption search_batch = 7
```

3.1.2.141 search_database

```
StringOption search_database = 3
```

3.1.2.142 SEARCH_FULL_IMAGE

```
enum VerifyFlags SEARCH_FULL_IMAGE = 0
```

3.1.2.143 SEARCH_PROVIDED_DETECTIONS

```
SEARCH_PROVIDED_DETECTIONS = 2
```

3.1.2.144 SEARCH_PROVIDED_TEMPLATES

```
SEARCH_PROVIDED_TEMPLATES = 3
```

3.1.2.145 search_threshold

```
FloatOption search_threshold = 5
```

3.1.2.146 SearchMatchInfo

```
message SearchMatchInfo
```

Initial value:

```
{  
    float score = 1
```

3.1.2.147 SearchMatchList

```
message SearchMatchList
```

Initial value:

```
{  
    repeated SearchMatchInfo match_list = 1
```

3.1.2.148 SearchOptions

```
message SearchOptions
```

Initial value:

```
{  
    StringOption out_dir = 1
```

3.1.2.149 segment_id

```
int32 segment_id = 8
```

3.1.2.150 segment_total

```
int32 segment_total = 9
```

3.1.2.151 serverside_source

```
string serverside_source = 15
```

3.1.2.152 service_duration

```
BriarDuration service_duration = 5
```

3.1.2.153 SOFT_BIOMETRICS

```
SOFT_BIOMETRICS = 8
```

3.1.2.154 source

```
string source = 14
```

3.1.2.155 source_id

```
repeated string source_id = 17
```

3.1.2.156 source_type

```
DataType source_type = 12
```

3.1.2.157 store_media

```
BoolOption store_media = 11
```

3.1.2.158 StringOption

```
message StringOption
```

Initial value:

```
{  
    bool override_default = 1
```

3.1.2.159 sub_durations

```
map<string, BriarDuration> sub_durations = 6
```

3.1.2.160 subject_id

```
string subject_id = 3
```

3.1.2.161 subject_id_gallery

```
string subject_id_gallery = 5
```

3.1.2.162 subject_id_integer

```
IntOption subject_id_integer = 16
```

3.1.2.163 subject_id_probe

```
string subject_id_probe = 4
```

3.1.2.164 subject_id_reference

```
string subject_id_reference = 5
```

3.1.2.165 subject_id_verify

```
string subject_id_verify = 4
```

3.1.2.166 subject_ids

```
repeated string subject_ids = 4
```

3.1.2.167 subject_name

```
string subject_name = 7
```

3.1.2.168 subject_previews

```
map<string, BriarMedia> subject_previews = 10
```

3.1.2.169 submodality

```
string submodality = 16
```

3.1.2.170 syntax

```
syntax = "proto3"
```

3.1.2.171 Template

message Template

Initial value:

```
{  
    string id = 1
```

3.1.2.172 template_count

int64 template_count = 3

3.1.2.173 TemplateData

message TemplateData

Initial value:

```
{  
    string key = 1
```

3.1.2.174 TemplateIds

message TemplateIds

Initial value:

```
{  
    repeated string ids = 1
```

3.1.2.175 TemplateList

message TemplateList

Initial value:

```
{  
    repeated Template tmpIs = 1
```

3.1.2.176 TemplateListGroup

message TemplateListGroup

Initial value:

```
{  
    repeated TemplateList group = 1
```

3.1.2.177 templates

```
string templates = 11
```

3.1.2.178 templates_per_entry

```
repeated int32 templates_per_entry = 12
```

3.1.2.179 text

```
string text = 6
```

3.1.2.180 theoretical_max

```
float theoretical_max = 3
```

3.1.2.181 theoretical_min

```
float theoretical_min = 2
```

3.1.2.182 threshold

```
FloatOption threshold = 3
```

3.1.2.183 total_database_size

```
float total_database_size = 5
```

3.1.2.184 total_duration

```
BriarDuration total_duration = 7
```

3.1.2.185 totalSteps

```
int64 totalSteps = 2
```

3.1.2.186 tracking_batch

```
IntOption tracking_batch = 4
```

3.1.2.187 tracking_disable

```
BoolOption tracking_disable = 2
```

3.1.2.188 tracking_options

```
TrackingOptions tracking_options = 11
```

3.1.2.189 TrackingOptions

```
message TrackingOptions
```

Initial value:

