

TrackerControl

Generated by Doxygen 1.9.3

1 Hierarchical Index	1
1.1 Class Hierarchy	1
2 Class Index	5
2.1 Class List	5
3 File Index	7
3.1 File List	7
4 Class Documentation	9
4.1 eu.faircode.netguard.DatabaseHelper.AccessChangedListener Interface Reference	9
4.2 net.kollnig.missioncontrol.details.ActionsFragment Class Reference	9
4.2.1 Detailed Description	10
4.2.2 Member Function Documentation	10
4.2.2.1 sendEmail()	10
4.3 eu.faircode.netguard.ActivityDns Class Reference	10
4.4 eu.faircode.netguard.ActivityForwardApproval Class Reference	11
4.5 eu.faircode.netguard.ActivityForwarding Class Reference	11
4.6 eu.faircode.netguard.ActivityLog Class Reference	12
4.7 eu.faircode.netguard.ActivityMain Class Reference	12
4.8 eu.faircode.netguard.ActivitySettings Class Reference	13
4.9 eu.faircode.netguard.AdapterAccess Class Reference	14
4.10 eu.faircode.netguard.AdapterDns Class Reference	14
4.11 eu.faircode.netguard.AdapterForwarding Class Reference	15
4.12 eu.faircode.netguard.AdapterLog Class Reference	15
4.13 eu.faircode.netguard.AdapterRule Class Reference	16
4.14 alloc_record Struct Reference	17
4.15 allowed Struct Reference	17
4.16 eu.faircode.netguard.Allowed Class Reference	17
4.17 net.kollnig.missioncontrol.analysis.AnalysisException Class Reference	17
4.17.1 Detailed Description	18
4.18 eu.faircode.netguard.ApplicationEx Class Reference	18
4.19 eu.faircode.netguard.ApplicationExFilter Class Reference	18
4.20 arguments Struct Reference	19
4.21 eu.faircode.netguard.ServiceSinkhole.Command Enum Reference	19
4.22 net.kollnig.missioncontrol.Common Class Reference	20
4.22.1 Member Function Documentation	20
4.22.1.1 adSettings()	20
4.22.1.2 browse()	20
4.22.1.3 dayOfYear()	21
4.22.1.4 emailIntent()	21
4.22.1.5 fetch()	21
4.22.1.6 getAppName()	22

4.22.1.7 getLaunchIntent()	22
4.22.1.8 getSnackbar()	22
4.22.1.9 hasAdSettings()	23
4.22.1.10 isCallable()	23
4.23 context Struct Reference	23
4.24 net.kollnig.missioncontrol.details.CountriesFragment Class Reference	24
4.24.1 Member Function Documentation	24
4.24.1.1 getHostCountriesCount()	24
4.25 eu.faircode.netguard.DatabaseHelper Class Reference	25
4.26 net.kollnig.missioncontrol.DetailsActivity Class Reference	26
4.26.1 Member Function Documentation	27
4.26.1.1 savePrefs()	27
4.27 net.kollnig.missioncontrol.DetailsStateAdapter Class Reference	27
4.27.1 Detailed Description	28
4.28 dhcp_option Struct Reference	28
4.29 dhcp_packet Struct Reference	28
4.30 dns_header Struct Reference	29
4.31 dns_rr Struct Reference	29
4.32 eu.faircode.netguard.Util.DoubtListener Interface Reference	29
4.33 eu.faircode.netguard.DownloadTask Class Reference	30
4.34 eu.faircode.netguard.ExpandedListView Class Reference	30
4.35 eu.faircode.netguard.Forward Class Reference	31
4.36 eu.faircode.netguard.DatabaseHelper.ForwardChangedListener Interface Reference	31
4.37 eu.faircode.netguard.FragmentSettings Class Reference	31
4.38 eu.faircode.netguard.GlideHelper Class Reference	32
4.39 icmp_session Struct Reference	32
4.40 net.kollnig.missioncontrol.data.InternetBlocklist Class Reference	33
4.40.1 Detailed Description	33
4.40.2 Member Function Documentation	33
4.40.2.1 block()	33
4.40.2.2 blockedInternet()	33
4.40.2.3 clear()	34
4.40.2.4 getBlocklist()	34
4.40.2.5 getInstance()	34
4.40.2.6 loadSettings()	35
4.40.2.7 unblock()	35
4.41 ip6_hdr_pseudo Struct Reference	35
4.42 eu.faircode.netguard.IPUtil Class Reference	35
4.43 eu.faircode.netguard.DownloadTask.Listener Interface Reference	36
4.44 eu.faircode.netguard.DatabaseHelper.LogChangedListener Interface Reference	36
4.45 ng_session Struct Reference	36
4.46 eu.faircode.netguard.Packet Class Reference	37

4.47 net.kollnig.missioncontrol.data.Pair< T, U > Class Template Reference	37
4.47.1 Detailed Description	37
4.48 pcap_hdr_s Struct Reference	38
4.49 pcaprec_hdr_s Struct Reference	38
4.50 net.kollnig.missioncontrol.data.PlayStore Class Reference	38
4.50.1 Detailed Description	38
4.50.2 Member Function Documentation	38
4.50.2.1 getInfo()	38
4.51 eu.faircode.netguard.ReceiverAutostart Class Reference	39
4.52 eu.faircode.netguard.ReceiverPackageRemoved Class Reference	39
4.53 eu.faircode.netguard.ResourceRecord Class Reference	40
4.54 eu.faircode.netguard.Rule Class Reference	40
4.55 segment Struct Reference	41
4.56 eu.faircode.netguard.ServiceExternal Class Reference	42
4.57 eu.faircode.netguard.ServiceSinkhole Class Reference	42
4.58 eu.faircode.netguard.ServiceTileMain Class Reference	43
4.59 eu.faircode.netguard.SwitchPreference Class Reference	43
4.60 tcp_session Struct Reference	44
4.61 net.kollnig.missioncontrol.data.Tracker Class Reference	45
4.61.1 Detailed Description	45
4.61.2 Constructor & Destructor Documentation	45
4.61.2.1 Tracker() [1/2]	45
4.61.2.2 Tracker() [2/2]	45
4.61.3 Member Function Documentation	46
4.61.3.1 getCategory()	46
4.61.3.2 getHosts()	46
4.61.3.3 getName()	46
4.62 net.kollnig.missioncontrol.data.TrackerBlocklist Class Reference	47
4.62.1 Detailed Description	47
4.62.2 Member Function Documentation	47
4.62.2.1 block() [1/2]	47
4.62.2.2 block() [2/2]	48
4.62.2.3 blocked()	48
4.62.2.4 blockedTracker()	48
4.62.2.5 clear() [1/2]	49
4.62.2.6 clear() [2/2]	49
4.62.2.7 getBlockingKey()	49
4.62.2.8 getBlocklist()	49
4.62.2.9 getInstance()	50
4.62.2.10 getSubset()	50
4.62.2.11 loadSettings()	50
4.62.2.12 unblock() [1/2]	51

4.62.2.13 unblock() [2/2]	51
4.63 net.kollnig.missioncontrol.data.TrackerCategory Class Reference	51
4.63.1 Detailed Description	52
4.63.2 Member Function Documentation	52
4.63.2.1 getCategoryName()	52
4.63.2.2 getChildren()	52
4.63.2.3 getDisplayName()	52
4.63.2.4 isUncertain()	53
4.63.2.5 setUncertain()	53
4.64 net.kollnig.missioncontrol.data.TrackerLibrary Class Reference	53
4.64.1 Detailed Description	54
4.64.2 Constructor & Destructor Documentation	54
4.64.2.1 TrackerLibrary()	54
4.64.3 Member Function Documentation	54
4.64.3.1 equals()	54
4.64.3.2 getId()	55
4.64.3.3 getName()	55
4.65 net.kollnig.missioncontrol.analysis.TrackerLibraryAnalyser Class Reference	55
4.65.1 Member Function Documentation	55
4.65.1.1 analyse()	55
4.66 net.kollnig.missioncontrol.data.TrackerList Class Reference	56
4.66.1 Detailed Description	56
4.66.2 Member Function Documentation	56
4.66.2.1 findTracker()	56
4.66.2.2 getAppInfo()	57
4.66.2.3 getAppTrackers()	57
4.66.2.4 getInstance()	57
4.66.2.5 getTrackerCountsAndTotal()	58
4.66.2.6 loadTrackers()	58
4.67 net.kollnig.missioncontrol.details.TrackersFragment Class Reference	58
4.67.1 Detailed Description	59
4.67.2 Constructor & Destructor Documentation	59
4.67.2.1 TrackersFragment()	59
4.67.3 Member Function Documentation	59
4.67.3.1 updateTrackerList()	59
4.68 net.kollnig.missioncontrol.details.TrackersListAdapter Class Reference	60
4.68.1 Detailed Description	60
4.69 udp_session Struct Reference	60
4.70 uid_cache_entry Struct Reference	61
4.71 eu.faircode.netguard.Usage Class Reference	61
4.72 eu.faircode.netguard.Util Class Reference	62
4.73 eu.faircode.netguard.WidgetAdmin Class Reference	63

4.73.1 Member Function Documentation	64
4.73.1.1 onReceive()	64
4.74 eu.faircode.netguard.WidgetMain Class Reference	64
5 File Documentation	65
5.1 netguard.h	65
5.2 tls.h	71
Index	73

Chapter 1

Hierarchical Index

1.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

eu.faircode.netguard.DatabaseHelper.AccessChangedListener	9
RecyclerView.Adapter	
eu.faircode.netguard.AdapterRule	16
net.kollnig.missioncontrol.details.TrackersListAdapter	60
alloc_record	17
allowed	17
eu.faircode.netguard.Allowed	17
arguments	19
eu.faircode.netguard.ServiceSinkhole.Command	19
net.kollnig.missioncontrol.Common	20
Comparable	
net.kollnig.missioncontrol.data.TrackerLibrary	53
context	23
dhcp_option	28
dhcp_packet	28
dns_header	29
dns_rr	29
eu.faircode.netguard.Util.DoubtListener	29
Exception	
net.kollnig.missioncontrol.analysis.AnalysisException	17
eu.faircode.netguard.Forward	31
eu.faircode.netguard.DatabaseHelper.ForwardChangedListener	31
icmp_session	32
net.kollnig.missioncontrol.data.InternetBlocklist	33
ip6_hdr_pseudo	35
eu.faircode.netguard.IPUtil	35
eu.faircode.netguard.DownloadTask.Listener	36
eu.faircode.netguard.DatabaseHelper.LogChangedListener	36
ng_session	36
View.OnClickListener	
net.kollnig.missioncontrol.details.ActionsFragment	9
SharedPreferences.OnSharedPreferenceChangeListener	
eu.faircode.netguard.ActivityLog	12
eu.faircode.netguard.ActivityMain	12
eu.faircode.netguard.ActivitySettings	13

eu.faircode.netguard.ServiceTileMain	43
eu.faircode.netguard.Packet	37
net.kollnig.missioncontrol.data.Pair< T, U >	37
pcap_hdr_s	38
pcaprec_hdr_s	38
net.kollnig.missioncontrol.data.PlayStore	38
eu.faircode.netguard.ResourceRecord	40
eu.faircode.netguard.Rule	40
segment	41
android.preference.SwitchPreference	
eu.faircode.netguard.SwitchPreference	43
tcp_session	44
net.kollnig.missioncontrol.data.Tracker	45
net.kollnig.missioncontrol.data.TrackerBlocklist	47
net.kollnig.missioncontrol.data.TrackerCategory	51
net.kollnig.missioncontrol.analysis.TrackerLibraryAnalyser	55
net.kollnig.missioncontrol.data.TrackerList	56
udp_session	60
uid_cache_entry	61
eu.faircode.netguard.Usage	61
eu.faircode.netguard.Util	62
Activity	
eu.faircode.netguard.ActivityForwardApproval	11
AppCompatActivity	
eu.faircode.netguard.ActivityDns	10
eu.faircode.netguard.ActivityForwarding	11
eu.faircode.netguard.ActivityLog	12
eu.faircode.netguard.ActivityMain	12
eu.faircode.netguard.ActivitySettings	13
net.kollnig.missioncontrol.DetailsActivity	26
AppGlideModule	
eu.faircode.netguard.GlideHelper	32
Application	
eu.faircode.netguard.ApplicationEx	18
AppWidgetProvider	
eu.faircode.netguard.WidgetMain	64
AsyncTask	
eu.faircode.netguard.DownloadTask	30
BroadcastReceiver	
eu.faircode.netguard.ReceiverAutostart	39
eu.faircode.netguard.WidgetAdmin	63
eu.faircode.netguard.ReceiverPackageRemoved	39
CursorAdapter	
eu.faircode.netguard.AdapterAccess	14
eu.faircode.netguard.AdapterDns	14
eu.faircode.netguard.AdapterForwarding	15
eu.faircode.netguard.AdapterLog	15
Filterable	
eu.faircode.netguard.AdapterRule	16
Fragment	
net.kollnig.missioncontrol.details.ActionsFragment	9
net.kollnig.missioncontrol.details.CountriesFragment	24
net.kollnig.missioncontrol.details.TrackersFragment	58
FragmentStateAdapter	
net.kollnig.missioncontrol.DetailsStateAdapter	27
IntentService	
eu.faircode.netguard.ServiceExternal	42
Listview	

eu.faircode.netguard.ExpandedListView	30
PreferenceFragment	
eu.faircode.netguard.FragmentSettings	31
ReportingAdministrator	
eu.faircode.netguard.ApplicationExFilter	18
SQLiteOpenHelper	
eu.faircode.netguard.DatabaseHelper	25
TileService	
eu.faircode.netguard.ServiceTileMain	43
VpnService	
eu.faircode.netguard.ServiceSinkhole	42