```
{  
    StringOption algorithm_id = 1
```

3.1.2.190 Tracklet

```
message Tracklet
```

Initial value:

```
{  
    repeated Detection detections = 1
```

3.1.2.191 tracklet_class

```
string tracklet_class = 3
```


3.1.2.192 tracklet_id

```
string tracklet_id = 5
```

3.1.2.193 tracklets

```
string tracklets = 12
```

3.1.2.194 type

```
EntryType type = 11
```

3.1.2.195 UNSPECIFIED

```
enum EntryType UNSPECIFIED = 0
```

3.1.2.196 use_detections

```
BoolOption use_detections = 8
```

3.1.2.197 use_subject_integer_id

```
BoolOption use_subject_integer_id = 15
```

3.1.2.198 use_templates

```
BoolOption use_templates = 9
```

3.1.2.199 use_whole_image

```
BoolOption use_whole_image = 10
```

3.1.2.200 uses_integer_gallery_id

```
bool uses_integer_gallery_id = 13
```

3.1.2.201 uses_integer_subject_id_gallery

```
bool uses_integer_subject_id_gallery = 14
```

3.1.2.202 value

```
float value = 2
```

3.1.2.203 vector

```
BriarVector vector = 10
```

3.1.2.204 VerifyMatchInfo

```
message VerifyMatchInfo
```

Initial value:

```
{  
    float score = 1
```

3.1.2.205 VerifyMatchList

```
message VerifyMatchList
```

Initial value:

```
{  
    repeated VerifyMatchInfo match_list = 1
```

3.1.2.206 VerifyOptions

```
message VerifyOptions
```

Initial value:

```
{  
    BoolOption debug = 1
```

3.1.2.207 VOICE

```
VOICE = 11
```

3.1.2.208 WHOLE_BODY

```
WHOLE_BODY = 1
```

3.1.2.209 width

```
int32 width = 3
```

3.1.2.210 xml

```
bytes xml = 14
```

3.1.2.211 y

```
float y = 2
```

3.2 briar_error.proto File Reference

Enumerations

- enum BriarError { BRIAR_NUM_ERRORS = 29 }

Variables

- `syntax` = "proto3"
- option `csharp_namespace` = "briar.BriarGrpc"
- package `briar`
- message `BriarErrors`
- int32 `length` = 2
- message `BriarErrorMessage`
- string `error_message` = 2

3.2.1 Enumeration Type Documentation

3.2.1.1 BriarError

```
enum BriarError
```

Enumerator

BRIAR_NUM_ERRORS	
------------------	--

3.2.2 Variable Documentation

3.2.2.1 briar

```
package briar
```

3.2.2.2 BriarErrorMessage

```
message BriarErrorMessage
```

Initial value:

```
{
    int32 error_code = 1
```

3.2.2.3 BriarErrors

```
message BriarErrors
```

Initial value:

```
{
    repeated BriarError errors = 1
```

3.2.2.4 csharp_namespace

```
option csharp_namespace = "briar.BriarGrpc"
```

3.2.2.5 error_message

```
string error_message = 2
```

3.2.2.6 length

```
int32 length = 2
```

3.2.2.7 syntax

```
syntax = "proto3"
```

3.3 briar_service.proto File Reference

Functions

- rpc [detect](#) (stream DetectRequest) returns(stream DetectReply)
- rpc [track](#) (stream TrackRequest) returns(stream TrackReply)
- rpc [extract](#) (stream ExtractRequest) returns(stream ExtractReply)
- rpc [enroll](#) (stream EnrollRequest) returns(stream EnrollReply)
- rpc [sigset_enroll_custom](#) (EnrollCustomRequest) returns(stream EnrollReply)
- rpc [enroll_subject](#) (stream EnrollRequest) returns(stream EnrollReply)
- rpc [verify](#) (stream VerifyRequest) returns(VerifyReply)
- rpc [search](#) (stream SearchRequest) returns(stream SearchReply)
- rpc [enhance](#) (stream [EnhanceRequest](#)) returns(stream [EnhanceReply](#))
- rpc [database_create](#) (DatabaseCreateRequest) returns(DatabaseCreateReply)
- rpc [database_merge](#) (DatabaseMergeRequest) returns(DatabaseMergeReply)
- rpc [database_rename](#) (DatabaseRenameRequest) returns(DatabaseRenameReply)
- rpc [database_delete](#) (DatabaseDeleteRequest) returns(DatabaseDeleteReply)
- rpc [database_load](#) (DatabaseLoadRequest) returns(DatabaseLoadReply)
- rpc [database_retrieve](#) (stream DatabaseRetrieveRequest) returns(stream DatabaseRetrieveReply)
- rpc [database_insert](#) (DatabaseInsertRequest) returns(DatabaseInsertReply)
- rpc [database_list](#) (DatabaseListRequest) returns(DatabaseListReply)
- rpc [database_list_entries](#) (DatabaseListEntriesRequest) returns(DatabaseListentriesReply)
- rpc [database_has_entry](#) (DatabaseHasEntryRequest) returns(DatabaseHasEntryReply)
- rpc [database_has_entries](#) (stream DatabaseHasEntryRequest) returns(stream DatabaseHasEntryReply)
- rpc [database_move_entry](#) (DatabaseMoveEntryRequest) returns(DatabaseMoveEntryReply)

- rpc [database_move_entries](#) (stream DatabaseMoveEntryRequest) returns(stream DatabaseMoveEntry↵
Reply)
- rpc [database_info](#) (DatabaseInfoRequest) returns(DatabaseInfoReply)
- rpc [database_remove_templates](#) (DatabaseRemoveTmplsRequest) returns(DatabaseRemoveTmplsReply)
- rpc [database_checkpoint_subject](#) (DatabaseCheckpointSubjectRequest) returns(DatabaseCheckpoint↵
Reply)
- rpc [database_checkpoint](#) (DatabaseCheckpointRequest) returns(DatabaseCheckpointReply)
- rpc [database_finalize](#) (DatabaseFinalizeRequest) returns(DatabaseFinalizeReply)
- rpc [database_refresh](#) (Empty) returns(Empty)
- rpc [database_compute_search](#) (SearchDatabaseRequest) returns(stream SearchDatabaseReply)
- rpc [database_compute_verify](#) (VerifyDatabaseRequest) returns(VerifyDatabaseReply)
- rpc [get_service_configuration](#) (BriarServiceConfigurationRequest) returns(BriarServiceConfigurationReply)

Variables

- [syntax](#) = "proto3"
- option [csharp_namespace](#) = "briar.BriarGrpc"
- package [briar](#)
- import [briar](#) [briar_grpc](#) [briar_error](#) [proto](#)
- service [BRIARService](#)
- message [Empty](#)
- message [ClusterReply](#)
- repeated [ClusterConfidence](#) [cluster_confidences](#) = 2
- [BriarDurations](#) [durations](#) = 3
- [BriarErrors](#) [errors](#) = 4
- [BriarProgress](#) [progress](#) = 5
- message [EnhanceRequest](#)
- repeated [Attribute](#) [metadata](#) = 2
- repeated [Attribute](#) [options](#) = 3
- int64 [frame_id](#) = 4
- [EnhanceOptions](#) [enhance_options](#) = 6
- message [EnhanceReply](#)
- bool [progress_only_reply](#) = 5
- message [DatabaseFinalizeRequest](#)
- message [DatabaseFinalizeReply](#)
- bool [exists](#) = 3

3.3.1 Function Documentation

3.3.1.1 database_checkpoint()

```
rpc database_checkpoint (
    DatabaseCheckpointRequest )
```

3.3.1.2 database_checkpoint_subject()

```
rpc database_checkpoint_subject (
    DatabaseCheckpointSubjectRequest )
```

3.3.1.3 database_compute_search()

```
rpc database_compute_search (
    SearchDatabaseRequest )
```

3.3.1.4 database_compute_verify()

```
rpc database_compute_verify (
    VerifyDatabaseRequest )
```

3.3.1.5 database_create()

```
rpc database_create (
    DatabaseCreateRequest )
```

3.3.1.6 database_delete()

```
rpc database_delete (
    DatabaseDeleteRequest )
```

3.3.1.7 database_finalize()

```
rpc database_finalize (
    DatabaseFinalizeRequest )
```

3.3.1.8 database_has_entries()

```
rpc database_has_entries (
    stream DatabaseHasEntryRequest )
```

3.3.1.9 database_has_entry()

```
rpc database_has_entry (
    DatabaseHasEntryRequest )
```

3.3.1.10 database_info()