Chapter 2

Class Index

2.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

eu.faircode.netguard.DatabaseHelper.AccessChangedListener	9
net.kollnig.missioncontrol.details.ActionsFragment	9
eu.faircode.netguard.ActivityDns	10
eu.faircode.netguard.ActivityForwardApproval	11
eu.faircode.netguard.ActivityForwarding	11
eu.faircode.netguard.ActivityLog	12
eu.faircode.netguard.ActivityMain	12
eu.faircode.netguard.ActivitySettings	13
eu.faircode.netguard.AdapterAccess	14
eu.faircode.netguard.AdapterDns	14
eu.faircode.netguard.AdapterForwarding	15
eu.faircode.netguard.AdapterLog	15
eu.faircode.netguard.AdapterRule	16
alloc_record	17
allowed	17
eu.faircode.netguard.Allowed	17
net.kollnig.missioncontrol.analysis.AnalysisException	17
eu.faircode.netguard.ApplicationEx	18
eu.faircode.netguard.ApplicationExFilter	18
arguments	19
eu.faircode.netguard.ServiceSinkhole.Command	19
net.kollnig.missioncontrol.Common	20
context	23
net.kollnig.missioncontrol.details.CountriesFragment	24
eu.faircode.netguard.DatabaseHelper	25
net.kollnig.missioncontrol.DetailsActivity	26
net.kollnig.missioncontrol.DetailsStateAdapter	27
dhcp_option	28
dhcp_packet	28
dns_header	29
dns_rr	29
eu.faircode.netguard.Util.DoubtListener	29
eu.faircode.netguard.DownloadTask	30
eu.faircode.netguard.ExpandedListView	30
eu.faircode.netguard.Forward	31

eu.faircode.netguard.DatabaseHelper.ForwardChangedListener	31
eu.faircode.netguard.FragmentSettings	31
eu.faircode.netguard.GlideHelper	32
icmp_session	32
net.kollnig.missioncontrol.data.InternetBlocklist	33
ip6_hdr_pseudo	35
eu.faircode.netguard.IPUtil	35
eu.faircode.netguard.DownloadTask.Listener	36
eu.faircode.netguard.DatabaseHelper.LogChangedListener	36
ng_session	36
eu.faircode.netguard.Packet	37
net.kollnig.missioncontrol.data.Pair< T, U >	37
pcap_hdr_s	38
pcaprec_hdr_s	38
net.kollnig.missioncontrol.data.PlayStore	38
eu.faircode.netguard.ReceiverAutostart	39
eu.faircode.netguard.ReceiverPackageRemoved	39
eu.faircode.netguard.ResourceRecord	40
eu.faircode.netguard.Rule	40
segment	41
eu.faircode.netguard.ServiceExternal	42
eu.faircode.netguard.ServiceSinkhole	42
eu.faircode.netguard.ServiceTileMain	43
eu.faircode.netguard.SwitchPreference	43
tcp_session	44
net.kollnig.missioncontrol.data.Tracker	45
net.kollnig.missioncontrol.data.TrackerBlocklist	47
net.kollnig.missioncontrol.data.TrackerCategory	51
net.kollnig.missioncontrol.data.TrackerLibrary	53
net.kollnig.missioncontrol.analysis.TrackerLibraryAnalyser	55
net.kollnig.missioncontrol.data.TrackerList	56
net.kollnig.missioncontrol.details.TrackersFragment	58
net.kollnig.missioncontrol.details.TrackersListAdapter	60
udp_session	60
uid_cache_entry	61
eu.faircode.netguard.Usage	61
eu.faircode.netguard.Util	62
eu.faircode.netguard.WidgetAdmin	63
eu.faircode.netguard.WidgetMain	64

Chapter 3

File Index

3.1 File List

Here is a list of all documented files with brief descriptions:

app/src/main/jni/netguard/ netguard.h	65
app/src/main/jni/netguard/ tls.h	71

Chapter 4

Class Documentation

4.1 eu.faircode.netguard.DatabaseHelper.AccessChangeListener Interface Reference

Public Member Functions

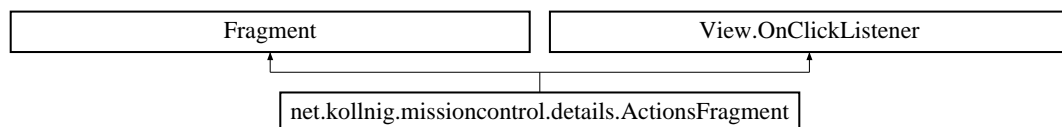
- void **onChanged** ()

The documentation for this interface was generated from the following file:

- app/src/main/java/eu/faircode/netguard/DatabaseHelper.java

4.2 net.kollnig.missioncontrol.details.ActionsFragment Class Reference

Inheritance diagram for net.kollnig.missioncontrol.details.ActionsFragment:



Public Member Functions

- View **onCreateView** (LayoutInflater inflater, ViewGroup container, Bundle savedInstanceState)
- void **onCreate** (Bundle savedInstanceState)
- void **onViewCreated** (@NonNull final View v, Bundle savedInstanceState)
- void **onClick** (View v)
- void **sendEmail** (@Nullable String email, String subject, String body)

Static Public Member Functions

- static **ActionsFragment newInstance** (String appId, String appName)

4.2.1 Detailed Description

A simple **Fragment** (p.??) subclass. Use the **ActionsFragment#newInstance** (p.??) factory method to create an instance of this fragment.

4.2.2 Member Function Documentation

4.2.2.1 sendEmail()

```
void net.kollnig.missioncontrol.details.ActionsFragment.sendEmail (
    @Nullable String email,
    String subject,
    String body )
```

Show an intent to write an email

Parameters

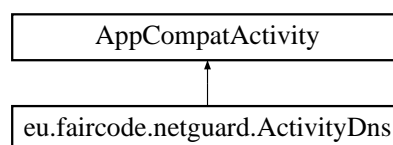
<i>email</i>	The recipient email address
<i>subject</i>	The email subject
<i>body</i>	The email body

The documentation for this class was generated from the following file:

- app/src/main/java/net/kollnig/missioncontrol/details/ActionsFragment.java

4.3 eu.faircode.netguard.ActivityDns Class Reference

Inheritance diagram for eu.faircode.netguard.ActivityDns:



Public Member Functions

- boolean **onCreateOptionsMenu** (Menu menu)
- boolean **onPrepareOptionsMenu** (Menu menu)
- boolean **onOptionsItemSelected** (MenuItem item)

Protected Member Functions

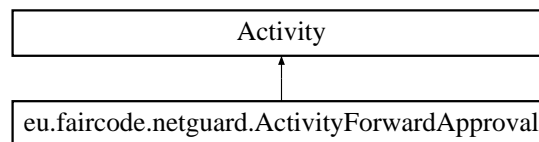
- void **onCreate** (Bundle savedInstanceState)
- void **onActivityResult** (int requestCode, int resultCode, Intent data)
- void **onDestroy** ()

The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/ActivityDns.java

4.4 eu.faircode.netguard.ActivityForwardApproval Class Reference

Inheritance diagram for eu.faircode.netguard.ActivityForwardApproval:



Protected Member Functions

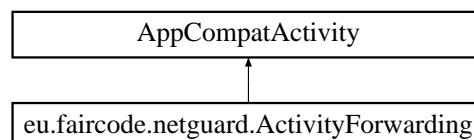
- void **onCreate** (Bundle savedInstanceState)

The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/ActivityForwardApproval.java

4.5 eu.faircode.netguard.ActivityForwarding Class Reference

Inheritance diagram for eu.faircode.netguard.ActivityForwarding:



Public Member Functions

- boolean **onCreateOptionsMenu** (Menu menu)
- boolean **onOptionsItemSelected** (MenuItem item)

Protected Member Functions

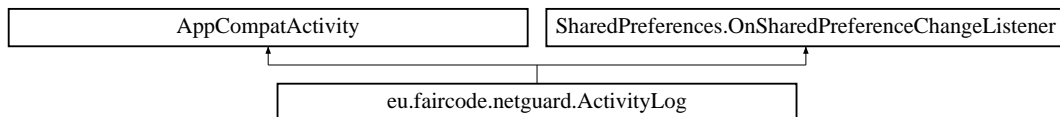
- void **onCreate** (Bundle savedInstanceState)
- void **onResume** ()
- void **onPause** ()
- void **onDestroy** ()

The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/ActivityForwarding.java

4.6 eu.faircode.netguard.ActivityLog Class Reference

Inheritance diagram for eu.faircode.netguard.ActivityLog:



Public Member Functions

- void **onSharedPreferencesChanged** (SharedPreferences prefs, String name)
- boolean **onCreateOptionsMenu** (Menu menu)
- boolean **onPrepareOptionsMenu** (Menu menu)
- boolean **onOptionsItemSelected** (MenuItem item)

Protected Member Functions

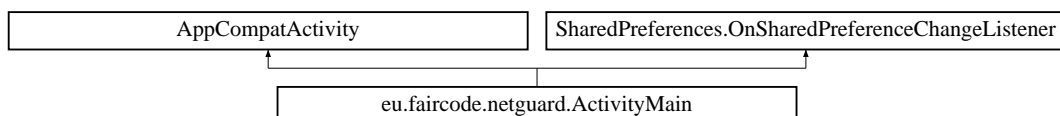
- void **onCreate** (Bundle savedInstanceState)
- void **onResume** ()
- void **onPause** ()
- void **onDestroy** ()
- void **onActivityResult** (int requestCode, int resultCode, final Intent data)

The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/ActivityLog.java

4.7 eu.faircode.netguard.ActivityMain Class Reference

Inheritance diagram for eu.faircode.netguard.ActivityMain:



Public Member Functions

- void **onConfigurationChanged** (Configuration newConfig)
- void **onDestroy** ()
- void **onRequestPermissionsResult** (int requestCode, @NonNull String[] permissions, @NonNull int[] grantResults)
- void **onSharedPreferencesChanged** (SharedPreferences prefs, String name)
- boolean **onCreateOptionsMenu** (Menu menu)
- boolean **onPrepareOptionsMenu** (Menu menu)
- boolean **onOptionsItemSelected** (MenuItem item)

Static Public Attributes

- static final int **REQUEST_ROAMING** = 4
- static final int **REQUEST_DETAILS_UPDATED** = 5
- static final int **REQUEST_BATTERY_OPTIMIZATION** = 20
- static final String **ACTION_RULES_CHANGED** = "eu.faircode.netguard.ACTION_RULES_CHANGED"
- static final String **ACTION_QUEUE_CHANGED** = "eu.faircode.netguard.ACTION_QUEUE_CHANGED"
- static final String **EXTRA_REFRESH** = "Refresh"
- static final String **EXTRA_SEARCH** = "Search"
- static final String **EXTRA_RELATED** = "Related"
- static final String **EXTRA_APPROVE** = "Approve"
- static final String **EXTRA_LOGCAT** = "Logcat"
- static final String **EXTRA_CONNECTED** = "Connected"
- static final String **EXTRA_METERED** = "Metered"
- static final String **EXTRA_SIZE** = "Size"

Protected Member Functions

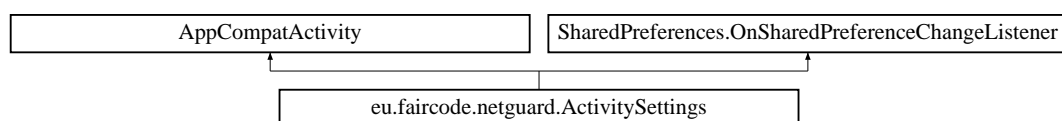
- void **onCreate** (Bundle savedInstanceState)
- void **onNewIntent** (Intent intent)
- void **onResume** ()
- void **onPause** ()
- void **onActivityResult** (int requestCode, int resultCode, final Intent data)

The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/ActivityMain.java

4.8 eu.faircode.netguard.ActivitySettings Class Reference

Inheritance diagram for eu.faircode.netguard.ActivitySettings:



Public Member Functions

- boolean **onOptionsItemSelected** (MenuItem item)
- void **onSharedPreferenceChanged** (SharedPreferences prefs, String name)
- void **onRequestPermissionsResult** (int requestCode, @NonNull String[] permissions, @NonNull int[] grantResults)

Protected Member Functions

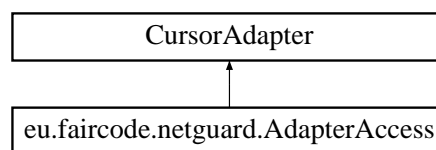
- void **onCreate** (Bundle savedInstanceState)
- void **onPostCreate** (Bundle savedInstanceState)
- void **onResume** ()
- void **onPause** ()
- void **onDestroy** ()
- void **onActivityResult** (int requestCode, int resultCode, final Intent data)

The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/ActivitySettings.java

4.9 eu.faircode.netguard.AdapterAccess Class Reference

Inheritance diagram for eu.faircode.netguard.AdapterAccess:



Public Member Functions

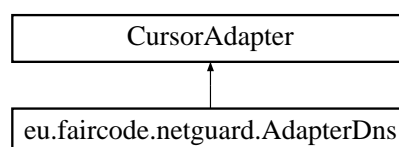
- **AdapterAccess** (Context **context**, Cursor cursor)
- View **newView** (Context **context**, Cursor cursor, ViewGroup parent)
- void **bindView** (final View view, final Context **context**, final Cursor cursor)

The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/AdapterAccess.java

4.10 eu.faircode.netguard.AdapterDns Class Reference

Inheritance diagram for eu.faircode.netguard.AdapterDns:



Public Member Functions

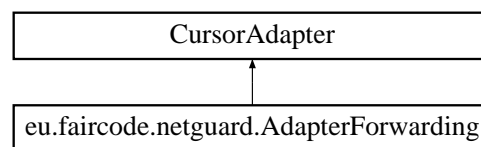
- **AdapterDns** (Context **context**, Cursor cursor)
- View **newView** (Context **context**, Cursor cursor, ViewGroup parent)
- void **bindView** (final View view, final Context **context**, final Cursor cursor)

The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/AdapterDns.java

4.11 eu.faircode.netguard.AdapterForwarding Class Reference

Inheritance diagram for eu.faircode.netguard.AdapterForwarding:



Public Member Functions

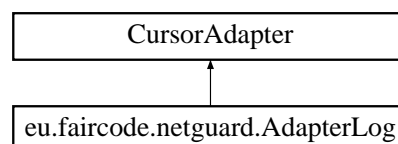
- **AdapterForwarding** (Context **context**, Cursor cursor)
- View **newView** (Context **context**, Cursor cursor, ViewGroup parent)
- void **bindView** (final View view, final Context **context**, final Cursor cursor)

The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/AdapterForwarding.java

4.12 eu.faircode.netguard.AdapterLog Class Reference

Inheritance diagram for eu.faircode.netguard.AdapterLog:



Public Member Functions

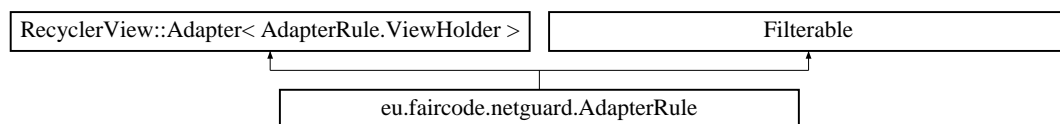
- **AdapterLog** (Context **context**, Cursor cursor, boolean resolve, boolean organization)
- void **setResolve** (boolean resolve)
- void **setOrganization** (boolean organization)
- View **newView** (Context **context**, Cursor cursor, ViewGroup parent)
- void **bindView** (final View view, final Context **context**, final Cursor cursor)
- boolean **isKnownAddress** (String addr)

The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/AdapterLog.java

4.13 eu.faircode.netguard.AdapterRule Class Reference

Inheritance diagram for eu.faircode.netguard.AdapterRule:



Classes

- class **ViewHolder**

Public Member Functions

- **AdapterRule** (Context **context**, View anchor)
- void **set** (List< **Rule** > listRule)
- void **setWifiActive** ()
- void **setMobileActive** ()
- void **setDisconnected** ()
- boolean **isLive** ()
- void **onAttachedToRecyclerView** (RecyclerView recyclerView)
- void **onDetachedFromRecyclerView** (RecyclerView recyclerView)
- void **onBindViewHolder** (final ViewHolder holder, int position)
- void **onViewRecycled** (ViewHolder holder)
- Filter **getFilter** ()
- AdapterRule.ViewHolder **onCreateViewHolder** (ViewGroup parent, int viewType)
- long **getItemId** (int position)
- int **getItemCount** ()

The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/AdapterRule.java

4.14 alloc_record Struct Reference

Public Attributes

- const char * **tag**
- time_t **time**
- void * **ptr**

The documentation for this struct was generated from the following file:

- app/src/main/jni/netguard/netguard.c

4.15 allowed Struct Reference

Public Attributes

- char **raddr** [INET6_ADDRSTRLEN+1]
- uint16_t **rport**

The documentation for this struct was generated from the following file:

- app/src/main/jni/netguard/netguard.h

4.16 eu.faircode.netguard.Allowed Class Reference

Public Member Functions

- **Allowed** (String raddr, int rport)

Public Attributes

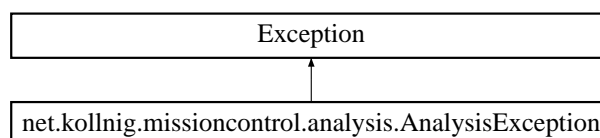
- String **raddr**
- int **rport**

The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/Allowed.java

4.17 net.kollnig.missioncontrol.analysis.AnalysisException Class Reference

Inheritance diagram for net.kollnig.missioncontrol.analysis.AnalysisException:



Public Member Functions

- **AnalysisException** (String message)
- String **getMessage** ()

4.17.1 Detailed Description

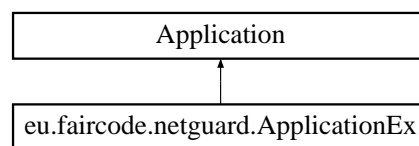
This class stores exceptions during static tracker library analysis

The documentation for this class was generated from the following file:

- app/src/main/java/net/kollnig/missioncontrol/analysis/AnalysisException.java

4.18 eu.faircode.netguard.ApplicationEx Class Reference

Inheritance diagram for eu.faircode.netguard.ApplicationEx:



Public Member Functions

- void **onCreate** ()

Protected Member Functions

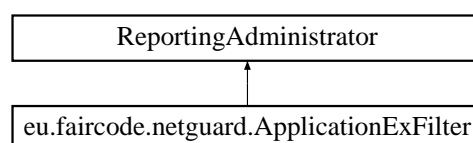
- void **attachBaseContext** (Context base)

The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/ApplicationEx.java

4.19 eu.faircode.netguard.ApplicationExFilter Class Reference

Inheritance diagram for eu.faircode.netguard.ApplicationExFilter:



Public Member Functions

- boolean **shouldSendReport** (@NonNull Context **context**, @NonNull CoreConfiguration config, @NonNull CrashReportData crashReportData)

The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/ApplicationExFilter.java

4.20 arguments Struct Reference

Public Attributes

- JNIEnv * **env**
- jobject **instance**
- int **tun**
- jboolean **fw53**
- jint **rcode**
- struct **context** * **ctx**

The documentation for this struct was generated from the following file:

- app/src/main/jni/netguard/netguard.h

4.21 eu.faircode.netguard.ServiceSinkhole.Command Enum Reference

Public Attributes

- **run**
- **start**
- **reload**
- **stop**
- **stats**
- **set**
- **householding**
- **watchdog**

The documentation for this enum was generated from the following file:

- app/src/main/java/eu/faircode/netguard/ServiceSinkhole.java

4.22 net.kollnig.missioncontrol.Common Class Reference

Static Public Member Functions

- static String **fetch** (String url)
- static Intent **adSettings** ()
- static Intent **browse** (String url)
- static boolean **hasAdSettings** (Context c)
- static Intent **emailIntent** (@Nullable String email, String subject, String body)
- static boolean **isCallable** (Context c, Intent intent)
- static String **getAppName** (PackageManager pm, int uid)
- static Intent **getLaunchIntent** (Activity activity, String appld)
- static Snackbar **getSnackbar** (Activity activity, int msg)
- static int **dayOfYear** ()

4.22.1 Member Function Documentation

4.22.1.1 adSettings()

```
static Intent net.kollnig.missioncontrol.Common.adSettings ( ) [static]
```

Returns an intent to the system ad settings

Returns

Intent to open system ad settings

4.22.1.2 browse()

```
static Intent net.kollnig.missioncontrol.Common.browse (
    String url ) [static]
```

Returns an intent to open a URL in a browser

Parameters

<i>url</i>	A URL to be opened
------------	--------------------

Returns

An intent to open the provided URL

4.22.1.3 dayOfYear()

```
static int net.kollnig.missioncontrol.Common.dayOfYear ( ) [static]
```

Computes the current day of year

Returns

The current day of year

4.22.1.4 emailIntent()

```
static Intent net.kollnig.missioncontrol.Common.emailIntent (
    @Nullable String email,
    String subject,
    String body ) [static]
```

Returns intent to write an email with an email app

Parameters

<i>email</i>	The recipient email address
<i>subject</i>	The subject line
<i>body</i>	The email body

Returns

The intent

4.22.1.5 fetch()

```
static String net.kollnig.missioncontrol.Common.fetch (
    String url ) [static]
```

Downloads content from a provided URL

Parameters

<i>url</i>	URL for download
------------	------------------

Returns

Downloaded content

4.22.1.6 getAppName()

```
static String net.kollnig.missioncontrol.Common.getAppName (
    PackageManager pm,
    int uid ) [static]
```

Retrieves the name of the app based on the given uid

Parameters

<i>uid</i>	- of the app
------------	--------------

Returns

the name of the package of the app with the given uid, or "Unknown" if no name could be found for the uid.

4.22.1.7 getLaunchIntent()

```
static Intent net.kollnig.missioncontrol.Common.getLaunchIntent (
    Activity activity,
    String appId ) [static]
```

Returns launch intent for a provided app

Parameters

<i>activity</i>	The current activity
<i>appId</i>	Package name of the app to be launched

Returns

An intent

4.22.1.8 getSnackbar()

```
static Snackbar net.kollnig.missioncontrol.Common.getSnackbar (
    Activity activity,
    int msg ) [static]
```

Computes a message in a snackbar to be shown to user.

Parameters

<i>activity</i>	The current activity
<i>msg</i>	The message to be shown

Returns

The computed snackbar. Displayed with `.show()`

4.22.1.9 hasAdSettings()

```
static boolean net.kollnig.missioncontrol.Common.hasAdSettings (  
    Context c ) [static]
```

Check if system ad settings exist

Parameters

<i>c</i>	Context
----------	---------

Returns

Information if system ad settings exist

4.22.1.10 isCallable()

```
static boolean net.kollnig.missioncontrol.Common.isCallable (  
    Context c,  
    Intent intent ) [static]
```

Checks if intent exists

Parameters

<i>c</i>	Content
<i>intent</i>	Intent

Returns

Information if intent exists

The documentation for this class was generated from the following file:

- `app/src/main/java/net/kollnig/missioncontrol/Common.java`

4.23 context Struct Reference

Public Attributes

- `pthread_mutex_t lock`

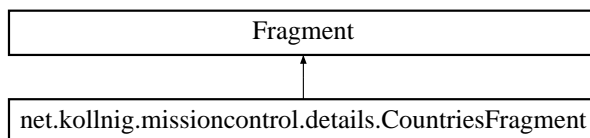
- int **pipefds** [2]
- int **stopping**
- int **sdk**
- struct **ng_session** * **ng_session**

The documentation for this struct was generated from the following file:

- app/src/main/jni/netguard/netguard.h

4.24 net.kollnig.missioncontrol.details.CountriesFragment Class Reference

Inheritance diagram for net.kollnig.missioncontrol.details.CountriesFragment:



Public Member Functions

- View **onCreateView** (LayoutInflater inflater, ViewGroup container, Bundle savedInstanceState)
- void **onCreate** (Bundle savedInstanceState)
- synchronized Map< String, Integer > **getHostCountriesCount** (int uid)
- void **onViewCreated** (@NonNull final View v, Bundle savedInstanceState)

Static Public Member Functions

- static **CountriesFragment newInstance** (int uid)

4.24.1 Member Function Documentation

4.24.1.1 getHostCountriesCount()

```

synchronized Map< String, Integer > net.kollnig.missioncontrol.details.CountriesFragment.get↔
HostCountriesCount (
    int uid )
  
```

Retrieves information about all seen trackers

Returns

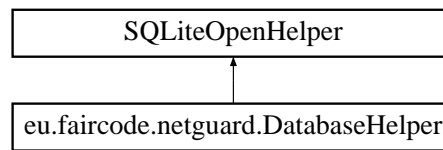
A list of seen trackers

The documentation for this class was generated from the following file:

- app/src/main/java/net/kollnig/missioncontrol/details/CountriesFragment.java

4.25 eu.faircode.netguard.DatabaseHelper Class Reference

Inheritance diagram for eu.faircode.netguard.DatabaseHelper:



Classes

- interface **AccessChangeListener**
- interface **ForwardChangeListener**
- interface **LogChangeListener**

Public Member Functions

- Cursor **getHosts** (int uid)
- Cursor **getHosts** ()
- void **close** ()
- void **onCreate** (SQLiteDatabase db)
- void **onConfigure** (SQLiteDatabase db)
- void **onUpgrade** (SQLiteDatabase db, int oldVersion, int newVersion)
- void **insertLog** (**Packet** packet, String dname, int connection, boolean interactive)
- void **clearLog** (int uid)
- void **cleanupLog** (long time)
- Cursor **getLog** (boolean udp, boolean tcp, boolean other, boolean **allowed**, boolean blocked)
- Cursor **searchLog** (String find)
- boolean **updateAccess** (**Packet** packet, String dname, int block, int uncertain)
- void **updateUsage** (**Usage** usage, String dname)
- void **setAccess** (long id, int block)
- void **clearAccess** ()
- void **clearAccess** (int uid, boolean keeprules)
- void **resetUsage** (int uid)
- Cursor **getAccess** (int uid)
- Cursor **getAccess** ()
- Cursor **getAccessUnset** (int uid, int limit, long since)
- long **getHostCount** (int uid, boolean usecache)
- boolean **insertDns** (**ResourceRecord** rr)
- void **cleanupDns** ()
- void **clearDns** ()
- String **getQName** (int uid, String ip)
- Cursor **getQName** (int uid, String ip, boolean alive)
- Cursor **getAlternateQNames** (String qname)
- Cursor **getAName** (String qname, boolean alive)
- Cursor **getDns** ()
- Cursor **getAccessDns** (String dname)
- void **addForward** (int protocol, int dport, String raddr, int rport, int ruid)
- void **deleteForward** ()
- void **deleteForward** (int protocol, int dport)

- Cursor **getForwarding** ()
- void **addApp** (String packageName, String label, boolean system, boolean internet, boolean enabled)
- Cursor **getApp** (String packageName)
- void **clearApps** ()
- void **addLogChangedListener** (**LogChangedListener** listener)
- void **removeLogChangedListener** (**LogChangedListener** listener)
- void **addAccessChangedListener** (**AccessChangedListener** listener)
- void **removeAccessChangedListener** (**AccessChangedListener** listener)
- void **addForwardChangedListener** (**ForwardChangedListener** listener)
- void **removeForwardChangedListener** (**ForwardChangedListener** listener)

Static Public Member Functions

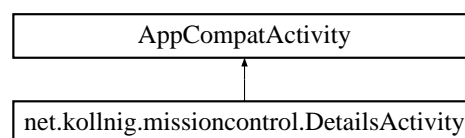
- static **DatabaseHelper getInstance** (Context context)
- static void **clearCache** ()

The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/DatabaseHelper.java

4.26 net.kollnig.missioncontrol.DetailsActivity Class Reference

Inheritance diagram for net.kollnig.missioncontrol.DetailsActivity:



Classes

- class **ExportDatabaseCSVTask**

Public Member Functions

- boolean **onCreateOptionsMenu** (Menu menu)
- boolean **onOptionsItemSelected** (MenuItem item)
- void **onPause** ()

Static Public Member Functions

- static void **savePrefs** (Context c)

Static Public Attributes

- static final String **INTENT_EXTRA_APP_PACKAGENAME** = "INTENT_APP_PACKAGENAME"
- static final String **INTENT_EXTRA_APP_UID** = "INTENT_APP_UID"
- static final String **INTENT_EXTRA_APP_NAME** = "INTENT_APP_NAME"
- static `PlayStore.AppInfo` **app** = null

Protected Member Functions

- void **onActivityResult** (int requestCode, int resultCode, final Intent data)
- void **onCreate** (Bundle savedInstanceState)
- void **onDestroy** ()

4.26.1 Member Function Documentation

4.26.1.1 savePrefs()

```
static void net.kollnig.missioncontrol.DetailsActivity.savePrefs (
    Context c ) [static]
```

Saves the changed tracker settings

Parameters

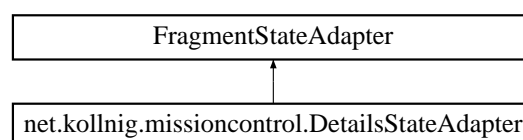
<code>c</code>	The context
----------------	-------------

The documentation for this class was generated from the following file:

- `app/src/main/java/net/kollnig/missioncontrol/DetailsActivity.java`

4.27 net.kollnig.missioncontrol.DetailsStateAdapter Class Reference

Inheritance diagram for net.kollnig.missioncontrol.DetailsStateAdapter:



Public Member Functions

- **DetailsStateAdapter** (FragmentActivity fa, String appld, String appName, int uid)
- `Fragment` **createFragment** (int position)
- int **getPageTitle** (final int position)
- int **getItemCount** ()

4.27.1 Detailed Description

A [FragmentManager] that returns a fragment corresponding to one of the sections/tabs/pages.

The documentation for this class was generated from the following file:

- app/src/main/java/net/kollnig/missioncontrol/DetailsStateAdapter.java

4.28 dhcp_option Struct Reference

Public Attributes

- uint8_t **code**
- uint8_t **length**

The documentation for this struct was generated from the following file:

- app/src/main/jni/netguard/netguard.h

4.29 dhcp_packet Struct Reference

Public Attributes

- uint8_t **opcode**
- uint8_t **htype**
- uint8_t **hlen**
- uint8_t **hops**
- uint32_t **xid**
- uint16_t **secs**
- uint16_t **flags**
- uint32_t **ciaddr**
- uint32_t **yiaddr**
- uint32_t **siaddr**
- uint32_t **giaddr**
- uint8_t **chaddr** [16]
- uint8_t **sname** [64]
- uint8_t **file** [128]
- uint32_t **option_format**

The documentation for this struct was generated from the following file:

- app/src/main/jni/netguard/netguard.h

4.30 dns_header Struct Reference

Public Attributes

- uint16_t **id**
- uint16_t **rd**:1
- uint16_t **tc**:1
- uint16_t **aa**:1
- uint16_t **opcode**:4
- uint16_t **qr**:1
- uint16_t **rcode**:4
- uint16_t **cd**:1
- uint16_t **ad**:1
- uint16_t **z**:1
- uint16_t **ra**:1
- uint16_t **q_count**
- uint16_t **ans_count**
- uint16_t **auth_count**
- uint16_t **add_count**

The documentation for this struct was generated from the following file:

- app/src/main/jni/netguard/netguard.h

4.31 dns_rr Struct Reference

Public Attributes

- __be16 **qname_ptr**
- __be16 **qtype**
- __be16 **qclass**
- __be32 **ttdl**
- __be16 **rdlength**

The documentation for this struct was generated from the following file:

- app/src/main/jni/netguard/netguard.h

4.32 eu.faircode.netguard.Util.DoubtListener Interface Reference

Public Member Functions

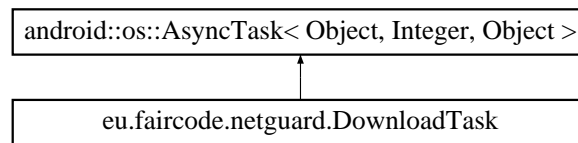
- void **onSure** ()

The documentation for this interface was generated from the following file:

- app/src/main/java/eu/faircode/netguard/Util.java

4.33 eu.faircode.netguard.DownloadTask Class Reference

Inheritance diagram for eu.faircode.netguard.DownloadTask:



Classes

- interface **Listener**

Public Member Functions

- **DownloadTask** (Activity **context**, URL url, File file, **Listener** listener)

Protected Member Functions

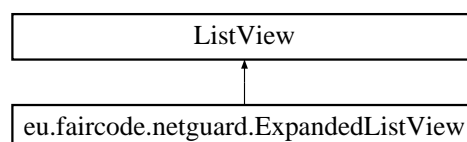
- void **onPreExecute** ()
- Object **doInBackground** (Object... args)
- void **onProgressUpdate** (Integer... progress)
- void **onCancelled** ()
- void **onPostExecute** (Object result)

The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/DownloadTask.java

4.34 eu.faircode.netguard.ExpandedListView Class Reference

Inheritance diagram for eu.faircode.netguard.ExpandedListView:



Public Member Functions

- **ExpandedListView** (Context **context**)
- **ExpandedListView** (Context **context**, AttributeSet attrs)
- **ExpandedListView** (Context **context**, AttributeSet attrs, int defStyleAttr)

Protected Member Functions

- void **onMeasure** (int widthMeasureSpec, int heightMeasureSpec)

The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/ExpandedListView.java

4.35 eu.faircode.netguard.Forward Class Reference

Public Member Functions

- String **toString** ()

Public Attributes

- int **protocol**
- int **dport**
- String **raddr**
- int **rport**
- int **ruid**

The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/Forward.java

4.36 eu.faircode.netguard.DatabaseHelper.ForwardChangeListener Interface Reference

Public Member Functions

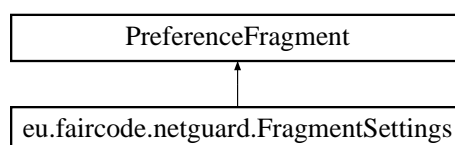
- void **onChanged** ()

The documentation for this interface was generated from the following file:

- app/src/main/java/eu/faircode/netguard/DatabaseHelper.java

4.37 eu.faircode.netguard.FragmentSettings Class Reference

Inheritance diagram for eu.faircode.netguard.FragmentSettings:



Public Member Functions

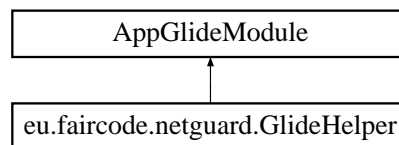
- void **onCreate** (Bundle savedInstanceState)

The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/FragmentSettings.java

4.38 eu.faircode.netguard.GlideHelper Class Reference

Inheritance diagram for eu.faircode.netguard.GlideHelper:



The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/GlideHelper.java

4.39 icmp_session Struct Reference

Public Attributes

- time_t **time**
- jint **uid**
- int **version**
-
- union {
 __be32 **ip4**
 struct in6_addr **ip6**
 } **saddr**
-
- union {
 __be32 **ip4**
 struct in6_addr **ip6**
 } **daddr**
- uint16_t **id**
- uint8_t **stop**

The documentation for this struct was generated from the following file:

- app/src/main/jni/netguard/netguard.h

4.40 net.kollnig.missioncontrol.data.InternetBlocklist Class Reference

Public Member Functions

- void **loadSettings** (Context c)
- Set< Integer > **getBlocklist** ()
- void **clear** ()
- synchronized void **block** (int uid)
- synchronized void **unblock** (int uid)
- boolean **blockedInternet** (int uid)

Static Public Member Functions

- static **InternetBlocklist** **getInstance** (Context c)

Static Public Attributes

- static final String **SHARED_PREFS_INTERNET_BLOCKLIST_APPS_KEY** = "INTERNET_BLOCKLIST_↵
APPS_KEY"

4.40.1 Detailed Description

Stores those apps whose access to internet is blocked.

Analogous implementation to **TrackerBlocklist** (p. 47).

4.40.2 Member Function Documentation

4.40.2.1 block()

```
synchronized void net.kollnig.missioncontrol.data.InternetBlocklist.block (
    int uid )
```

Block internet for a given app

Parameters

<i>uid</i>	Uid of app to block internet
------------	------------------------------

4.40.2.2 blockedInternet()

```
boolean net.kollnig.missioncontrol.data.InternetBlocklist.blockedInternet (
```

```
int uid )
```

Check if internet is blocked for given app

Parameters

<i>uid</i>	Uid of app to check
------------	---------------------

Returns

If internet is blocked for given app

4.40.2.3 clear()

```
void net.kollnig.missioncontrol.data.InternetBlocklist.clear ( )
```

Clear blocklist

4.40.2.4 getBlocklist()

```
Set< Integer > net.kollnig.missioncontrol.data.InternetBlocklist.getBlocklist ( )
```

Get set of apps' uids which shan't access internet

Returns

Set of uids

4.40.2.5 getInstance()

```
static InternetBlocklist net.kollnig.missioncontrol.data.InternetBlocklist.getInstance (
    Context c ) [static]
```

Singleton getter for **InternetBlocklist** (p. 33)

Parameters

<i>c</i>	context used to access InternetBlocklist (p. 33) from
----------	--

Returns

The current instance of the **InternetBlocklist** (p. 33), if none, a new instance is created.

4.40.2.6 loadSettings()

```
void net.kollnig.missioncontrol.data.InternetBlocklist.loadSettings (
    Context c )
```

Load past settings

Parameters

<i>c</i>	Context
----------	---------

4.40.2.7 unblock()

```
synchronized void net.kollnig.missioncontrol.data.InternetBlocklist.unblock (
    int uid )
```

Unblock internet for a given app

Parameters

<i>uid</i>	Uid of app to unblock internet
------------	--------------------------------

The documentation for this class was generated from the following file:

- app/src/main/java/net/kollnig/missioncontrol/data/InternetBlocklist.java

4.41 ip6_hdr_pseudo Struct Reference

Public Attributes

- struct in6_addr **ip6ph_src**
- struct in6_addr **ip6ph_dst**
- u_int32_t **ip6ph_len**
- u_int8_t **ip6ph_zero** [3]
- u_int8_t **ip6ph_nxt**

The documentation for this struct was generated from the following file:

- app/src/main/jni/netguard/netguard.h

4.42 eu.faircode.netguard.IPUtil Class Reference

Classes

- class **CIDR**

Static Public Member Functions

- static List< CIDR > **toCIDR** (String start, String end) throws UnknownHostException
- static List< CIDR > **toCIDR** (InetAddress start, InetAddress end) throws UnknownHostException
- static InetAddress **minus1** (InetAddress addr)
- static InetAddress **plus1** (InetAddress addr)

The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/IPUtil.java

4.43 eu.faircode.netguard.DownloadTask.Listener Interface Reference

Public Member Functions

- void **onCompleted** ()
- void **onCancelled** ()
- void **onException** (Throwable ex)

The documentation for this interface was generated from the following file:

- app/src/main/java/eu/faircode/netguard/DownloadTask.java

4.44 eu.faircode.netguard.DatabaseHelper.LogChangedListener Interface Reference

Public Member Functions

- void **onChanged** ()

The documentation for this interface was generated from the following file:

- app/src/main/java/eu/faircode/netguard/DatabaseHelper.java

4.45 ng_session Struct Reference

Public Attributes

- uint8_t **protocol**
- ```

union {
 struct icmp_session icmp
 struct udp_session udp
 struct tcp_session tcp
};

```
- jint **socket**
- struct epoll\_event **ev**
- struct **ng\_session** \* **next**

The documentation for this struct was generated from the following file:

- app/src/main/jni/netguard/netguard.h

## 4.46 eu.faircode.netguard.Packet Class Reference

### Public Member Functions

- String **toString** ()

### Public Attributes

- long **time**
- int **version**
- int **protocol**
- String **flags**
- String **saddr**
- int **sport**
- String **daddr**
- int **dport**
- String **data**
- int **uid**
- boolean **allowed**

The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/Packet.java

## 4.47 net.kollnig.missioncontrol.data.Pair< T, U > Class Template Reference

### Public Member Functions

- **Pair** (T t, U u)
- T **first** ()
- U **second** ()

### 4.47.1 Detailed Description

Provides way to return pairs of results

#### Parameters

|     |                                |
|-----|--------------------------------|
| <T> | Type of first element of pair  |
| <U> | Type of second element of pair |

The documentation for this class was generated from the following file:

- app/src/main/java/net/kollnig/missioncontrol/data/Pair.java

## 4.48 pcap\_hdr\_s Struct Reference

### Public Attributes

- quint32\_t **magic\_number**
- quint16\_t **version\_major**
- quint16\_t **version\_minor**
- quint32\_t **thiszone**
- quint32\_t **sigfigs**
- quint32\_t **snaplen**
- quint32\_t **network**

The documentation for this struct was generated from the following file:

- app/src/main/jni/netguard/netguard.h

## 4.49 pcaprec\_hdr\_s Struct Reference

### Public Attributes

- quint32\_t **ts\_sec**
- quint32\_t **ts\_usec**
- quint32\_t **incl\_len**
- quint32\_t **orig\_len**

The documentation for this struct was generated from the following file:

- app/src/main/jni/netguard/netguard.h

## 4.50 net.kollnig.missioncontrol.data.PlayStore Class Reference

### Classes

- class **AppInfo**

### Static Public Member Functions

- static AppInfo **getInfo** (String appId)

### 4.50.1 Detailed Description

Retrieve information about an app from the Google Play Store.

Currently, this is only used to retrieve the email address of an app developer for GDPR requests.