```
rpc database_info (
    DatabaseInfoRequest )
```

3.3.1.11 database_insert()

```
rpc database_insert (
    DatabaseInsertRequest )
```

3.3.1.12 database_list()

```
rpc database_list (
    DatabaseListRequest )
```

3.3.1.13 database_list_entries()

```
rpc database_list_entries (
    DatabaseListEntriesRequest )
```

3.3.1.14 database_load()

```
rpc database_load (
    DatabaseLoadRequest )
```

3.3.1.15 database_merge()

```
rpc database_merge (
    DatabaseMergeRequest )
```


3.3.1.16 database_move_entries()

```
rpc database_move_entries (
    stream DatabaseMoveEntryRequest )
```

3.3.1.17 database_move_entry()

```
rpc database_move_entry (
    DatabaseMoveEntryRequest )
```

3.3.1.18 database_refresh()

```
rpc database_refresh (
    Empty )
```

3.3.1.19 database_remove_templates()

```
rpc database_remove_templates (
    DatabaseRemoveTplRequest )
```

3.3.1.20 database_rename()

```
rpc database_rename (
    DatabaseRenameRequest )
```

3.3.1.21 database_retrieve()

```
rpc database_retrieve (
    stream DatabaseRetrieveRequest )
```

3.3.1.22 detect()

```
rpc detect (
    stream DetectRequest )
```

3.3.1.23 enhance()

```
rpc enhance (
    stream EnhanceRequest )
```

3.3.1.24 enroll()

```
rpc enroll (
    stream EnrollRequest )
```

3.3.1.25 enroll_subject()

```
rpc enroll_subject (
    stream EnrollRequest )
```

3.3.1.26 extract()

```
rpc extract (
    stream ExtractRequest )
```

3.3.1.27 get_service_configuration()

```
rpc get_service_configuration (
    BriarServiceConfigurationRequest )
```

3.3.1.28 search()

```
rpc search (
    stream SearchRequest )
```

3.3.1.29 sigset_enroll_custom()

```
rpc sigset_enroll_custom (
    EnrollCustomRequest )
```

3.3.1.30 track()

```
rpc track (
    stream TrackRequest )
```

3.3.1.31 verify()

```
rpc verify (
    stream VerifyRequest )
```

3.3.2 Variable Documentation

3.3.2.1 briar

```
package briar
```

3.3.2.2 BRIARService

```
service BRIARService
```

Initial value:

```
{

    rpc status(StatusRequest) returns (StatusReply){}
```

3.3.2.3 cluster_confidences

```
repeated ClusterConfidence cluster_confidences = 2
```

3.3.2.4 ClusterReply

```
message ClusterReply
```

Initial value:

```
{
    repeated ClusterIds cluster_ids = 1
```

3.3.2.5 csharp_namespace

```
option csharp_namespace = "briar.BriarGrpc"
```

3.3.2.6 DatabaseFinalizeReply

```
message DatabaseFinalizeReply
```

Initial value:

```
{  
    BriarDurations durations = 1
```

3.3.2.7 DatabaseFinalizeRequest

```
message DatabaseFinalizeRequest
```

Initial value:

```
{  
    BriarDatabase database = 1
```

3.3.2.8 durations

```
BriarDurations durations = 3
```

3.3.2.9 Empty

```
message Empty
```

3.3.2.10 enhance_options

```
EnhanceOptions enhance_options = 6
```

3.3.2.11 EnhanceReply

```
message EnhanceReply
```

Initial value:

```
{  
    BriarMedia media = 1
```

3.3.2.12 EnhanceRequest

message EnhanceRequest

Initial value:

```
{  
    BriarMedia media = 1
```

3.3.2.13 errors

```
BriarErrors errors = 4
```

3.3.2.14 exists

```
bool exists = 3
```

3.3.2.15 frame_id

```
int64 frame_id = 4
```

3.3.2.16 metadata

```
repeated Attribute metadata = 2
```

3.3.2.17 options

```
repeated Attribute options = 3
```

3.3.2.18 progress

```
BriarProgress progress = 5
```

3.3.2.19 progress_only_reply

```
bool progress_only_reply = 5
```

3.3.2.20 proto

```
import briar briar_grpc briar proto
```

3.3.2.21 syntax

```
syntax = "proto3"
```

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