### 4.50.2 Member Function Documentation

#### 4.50.2.1 getInfo()

```
static AppInfo net.kollnig.missioncontrol.data.PlayStore.getInfo (
 String appId) [static]
```

Download and parse Play Store page for a given app

## Parameters

|              |                                        |
|--------------|----------------------------------------|
| <i>appId</i> | The package name of the app to analyse |
|--------------|----------------------------------------|

## Returns

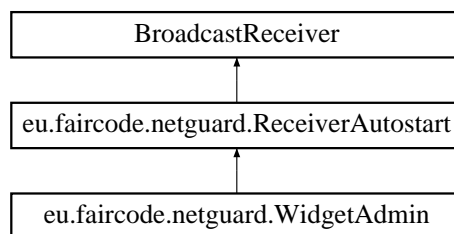
The parsed app information

The documentation for this class was generated from the following file:

- app/src/main/java/net/kollnig/missioncontrol/data/PlayStore.java

## 4.51 eu.faircode.netguard.ReceiverAutostart Class Reference

Inheritance diagram for eu.faircode.netguard.ReceiverAutostart:



### Public Member Functions

- void **onReceive** (final Context **context**, Intent intent)

### Static Public Member Functions

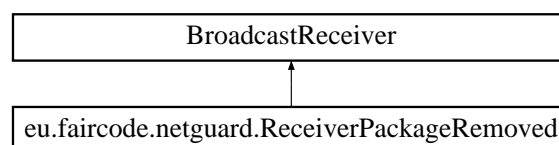
- static void **upgrade** (boolean initialized, Context **context**)

The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/ReceiverAutostart.java

## 4.52 eu.faircode.netguard.ReceiverPackageRemoved Class Reference

Inheritance diagram for eu.faircode.netguard.ReceiverPackageRemoved:



## Public Member Functions

- void **onReceive** (final Context **context**, Intent intent)

The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/ReceiverPackageRemoved.java

## 4.53 eu.faircode.netguard.ResourceRecord Class Reference

### Public Member Functions

- String **toString** ()

### Public Attributes

- long **Time**
- String **QName**
- String **AName**
- String **Resource**
- int **TTL**

The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/ResourceRecord.java

## 4.54 eu.faircode.netguard.Rule Class Reference

### Public Member Functions

- int **getTrackerCount** (boolean pastWeekOnly)
- void **updateChanged** (Context **context**)
- String **toString** ()

### Static Public Member Functions

- static boolean **isSystem** (String packageName, Context **context**)
- static void **clearCache** (Context **context**)
- static List< **Rule** > **getRules** (final boolean all, Context **context**)



## Public Attributes

- int **uid**
- String **packageName**
- int **icon**
- String **name**
- String **version**
- boolean **system**
- boolean **internet**
- boolean **enabled**
- boolean **pkg** = true
- boolean **wifi\_default** = false
- boolean **other\_default** = false
- boolean **screen\_wifi\_default** = false
- boolean **screen\_other\_default** = false
- boolean **roaming\_default** = false
- boolean **wifi\_blocked** = false
- boolean **other\_blocked** = false
- boolean **screen\_wifi** = false
- boolean **screen\_other** = false
- boolean **roaming** = false
- boolean **lockdown** = false
- boolean **apply** = true
- boolean **notify** = true
- boolean **relateduids** = false
- String[] **related** = null
- long **hosts**
- boolean **changed**
- boolean **expanded** = false

The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/Rule.java

## 4.55 segment Struct Reference

### Public Attributes

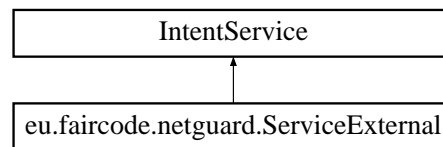
- uint32\_t **seq**
- uint16\_t **len**
- uint16\_t **sent**
- int **psh**
- uint8\_t \* **data**
- struct **segment** \* **next**

The documentation for this struct was generated from the following file:

- app/src/main/jni/netguard/netguard.h

## 4.56 eu.faircode.netguard.ServiceExternal Class Reference

Inheritance diagram for eu.faircode.netguard.ServiceExternal:



### Protected Member Functions

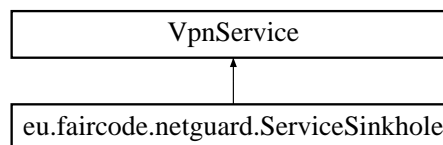
- void **onHandleIntent** (Intent intent)

The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/ServiceExternal.java

## 4.57 eu.faircode.netguard.ServiceSinkhole Class Reference

Inheritance diagram for eu.faircode.netguard.ServiceSinkhole:



### Classes

- enum **Command**

### Public Member Functions

- void **notifyNewApplication** (int uid, BroadcastReceiver br)
- void **onCreate** ()
- int **onStartCommand** (Intent intent, int flags, int startId)
- void **onRevoke** ()
- void **onDestroy** ()

### Static Public Member Functions

- static void **setPcap** (boolean enabled, Context **context**)
- static List< InetAddress > **getDns** (Context **context**)
- static void **prepareHostsBlocked** (Context c)
- static void **run** (String reason, Context **context**)
- static void **start** (String reason, Context **context**)
- static void **reload** (String reason, Context **context**, boolean interactive)
- static void **stop** (String reason, Context **context**, boolean vpnonly)
- static void **reloadStats** (String reason, Context **context**)

## Static Public Attributes

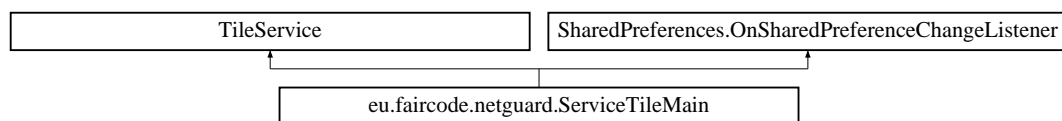
- static Map< String, Boolean > **mapHostsBlocked** = new ConcurrentHashMap<>()
- static ReentrantReadWriteLock **lock** = new ReentrantReadWriteLock(true)
- static final int **NOTIFY\_EXTERNAL** = 9
- static final int **NOTIFY\_DOWNLOAD** = 10
- static final String **EXTRA\_COMMAND** = "Command"
- static final String **EXTRA\_NETWORK** = "Network"
- static final String **EXTRA\_UID** = "UID"
- static final String **EXTRA\_PACKAGE** = "Package"
- static final String **EXTRA\_BLOCKED** = "Blocked"
- static final String **EXTRA\_INTERACTIVE** = "Interactive"
- static final String **EXTRA\_TEMPORARY** = "Temporary"

The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/ServiceSinkhole.java

## 4.58 eu.faircode.netguard.ServiceTileMain Class Reference

Inheritance diagram for eu.faircode.netguard.ServiceTileMain:



## Public Member Functions

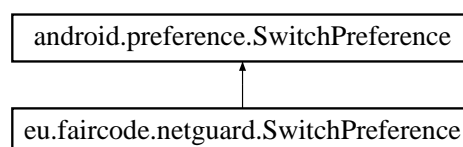
- void **onStartListening** ()
- void **onSharedPreferenceChanged** (SharedPreferences prefs, String key)
- void **onStopListening** ()
- void **onClick** ()

The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/ServiceTileMain.java

## 4.59 eu.faircode.netguard.SwitchPreference Class Reference

Inheritance diagram for eu.faircode.netguard.SwitchPreference:



## Public Member Functions

- **SwitchPreference** (Context **context**)
- **SwitchPreference** (Context **context**, AttributeSet **attrs**)
- **SwitchPreference** (Context **context**, AttributeSet **attrs**, int **defStyle**)

The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/SwitchPreference.java

## 4.60 tcp\_session Struct Reference

### Public Attributes

- jint **uid**
- time\_t **time**
- int **version**
- uint16\_t **mss**
- uint8\_t **recv\_scale**
- uint8\_t **send\_scale**
- uint32\_t **recv\_window**
- uint32\_t **send\_window**
- uint16\_t **unconfirmed**
- uint32\_t **remote\_seq**
- uint32\_t **local\_seq**
- uint32\_t **remote\_start**
- uint32\_t **local\_start**
- uint32\_t **acked**
- long long **last\_keep\_alive**
- uint64\_t **sent**
- uint64\_t **received**
- 
- union {
  - \_\_be32 **ip4**
  - struct in6\_addr **ip6**
 } **saddr**
- \_\_be16 **source**
- 
- union {
  - \_\_be32 **ip4**
  - struct in6\_addr **ip6**
 } **daddr**
- \_\_be16 **dest**
- uint8\_t **state**
- uint8\_t **socks5**
- struct **segment** \* **forward**
- int **checkedHostname**

The documentation for this struct was generated from the following file:

- app/src/main/jni/netguard/netguard.h

## 4.61 net.kollnig.missioncontrol.data.Tracker Class Reference

### Public Member Functions

- **Tracker** (String name, String category, long lastSeen)
- **Tracker** (String name, String category)
- String **toString** ()
- String **getName** ()
- String **getCategory** ()
- Set< String > **getHosts** ()

### Public Attributes

- String **name**
- String **category**
- Long **lastSeen**
- String **country**

#### 4.61.1 Detailed Description

Store information about tracker companies, and tracker found in apps' network traffic

#### 4.61.2 Constructor & Destructor Documentation

##### 4.61.2.1 Tracker() [1/2]

```
net.kollnig.missioncontrol.data.Tracker.Tracker (
 String name,
 String category,
 long lastSeen)
```

Creates class for tracker seen in apps' network traffic

##### Parameters

|                 |                                                    |
|-----------------|----------------------------------------------------|
| <i>name</i>     | Company name of tracker                            |
| <i>category</i> | Category of tracker                                |
| <i>lastSeen</i> | Time when tracker was last seen in network traffic |

##### 4.61.2.2 Tracker() [2/2]

```
net.kollnig.missioncontrol.data.Tracker.Tracker (
```

```
String name,
String category)
```

Creates class to store information about tracker (not necessarily seen in network traffic)

#### Parameters

|                 |                         |
|-----------------|-------------------------|
| <i>name</i>     | Company name of tracker |
| <i>category</i> | Category of tracker     |

### 4.61.3 Member Function Documentation

#### 4.61.3.1 getCategory()

```
String net.kollnig.missioncontrol.data.Tracker.getCategory ()
```

Get category of tracker

#### Returns

Category of tracker

#### 4.61.3.2 getHosts()

```
Set< String > net.kollnig.missioncontrol.data.Tracker.getHosts ()
```

Get set of hosts that this tracker company has been observed contacting

#### Returns

#### 4.61.3.3 getName()

```
String net.kollnig.missioncontrol.data.Tracker.getName ()
```

Get name of tracker company

#### Returns

Name of tracker company

The documentation for this class was generated from the following file:

- app/src/main/java/net/kollnig/missioncontrol/data/Tracker.java

## 4.62 net.kollnig.missioncontrol.data.TrackerBlocklist Class Reference

### Public Member Functions

- void **loadSettings** (Context c)
- Set< Integer > **getBlocklist** ()
- Set< String > **getSubset** (int uid)
- void **clear** ()
- void **clear** (int uid)
- synchronized void **block** (int uid, String t)
- synchronized void **unblock** (int uid, String t)
- synchronized void **block** (int uid, **Tracker** t)
- synchronized void **unblock** (int uid, **Tracker** t)
- boolean **blocked** (int uid, String key)
- boolean **blockedTracker** (int uid, **Tracker** t)

### Static Public Member Functions

- static **TrackerBlocklist** **getInstance** (Context c)
- static String **getBlockingKey** ( **Tracker** t)

### Static Public Attributes

- static final String **SHARED\_PREFS\_BLOCKLIST\_APPS\_KEY** = "APPS\_BLOCKLIST\_APPS\_KEY"
- final static String **PREF\_BLOCKLIST** = "blocklist"
- static String **NECESSARY\_CATEGORY** = "Content"

### 4.62.1 Detailed Description

Stores what trackers are blocked, for each app.

### 4.62.2 Member Function Documentation

#### 4.62.2.1 **block()** [1/2]

```
synchronized void net.kollnig.missioncontrol.data.TrackerBlocklist.block (
 int uid,
 String t)
```

Block a given tracker for a given app

#### Parameters

|            |                                  |
|------------|----------------------------------|
| <i>uid</i> | Uid of the app                   |
| <i>t</i>   | Key of the tracker to be blocked |

#### 4.62.2.2 block() [2/2]

```
synchronized void net.kollnig.missioncontrol.data.TrackerBlocklist.block (
 int uid,
 Tracker t)
```

Block a given tracker for a given app

##### Parameters

|            |                               |
|------------|-------------------------------|
| <i>uid</i> | Uid of the app                |
| <i>t</i>   | Tracker (p. 45) to be blocked |

#### 4.62.2.3 blocked()

```
boolean net.kollnig.missioncontrol.data.TrackerBlocklist.blocked (
 int uid,
 String key)
```

Check if a given app can access a given tracker

##### Parameters

|            |                    |
|------------|--------------------|
| <i>uid</i> | Uid of the app     |
| <i>key</i> | Key of the tracker |

##### Returns

Whether access to this tracker is blocked

#### 4.62.2.4 blockedTracker()

```
boolean net.kollnig.missioncontrol.data.TrackerBlocklist.blockedTracker (
 int uid,
 Tracker t)
```

Check if a given app can access a given tracker

##### Parameters

|            |                 |
|------------|-----------------|
| <i>uid</i> | Uid of the app  |
| <i>t</i>   | Tracker (p. 45) |



**Returns**

Whether access to this tracker is blocked

**4.62.2.5 clear() [1/2]**

```
void net.kollnig.missioncontrol.data.TrackerBlocklist.clear ()
```

Completely clear blocklist.

**4.62.2.6 clear() [2/2]**

```
void net.kollnig.missioncontrol.data.TrackerBlocklist.clear (
 int uid)
```

Clear all blocked trackers for a specific app

**Parameters**

|            |            |
|------------|------------|
| <i>uid</i> | Uid of app |
|------------|------------|

**4.62.2.7 getBlockingKey()**

```
static String net.kollnig.missioncontrol.data.TrackerBlocklist.getBlockingKey (
 Tracker t) [static]
```

For a given tracker company, this computes a key to store the blocking state of this tracker.

**Parameters**

|          |                                |
|----------|--------------------------------|
| <i>t</i> | <b>Tracker</b> (p. 45) company |
|----------|--------------------------------|

**Returns**

The key for storage of the blocking state

**4.62.2.8 getBlocklist()**

```
Set< Integer > net.kollnig.missioncontrol.data.TrackerBlocklist.getBlocklist ()
```

Get set of apps' uids which have information about blocked trackers

**Returns**

Set of apps' uids

**4.62.2.9 getInstance()**

```
static TrackerBlocklist net.kollnig.missioncontrol.data.TrackerBlocklist.getInstance (
 Context c) [static]
```

Singleton getter for **TrackerBlocklist** (p. 47)

**Parameters**

|          |                                                             |
|----------|-------------------------------------------------------------|
| <i>c</i> | context used to access <b>TrackerBlocklist</b> (p. 47) from |
|----------|-------------------------------------------------------------|

**Returns**

The current instance of the **TrackerBlocklist** (p. 47), if none, a new instance is created.

**4.62.2.10 getSubset()**

```
Set< String > net.kollnig.missioncontrol.data.TrackerBlocklist.getSubset (
 int uid)
```

Get information about what specific trackers are blocked for a given app

**Parameters**

|            |                |
|------------|----------------|
| <i>uid</i> | Uid of the app |
|------------|----------------|

**Returns**

Information about what specific trackers are blocked

**4.62.2.11 loadSettings()**

```
void net.kollnig.missioncontrol.data.TrackerBlocklist.loadSettings (
 Context c)
```

Load past settings

## Parameters

|          |         |
|----------|---------|
| <i>c</i> | Context |
|----------|---------|

## 4.62.2.12 unblock() [1/2]

```
synchronized void net.kollnig.missioncontrol.data.TrackerBlocklist.unblock (
 int uid,
 String t)
```

Unlock a given tracker for a given app

## Parameters

|            |                                    |
|------------|------------------------------------|
| <i>uid</i> | Uid of the app                     |
| <i>t</i>   | Key of the tracker to be unblocked |

## 4.62.2.13 unblock() [2/2]

```
synchronized void net.kollnig.missioncontrol.data.TrackerBlocklist.unblock (
 int uid,
 Tracker t)
```

Unblock a given tracker for a given app

## Parameters

|            |                                        |
|------------|----------------------------------------|
| <i>uid</i> | Uid of the app                         |
| <i>t</i>   | <b>Tracker</b> (p. 45) to be unblocked |

The documentation for this class was generated from the following file:

- app/src/main/java/net/kollnig/missioncontrol/data/TrackerBlocklist.java

## 4.63 net.kollnig.missioncontrol.data.TrackerCategory Class Reference

## Public Member Functions

- boolean **isUncertain** ()
- void **setUncertain** (boolean uncertain)
- String **getDisplayName** (Context c)
- List< **Tracker** > **getChildren** ()
- String **getCategoryName** ()

## Public Attributes

- String **category**
- Long **lastSeen**

## Static Public Attributes

- static final String **UNCATEGORISED** = "Uncategorised"

### 4.63.1 Detailed Description

Categorises tracker companies into high-level categories

### 4.63.2 Member Function Documentation

#### 4.63.2.1 getCategoryName()

```
String net.kollnig.missioncontrol.data.TrackerCategory.getCategoryName ()
```

Get category name that is used internally

##### Returns

Internally-used tracker category name

#### 4.63.2.2 getChildren()

```
List< Tracker > net.kollnig.missioncontrol.data.TrackerCategory.getChildren ()
```

Get list of tracker companies that are within this tracker category

##### Returns

List of tracker companies that are within this tracker category

#### 4.63.2.3 getDisplayName()

```
String net.kollnig.missioncontrol.data.TrackerCategory.getDisplayName (
 Context c)
```

Get a name of tracker category for display in UI

## Parameters

|          |         |
|----------|---------|
| <i>c</i> | Context |
|----------|---------|

## Returns

Name of tracker category to be shown in UI

**4.63.2.4 isUncertain()**

```
boolean net.kollnig.missioncontrol.data.TrackerCategory.isUncertain ()
```

Some trackers are uncertain, due to the nature of DNS. This returns information about this.

## Returns

Whether it's uncertain a tracker company has been contacted by an app.

**4.63.2.5 setUncertain()**

```
void net.kollnig.missioncontrol.data.TrackerCategory.setUncertain (
 boolean uncertain)
```

Some trackers are uncertain, due to the nature of DNS. This saves information about this.

## Parameters

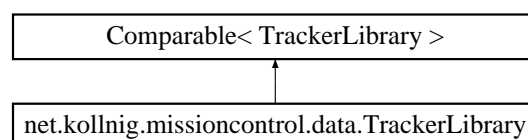
|                  |                                                                        |
|------------------|------------------------------------------------------------------------|
| <i>uncertain</i> | Whether it's uncertain a tracker company has been contacted by an app. |
|------------------|------------------------------------------------------------------------|

The documentation for this class was generated from the following file:

- app/src/main/java/net/kollnig/missioncontrol/data/TrackerCategory.java

**4.64 net.kollnig.missioncontrol.data.TrackerLibrary Class Reference**

Inheritance diagram for net.kollnig.missioncontrol.data.TrackerLibrary:



## Public Member Functions

- **TrackerLibrary** (@NonNull String name, String web, Integer id, String sign)
- boolean **equals** (Object o)
- int **hashCode** ()
- String **toString** ()
- String **getName** ()
- Integer **getId** ()
- int **compareTo** ( TrackerLibrary t)

### 4.64.1 Detailed Description

Stores information about a found tracker library in an app code

### 4.64.2 Constructor & Destructor Documentation

#### 4.64.2.1 TrackerLibrary()

```
net.kollnig.missioncontrol.data.TrackerLibrary.TrackerLibrary (
 @NonNull String name,
 String web,
 Integer id,
 String sign)
```

Create class to store information about a tracker found in an app

#### Parameters

|             |                                                      |
|-------------|------------------------------------------------------|
| <i>name</i> | The name of the tracker                              |
| <i>web</i>  | The website of the tracker                           |
| <i>id</i>   | The identifier of the tracker in the Exodus database |
| <i>sign</i> | The class signature of the tracker                   |

### 4.64.3 Member Function Documentation

#### 4.64.3.1 equals()

```
boolean net.kollnig.missioncontrol.data.TrackerLibrary.equals (
 Object o)
```

Compare two classes with tracker information and check if they are equal

## Parameters

|          |                                      |
|----------|--------------------------------------|
| <i>o</i> | StaticTracker to check equality with |
|----------|--------------------------------------|

## Returns

Information if two classes are equal

#### 4.64.3.2 getId()

```
Integer net.kollnig.missioncontrol.data.TrackerLibrary.getId ()
```

Get Exodus identifier of tracker

## Returns

Exodus identifier of tracker

#### 4.64.3.3 getName()

```
String net.kollnig.missioncontrol.data.TrackerLibrary.getName ()
```

Get name of tracker

## Returns

Name of tracker

The documentation for this class was generated from the following file:

- app/src/main/java/net/kollnig/missioncontrol/data/TrackerLibrary.java

## 4.65 net.kollnig.missioncontrol.analysis.TrackerLibraryAnalyser Class Reference

### Public Member Functions

- **TrackerLibraryAnalyser** (Context mContext)
- String **analyse** (String mAppId) throws **AnalysisException**

#### 4.65.1 Member Function Documentation

##### 4.65.1.1 analyse()

```
String net.kollnig.missioncontrol.analysis.TrackerLibraryAnalyser.analyse (
 String mAppId) throws AnalysisException
```

Encapsulates the tracker library analysis, and caches results to avoid duplicate analyses

## Parameters

|                           |                                        |
|---------------------------|----------------------------------------|
| <i>m↔</i><br><i>Appld</i> | The package name of the app to analyse |
|---------------------------|----------------------------------------|

## Returns

A string with the analysis results

## Exceptions

|                                         |                              |
|-----------------------------------------|------------------------------|
| <b><i>AnalysisException</i></b> (p. 17) | In case something goes wrong |
|-----------------------------------------|------------------------------|

The documentation for this class was generated from the following file:

- app/src/main/java/net/kollnig/missioncontrol/analysis/TrackerLibraryAnalyser.java

## 4.66 net.kollnig.missioncontrol.data.TrackerList Class Reference

### Public Member Functions

- void **loadTrackers** (Context c)
- synchronized **Pair**< **Pair**< Map< Integer, Integer >, Integer >, **Pair**< Map< Integer, Integer >, Integer > > **getTrackerCountsAndTotal** ()
- Cursor **getAppInfo** (int uid)
- synchronized List< **TrackerCategory** > **getAppTrackers** (Context c, int uid)

### Static Public Member Functions

- static **TrackerList** **getInstance** (Context c)
- static **Tracker** **findTracker** (@NonNull String hostname)

### Static Public Attributes

- static Set< String > **trackingIps** = new HashSet<>()
- static String **TRACKER\_HOSTLIST** = "TRACKER\_HOSTLIST"

#### 4.66.1 Detailed Description

Loads and stores the database of known tracker companies and their domains

#### 4.66.2 Member Function Documentation

##### 4.66.2.1 findTracker()

```
static Tracker net.kollnig.missioncontrol.data.TrackerList.findTracker (
 @NonNull String hostname) [static]
```

Identifies tracker hosts



## Parameters

|                 |                        |
|-----------------|------------------------|
| <i>hostname</i> | A hostname of interest |
|-----------------|------------------------|

## Returns

A **Tracker** (p. 45) object, if host is null, null otherwise

#### 4.66.2.2 getAppInfo()

```
Cursor net.kollnig.missioncontrol.data.TrackerList.getAppInfo (
 int uid)
```

Retrieve info for CSV export

## Returns

All logged communications about app

#### 4.66.2.3 getAppTrackers()

```
synchronized List< TrackerCategory > net.kollnig.missioncontrol.data.TrackerList.getAppTrackers (
 Context c,
 int uid)
```

Retrieves information about all seen trackers

## Returns

A list of seen trackers

#### 4.66.2.4 getInstance()

```
static TrackerList net.kollnig.missioncontrol.data.TrackerList.getInstance (
 Context c) [static]
```

Get an instance of the tracker database

## Parameters

|          |         |
|----------|---------|
| <i>c</i> | Context |
|----------|---------|

**Returns**

Instance of the tracker database

**4.66.2.5 getTrackerCountsAndTotal()**

```
synchronized Pair< Pair< Map< Integer, Integer >, Integer >, Pair< Map< Integer, Integer >, Integer > > net.kollnig.missioncontrol.data.TrackerList.getTrackerCountsAndTotal ()
```

Retrieves information about number of contacted tracking companies, for all apps

**Returns**

Number of contacted tracking companies, for all apps

**4.66.2.6 loadTrackers()**

```
void net.kollnig.missioncontrol.data.TrackerList.loadTrackers (
 Context c)
```

Load tracker domain database

**Parameters**

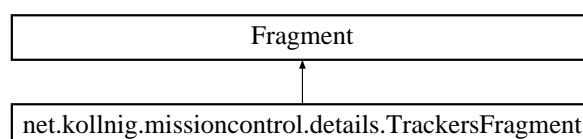
|          |         |
|----------|---------|
| <i>c</i> | Context |
|----------|---------|

The documentation for this class was generated from the following file:

- app/src/main/java/net/kollnig/missioncontrol/data/TrackerList.java

## 4.67 net.kollnig.missioncontrol.details.TrackersFragment Class Reference

Inheritance diagram for net.kollnig.missioncontrol.details.TrackersFragment:



## Public Member Functions

- **TrackersFragment** ()
- void **onCreate** (Bundle savedInstanceState)
- View **onCreateView** (LayoutInflater inflater, ViewGroup container, Bundle savedInstanceState)
- void **onResume** ()
- void **updateTrackerList** ()
- void **onDestroy** ()

## Static Public Member Functions

- static **TrackersFragment newInstance** (String appId, int uid)

### 4.67.1 Detailed Description

A fragment representing a list of Items.

### 4.67.2 Constructor & Destructor Documentation

#### 4.67.2.1 TrackersFragment()

```
net.kollnig.missioncontrol.details.TrackersFragment.TrackersFragment ()
```

Mandatory empty constructor for the fragment manager to instantiate the fragment (e.g. upon screen orientation changes).

### 4.67.3 Member Function Documentation

#### 4.67.3.1 updateTrackerList()

```
void net.kollnig.missioncontrol.details.TrackersFragment.updateTrackerList ()
```

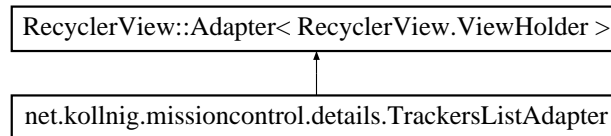
Communicate with tracker database to show information about tracking in a given app

The documentation for this class was generated from the following file:

- app/src/main/java/net/kollnig/missioncontrol/details/TrackersFragment.java

## 4.68 net.kollnig.missioncontrol.details.TrackersListAdapter Class Reference

Inheritance diagram for net.kollnig.missioncontrol.details.TrackersListAdapter:



### Classes

- class **VHHeader**
- class **VHItem**

### Public Member Functions

- **TrackersListAdapter** (Context c, RecyclerView v, Integer appId, String appld)
- void **set** (List< **TrackerCategory** > items)
- RecyclerView.ViewHolder **onCreateViewHolder** (@NonNull ViewGroup parent, int viewType)
- void **onBindViewHolder** (@NonNull RecyclerView.ViewHolder \_holder, int position)
- int **getItemCount** ()
- int **getItemViewType** (int position)

#### 4.68.1 Detailed Description

**RecyclerView.Adapter** (p. ??) that can display a **TrackerCategory** (p. ??).

The documentation for this class was generated from the following file:

- app/src/main/java/net/kollnig/missioncontrol/details/TrackersListAdapter.java

## 4.69 udp\_session Struct Reference

### Public Attributes

- time\_t **time**
- jint **uid**
- int **version**
- uint16\_t **mss**
- uint64\_t **sent**
- uint64\_t **received**
-

```
union {
 __be32 ip4
 struct in6_addr ip6
} saddr
```

- \_\_be16 source
- 

```
union {
 __be32 ip4
 struct in6_addr ip6
} daddr
```

- \_\_be16 dest
- uint8\_t state

The documentation for this struct was generated from the following file:

- app/src/main/jni/netguard/netguard.h

## 4.70 uid\_cache\_entry Struct Reference

### Public Attributes

- uint8\_t version
- uint8\_t protocol
- uint8\_t saddr [16]
- uint16\_t sport
- uint8\_t daddr [16]
- uint16\_t dport
- jint uid
- long time

The documentation for this struct was generated from the following file:

- app/src/main/jni/netguard/netguard.h

## 4.71 eu.faircode.netguard.Usage Class Reference

### Public Member Functions

- String toString ()

## Public Attributes

- long **Time**
- int **Version**
- int **Protocol**
- String **DAddr**
- int **DPort**
- int **Uid**
- long **Sent**
- long **Received**

The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/Usage.java

## 4.72 eu.faircode.netguard.Util Class Reference

### Classes

- interface **DoubtListener**

### Static Public Member Functions

- static String **getSelfVersionName** (Context **context**)
- static int **getSelfVersionCode** (Context **context**)
- static boolean **isNetworkActive** (Context **context**)
- static boolean **isConnected** (Context **context**)
- static boolean **isWifiActive** (Context **context**)
- static boolean **isMeteredNetwork** (Context **context**)
- static String **getWifiSSID** (Context **context**)
- static int **getNetworkType** (Context **context**)
- static String **getNetworkGeneration** (Context **context**)
- static boolean **isRoaming** (Context **context**)
- static boolean **isNational** (Context **context**)
- static boolean **isEU** (Context **context**)
- static boolean **isEU** (String country)
- static boolean **isPrivateDns** (Context **context**)
- static String **getNetworkGeneration** (int networkType)
- static boolean **hasPhoneStatePermission** (Context **context**)
- static List< String > **getDefaultDNS** (Context **context**)
- static boolean **isNumericAddress** (String ip)
- static boolean **isInteractive** (Context **context**)
- static boolean **isPackageInstalled** (String packageName, Context **context**)
- static boolean **isSystem** (String packageName, Context **context**)
- static boolean **hasInternet** (String packageName, Context **context**)
- static boolean **hasInternet** (int uid, Context **context**)
- static boolean **isEnabled** (PackageInfo info, Context **context**)
- static List< String > **getApplicationNames** (int uid, Context **context**)
- static boolean **canFilter** (Context **context**)
- static boolean **isDebuggable** (Context **context**)
- static boolean **isFDroidInstall** ()

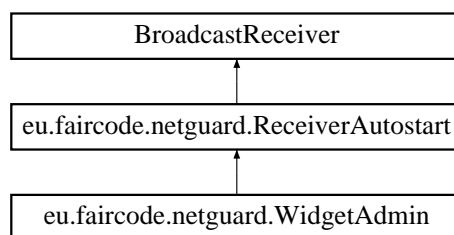
- static boolean **isPlayStoreInstall** (Context **context**)
- static boolean **isPlayStoreInstall** ()
- static boolean **hasXposed** (Context **context**)
- static boolean **ownFault** (Context **context**, Throwable ex)
- static void **setTheme** (Context **context**)
- static int **dips2pixels** (int dips, Context **context**)
- static Bitmap **decodeSampledBitmapFromResource** (Resources resources, int resourceId, int reqWidth, int reqHeight)
- static String **getProtocolName** (int protocol, int version, boolean brief)
- static String **getPrivateDnsSpecifier** (Context **context**)
- static void **areYouSure** (Context **context**, int explanation, final **DoubtListener** listener)
- static String **getOrganization** (String ip) throws Exception
- static String **md5** (String text, String salt) throws NoSuchAlgorithmException, UnsupportedEncodingException
- static void **logExtras** (Intent intent)
- static void **logBundle** (Bundle data)
- static StringBuilder **readString** (InputStreamReader reader)
- static void **sendCrashReport** (Throwable ex, final Context **context**)
- static String **getGeneralInfo** (Context **context**)
- static String **getNetworkInfo** (Context **context**)
- static boolean **batteryOptimizing** (Context **context**)
- static boolean **dataSaving** (Context **context**)
- static void **sendLogcat** (final Uri uri, final Context **context**)
- static CharSequence **relativeTime** (long time)

The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/Util.java

## 4.73 eu.faircode.netguard.WidgetAdmin Class Reference

Inheritance diagram for eu.faircode.netguard.WidgetAdmin:



### Public Member Functions

- void **onReceive** (Context **context**, Intent intent)

### Static Public Attributes

- static final String **INTENT\_ON** = "net.kollnig.missioncontrol.ON"
- static final String **INTENT\_PAUSE** = "net.kollnig.missioncontrol.PAUSE"
- static final String **INTENT\_OFF** = "net.kollnig.missioncontrol.OFF"

## Additional Inherited Members

### 4.73.1 Member Function Documentation

#### 4.73.1.1 onReceive()

```
void eu.faircode.netguard.WidgetAdmin.onReceive (
 Context context,
 Intent intent)
```

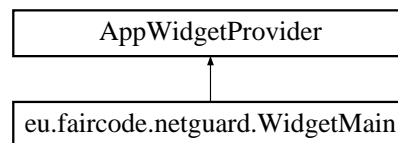
Reimplemented from **eu.faircode.netguard.ReceiverAutostart** (p. 39).

The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/WidgetAdmin.java

## 4.74 eu.faircode.netguard.WidgetMain Class Reference

Inheritance diagram for eu.faircode.netguard.WidgetMain:



### Public Member Functions

- void **onUpdate** (Context **context**, AppWidgetManager appWidgetManager, int[] appWidgetIds)

### Static Public Member Functions

- static void **updateWidgets** (Context **context**)

The documentation for this class was generated from the following file:

- app/src/main/java/eu/faircode/netguard/WidgetMain.java



## Chapter 5

# File Documentation

### 5.1 netguard.h

```
1 #include <jni.h>
2 #include <stdio.h>
3 #include <stdlib.h>
4 #include <string.h>
5 #include <ctype.h>
6 #include <time.h>
7 #include <unistd.h>
8 #include <pthread.h>
9 #include <setjmp.h>
10 #include <errno.h>
11 #include <fcntl.h>
12 #include <dirent.h>
13 #include <poll.h>
14 #include <sys/types.h>
15 #include <sys/ioctl.h>
16 #include <sys/socket.h>
17 #include <sys/epoll.h>
18 #include <dlfcn.h>
19 #include <sys/stat.h>
20 #include <sys/resource.h>
21
22 #include <netdb.h>
23 #include <arpa/inet.h>
24 #include <netinet/in.h>
25 #include <netinet/in6.h>
26 #include <netinet/ip.h>
27 #include <netinet/ip6.h>
28 #include <netinet/udp.h>
29 #include <netinet/tcp.h>
30 #include <netinet/ip_icmp.h>
31 #include <netinet/icmp6.h>
32
33 #include <android/log.h>
34 #include <sys/system_properties.h>
35
36 #define TAG "TrackerControl.JNI"
37
38 // #define PROFILE_JNI 5
39 // #define PROFILE_MEMORY
40
41 #define EPOLL_TIMEOUT 3600 // seconds
42 #define EPOLL_EVENTS 20
43 #define EPOLL_MIN_CHECK 100 // milliseconds
44
45 #define TUN_YIELD 10 // packets
46
47 #define ICMP4_MAXMSG (IP_MAXPACKET - 20 - 8) // bytes (socket)
48 #define ICMP6_MAXMSG (IPV6_MAXPACKET - 40 - 8) // bytes (socket)
49 #define UDP4_MAXMSG (IP_MAXPACKET - 20 - 8) // bytes (socket)
50 #define UDP6_MAXMSG (IPV6_MAXPACKET - 40 - 8) // bytes (socket)
51
52 #define ICMP_TIMEOUT 5 // seconds
53
54 #define UDP_TIMEOUT_53 15 // seconds
55 #define UDP_TIMEOUT_ANY 300 // seconds
56 #define UDP_KEEP_TIMEOUT 60 // seconds
57 #define UDP_YIELD 10 // packets
58
```

```

59 #define TCP_INIT_TIMEOUT 20 // seconds ~net.inet.tcp.keeptimeout
60 #define TCP_IDLE_TIMEOUT 3600 // seconds ~net.inet.tcp.keeptimeout
61 #define TCP_CLOSE_TIMEOUT 20 // seconds
62 #define TCP_KEEP_TIMEOUT 300 // seconds
63 // https://en.wikipedia.org/wiki/Maximum_segment_lifetime
64
65 #define SESSION_LIMIT 40 // percent
66 #define SESSION_MAX (1024 * SESSION_LIMIT / 100) // number
67
68 #define SEND_BUF_DEFAULT 163840 // bytes
69
70 #define UID_MAX_AGE 30000 // milliseconds
71
72 #define SOCKS5_NONE 1
73 #define SOCKS5_HELLO 2
74 #define SOCKS5_AUTH 3
75 #define SOCKS5_CONNECT 4
76 #define SOCKS5_CONNECTED 5
77
78 struct context {
79 pthread_mutex_t lock;
80 int pipefds[2];
81 int stopping;
82 int sdk;
83 struct ng_session *ng_session;
84 };
85
86 struct arguments {
87 JNIEnv *env;
88 jobject instance;
89 int tun;
90 jboolean fwd53;
91 jint rcode;
92 struct context *ctx;
93 };
94
95 struct allowed {
96 char raddr[INET6_ADDRSTRLEN + 1];
97 uint16_t rport; // host notation
98 };
99
100 struct segment {
101 uint32_t seq;
102 uint16_t len;
103 uint16_t sent;
104 int psh;
105 uint8_t *data;
106 struct segment *next;
107 };
108
109 struct icmp_session {
110 time_t time;
111 jint uid;
112 int version;
113
114 union {
115 __be32 ip4; // network notation
116 struct in6_addr ip6;
117 } saddr;
118
119 union {
120 __be32 ip4; // network notation
121 struct in6_addr ip6;
122 } daddr;
123
124 uint16_t id;
125
126 uint8_t stop;
127 };
128
129 #define UDP_ACTIVE 0
130 #define UDP_FINISHING 1
131 #define UDP_CLOSED 2
132 #define UDP_BLOCKED 3
133
134 struct udp_session {
135 time_t time;
136 jint uid;
137 int version;
138 uint16_t mss;
139
140 uint64_t sent;
141 uint64_t received;
142
143 union {
144 __be32 ip4; // network notation
145 struct in6_addr ip6;

```

```

146 } saddr;
147 __be16 source; // network notation
148
149 union {
150 __be32 ip4; // network notation
151 struct in6_addr ip6;
152 } daddr;
153 __be16 dest; // network notation
154
155 uint8_t state;
156 };
157
158 struct tcp_session {
159 jint uid;
160 time_t time;
161 int version;
162 uint16_t mss;
163 uint8_t recv_scale;
164 uint8_t send_scale;
165 uint32_t recv_window; // host notation, scaled
166 uint32_t send_window; // host notation, scaled
167 uint16_t unconfirmed; // packets
168
169 uint32_t remote_seq; // confirmed bytes received, host notation
170 uint32_t local_seq; // confirmed bytes sent, host notation
171 uint32_t remote_start;
172 uint32_t local_start;
173
174 uint32_t acked; // host notation
175 long long last_keep_alive;
176
177 uint64_t sent;
178 uint64_t received;
179
180 union {
181 __be32 ip4; // network notation
182 struct in6_addr ip6;
183 } saddr;
184 __be16 source; // network notation
185
186 union {
187 __be32 ip4; // network notation
188 struct in6_addr ip6;
189 } daddr;
190 __be16 dest; // network notation
191
192 uint8_t state;
193 uint8_t socks5;
194 struct segment *forward;
195
196 int checkedHostname;
197 };
198
199 struct ng_session {
200 uint8_t protocol;
201 union {
202 struct icmp_session icmp;
203 struct udp_session udp;
204 struct tcp_session tcp;
205 };
206 jint socket;
207 struct epoll_event ev;
208 struct ng_session *next;
209 };
210
211 struct uid_cache_entry {
212 uint8_t version;
213 uint8_t protocol;
214 uint8_t saddr[16];
215 uint16_t sport;
216 uint8_t daddr[16];
217 uint16_t dport;
218 jint uid;
219 long time;
220 };
221
222 // IPv6
223
224 struct ip6_hdr_pseudo {
225 struct in6_addr ip6ph_src;
226 struct in6_addr ip6ph_dst;
227 u_int32_t ip6ph_len;
228 u_int8_t ip6ph_zero[3];
229 u_int8_t ip6ph_nxt;
230 } __packed;
231
232 // PCAP

```

```

233 // https://wiki.wireshark.org/Development/LibpcapFileFormat
234
235 typedef uint16_t quint16_t;
236 typedef uint32_t quint32_t;
237 typedef int32_t gint32_t;
238
239 typedef struct pcap_hdr_s {
240 quint32_t magic_number;
241 quint16_t version_major;
242 quint16_t version_minor;
243 gint32_t thiszone;
244 quint32_t sigfigs;
245 quint32_t snaplen;
246 quint32_t network;
247 } __packed pcap_hdr_s;
248
249 typedef struct pcaprec_hdr_s {
250 quint32_t ts_sec;
251 quint32_t ts_usec;
252 quint32_t incl_len;
253 quint32_t orig_len;
254 } __packed pcaprec_hdr_s;
255
256 #define LINKTYPE_RAW 101
257
258 // DNS
259
260 #define DNS_QCLASS_IN 1
261 #define DNS_QTYPE_A 1 // IPv4
262 #define DNS_QTYPE_AAAA 28 // IPv6
263
264 #define DNS_SVCB 64
265 #define DNS_HTTPS 65
266
267 #define DNS_QNAME_MAX 255
268 #define DNS_TTL (10 * 60) // seconds
269
270 struct dns_header {
271 uint16_t id; // identification number
272 # if __BYTE_ORDER == __LITTLE_ENDIAN
273 uint16_t rd :1; // recursion desired
274 uint16_t tc :1; // truncated message
275 uint16_t aa :1; // authoritative answer
276 uint16_t opcode :4; // purpose of message
277 uint16_t qr :1; // query/response flag
278 uint16_t rcode :4; // response code
279 uint16_t cd :1; // checking disabled
280 uint16_t ad :1; // authenticated data
281 uint16_t z :1; // its z! reserved
282 uint16_t ra :1; // recursion available
283 #elif __BYTE_ORDER == __BIG_ENDIAN
284 uint16_t qr :1; // query/response flag
285 uint16_t opcode :4; // purpose of message
286 uint16_t aa :1; // authoritative answer
287 uint16_t tc :1; // truncated message
288 uint16_t rd :1; // recursion desired
289 uint16_t ra :1; // recursion available
290 uint16_t z :1; // its z! reserved
291 uint16_t ad :1; // authenticated data
292 uint16_t cd :1; // checking disabled
293 uint16_t rcode :4; // response code
294 # else
295 # error "Adjust your <bits/endian.h> defines"
296 #endif
297 uint16_t q_count; // number of question entries
298 uint16_t ans_count; // number of answer entries
299 uint16_t auth_count; // number of authority entries
300 uint16_t add_count; // number of resource entries
301 } __packed;
302
303 typedef struct dns_rr {
304 __be16 qname_ptr;
305 __be16 qtype;
306 __be16 qclass;
307 __be32 ttl;
308 __be16 rdlength;
309 } __packed dns_rr;
310
311 // DHCP
312
313 #define DHCP_OPTION_MAGIC_NUMBER (0x63825363)
314
315 typedef struct dhcp_packet {
316 uint8_t opcode;
317 uint8_t htype;
318 uint8_t hlen;
319 uint8_t hops;

```

```

320 uint32_t xid;
321 uint16_t secs;
322 uint16_t flags;
323 uint32_t ciaddr;
324 uint32_t yiaddr;
325 uint32_t siaddr;
326 uint32_t giaddr;
327 uint8_t chaddr[16];
328 uint8_t sname[64];
329 uint8_t file[128];
330 uint32_t option_format;
331 } __packed dhcp_packet;
332
333 typedef struct dhcp_option {
334 uint8_t code;
335 uint8_t length;
336 } __packed dhcp_option;
337
338 // Prototypes
339
340 void handle_signal(int sig, siginfo_t *info, void *context);
341
342 void *handle_events(void *a);
343
344 void report_exit(const struct arguments *args, const char *fmt, ...);
345
346 void report_error(const struct arguments *args, jint error, const char *fmt, ...);
347
348 void check_allowed(const struct arguments *args);
349
350 void clear(struct context *ctx);
351
352 int check_icmp_session(const struct arguments *args,
353 struct ng_session *s,
354 int sessions, int maxsessions);
355
356 int check_udp_session(const struct arguments *args,
357 struct ng_session *s,
358 int sessions, int maxsessions);
359
360 int check_tcp_session(const struct arguments *args,
361 struct ng_session *s,
362 int sessions, int maxsessions);
363
364 int monitor_tcp_session(const struct arguments *args, struct ng_session *s, int epoll_fd);
365
366 int get_icmp_timeout(const struct icmp_session *u, int sessions, int maxsessions);
367
368 int get_udp_timeout(const struct udp_session *u, int sessions, int maxsessions);
369
370 int get_tcp_timeout(const struct tcp_session *t, int sessions, int maxsessions);
371
372 uint16_t get_mtu();
373
374 uint16_t get_default_mss(int version);
375
376 int check_tun(const struct arguments *args,
377 const struct epoll_event *ev,
378 const int epoll_fd,
379 int sessions, int maxsessions);
380
381 void check_icmp_socket(const struct arguments *args, const struct epoll_event *ev);
382
383 void check_udp_socket(const struct arguments *args, const struct epoll_event *ev);
384
385 int32_t get_qname(const uint8_t *data, const size_t datalen, uint16_t off, char *qname);
386
387 void parse_dns_response(const struct arguments *args, const struct ng_session *session,
388 const uint8_t *data, size_t datalen);
389
390 uint32_t get_send_window(const struct tcp_session *cur);
391
392 uint32_t get_receive_buffer(const struct ng_session *cur);
393
394 uint32_t get_receive_window(const struct ng_session *cur);
395
396 void check_tcp_socket(const struct arguments *args,
397 const struct epoll_event *ev,
398 const int epoll_fd);
399
400 int is_lower_layer(int protocol);
401
402 int is_upper_layer(int protocol);
403
404 void handle_ip(const struct arguments *args,
405 const uint8_t *buffer, size_t length,
406 const int epoll_fd,

```

```
407 int sessions, int maxsessions);
408
409 jboolean handle_icmp(const struct arguments *args,
410 const uint8_t *pkt, size_t length,
411 const uint8_t *payload,
412 int uid,
413 const int epoll_fd);
414
415 int has_udp_session(const struct arguments *args, const uint8_t *pkt, const uint8_t *payload);
416
417 void block_udp(const struct arguments *args,
418 const uint8_t *pkt, size_t length,
419 const uint8_t *payload,
420 int uid);
421
422 jboolean handle_udp(const struct arguments *args,
423 const uint8_t *pkt, size_t length,
424 const uint8_t *payload,
425 int uid, struct allowed *redirect,
426 const int epoll_fd);
427
428 int check_dhcp(const struct arguments *args, const struct udp_session *u,
429 const uint8_t *data, const size_t datalen);
430
431 void clear_tcp_data(struct tcp_session *cur);
432
433 jboolean handle_tcp(const struct arguments *args,
434 const uint8_t *pkt, size_t length,
435 const uint8_t *payload,
436 int uid, int allowed, struct allowed *redirect,
437 const int epoll_fd);
438
439 void queue_tcp(const struct arguments *args,
440 const struct tcphdr *tcphdr,
441 const char *session, struct tcp_session *cur,
442 const uint8_t *data, uint16_t datalen);
443
444 int open_icmp_socket(const struct arguments *args, const struct icmp_session *cur);
445
446 int open_udp_socket(const struct arguments *args,
447 const struct udp_session *cur, const struct allowed *redirect);
448
449 int open_tcp_socket(const struct arguments *args,
450 const struct tcp_session *cur, const struct allowed *redirect);
451
452 int32_t get_local_port(const int sock);
453
454 int write_syn_ack(const struct arguments *args, struct tcp_session *cur);
455
456 int write_ack(const struct arguments *args, struct tcp_session *cur);
457
458 int write_data(const struct arguments *args, struct tcp_session *cur,
459 const uint8_t *buffer, size_t length);
460
461 int write_fin_ack(const struct arguments *args, struct tcp_session *cur);
462
463 void write_rst(const struct arguments *args, struct tcp_session *cur);
464
465 void write_rst_ack(const struct arguments *args, struct tcp_session *cur);
466
467 ssize_t write_icmp(const struct arguments *args, const struct icmp_session *cur,
468 uint8_t *data, size_t datalen);
469
470 ssize_t write_udp(const struct arguments *args, const struct udp_session *cur,
471 uint8_t *data, size_t datalen);
472
473 ssize_t write_tcp(const struct arguments *args, const struct tcp_session *cur,
474 const uint8_t *data, size_t datalen,
475 int syn, int ack, int fin, int rst);
476
477 uint8_t char2nibble(const char c);
478
479 void hex2bytes(const char *hex, uint8_t *buffer);
480
481 jint get_uid(const int version, const int protocol,
482 const void *saddr, const uint16_t sport,
483 const void *daddr, const uint16_t dport);
484
485 jint get_uid_sub(const int version, const int protocol,
486 const void *saddr, const uint16_t sport,
487 const void *daddr, const uint16_t dport,
488 const char *source, const char *dest,
489 long now);
490
491 int protect_socket(const struct arguments *args, int socket);
492
493 uint16_t calc_checksum(uint16_t start, const uint8_t *buffer, size_t length);
```

```

494
495 jobject JNIGlobalRef(JNIEnv *env, jobject cls);
496
497 jclass JNIFindClass(JNIEnv *env, const char *name);
498
499 jmethodID JNIGetMethodID(JNIEnv *env, jclass cls, const char *name, const char *signature);
500
501 jfieldID JNIGetFieldID(JNIEnv *env, jclass cls, const char *name, const char *type);
502
503 jobject JNINewObject(JNIEnv *env, jclass cls, jmethodID constructor, const char *name);
504
505 int JNICheckException(JNIEnv *env);
506
507 int sdk_int(JNIEnv *env);
508
509 void log_android(int prio, const char *fmt, ...);
510
511 void log_packet(const struct arguments *args, jobject jpacket);
512
513 void dns_resolved(const struct arguments *args,
514 const char *qname, const char *aname, const char *resource, int ttl);
515
516 jboolean is_domain_blocked(const struct arguments *args, const char *name);
517
518 jint get_uid_q(const struct arguments *args,
519 jint version,
520 jint protocol,
521 const char *source,
522 jint sport,
523 const char *dest,
524 jint dport);
525
526 struct allowed *is_address_allowed(const struct arguments *args, jobject objPacket);
527
528 jobject create_packet(const struct arguments *args,
529 jint version,
530 jint protocol,
531 const char *flags,
532 const char *source,
533 jint sport,
534 const char *dest,
535 jint dport,
536 const char *data,
537 jint uid,
538 jboolean allowed);
539
540 void account_usage(const struct arguments *args, jint version, jint protocol,
541 const char *daddr, jint dport, jint uid, jlong sent, jlong received);
542
543 void write_pcap_hdr();
544
545 void write_pcap_rec(const uint8_t *buffer, size_t len);
546
547 void write_pcap(const void *ptr, size_t len);
548
549 int compare_u32(uint32_t seq1, uint32_t seq2);
550
551 const char *strstate(const int state);
552
553 char *hex(const uint8_t *data, const size_t len);
554
555 int is_readable(int fd);
556
557 int is_writable(int fd);
558
559 long long get_ms();
560
561 void ng_add_alloc(void *ptr, const char *tag);
562
563 void ng_delete_alloc(void *ptr, const char *file, int line);
564
565 void *ng_malloc(size_t __byte_count, const char *tag);
566
567 void *ng_calloc(size_t __item_count, size_t __item_size, const char *tag);
568
569 void *ng_realloc(void *__ptr, size_t __byte_count, const char *tag);
570
571 void ng_free(void *__ptr, const char *file, int line);
572
573 void ng_dump();

```

## 5.2 tls.h

```
1 /*
```

```
2 * Copyright (c) 2011 and 2012, Dustin Lundquist <dustin@null-ptr.net>
3 * All rights reserved.
4 *
5 * Redistribution and use in source and binary forms, with or without
6 * modification, are permitted provided that the following conditions are met:
7 *
8 * 1. Redistributions of source code must retain the above copyright notice,
9 * this list of conditions and the following disclaimer.
10 * 2. Redistributions in binary form must reproduce the above copyright
11 * notice, this list of conditions and the following disclaimer in the
12 * documentation and/or other materials provided with the distribution.
13 *
14 * THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS"
15 * AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
16 * IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
17 * ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE
18 * LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
19 * CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
20 * SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
21 * INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
22 * CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
23 * ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE
24 * POSSIBILITY OF SUCH DAMAGE.
25 */
26 #ifndef TLS_H
27 #define TLS_H
28
29 #include <stdint.h>
30
31 void parse_tls_header(const char *data, size_t data_len, char *hostname);
32
33 #endif //TLS_H
```



# Index

adSettings  
    net.kollnig.missioncontrol.Common, 20  
alloc\_record, 17  
allowed, 17  
analyse  
    net.kollnig.missioncontrol.analysis.TrackerLibraryAnalysis, 55  
app/src/main/jni/netguard/netguard.h, 65  
app/src/main/jni/netguard/tls.h, 71  
arguments, 19  
  
block  
    net.kollnig.missioncontrol.data.InternetBlocklist, 33  
    net.kollnig.missioncontrol.data.TrackerBlocklist, 47, 48  
blocked  
    net.kollnig.missioncontrol.data.TrackerBlocklist, 48  
blockedInternet  
    net.kollnig.missioncontrol.data.InternetBlocklist, 33  
blockedTracker  
    net.kollnig.missioncontrol.data.TrackerBlocklist, 48  
browse  
    net.kollnig.missioncontrol.Common, 20  
  
clear  
    net.kollnig.missioncontrol.data.InternetBlocklist, 34  
    net.kollnig.missioncontrol.data.TrackerBlocklist, 49  
context, 23  
  
dayOfYear  
    net.kollnig.missioncontrol.Common, 20  
dhcp\_option, 28  
dhcp\_packet, 28  
dns\_header, 29  
dns\_rr, 29  
  
emailIntent  
    net.kollnig.missioncontrol.Common, 21  
equals  
    net.kollnig.missioncontrol.data.TrackerLibrary, 54  
eu.faircode.netguard.ActivityDns, 10  
eu.faircode.netguard.ActivityForwardApproval, 11  
eu.faircode.netguard.ActivityForwarding, 11  
eu.faircode.netguard.ActivityLog, 12  
eu.faircode.netguard.ActivityMain, 12  
eu.faircode.netguard.ActivitySettings, 13  
eu.faircode.netguard.AdapterAccess, 14  
eu.faircode.netguard.AdapterDns, 14  
eu.faircode.netguard.AdapterForwarding, 15  
eu.faircode.netguard.AdapterLog, 15  
eu.faircode.netguard.AdapterRule, 16  
eu.faircode.netguard.Allowed, 17  
eu.faircode.netguard.ApplicationEx, 18  
eu.faircode.netguard.ApplicationExFilter, 18  
eu.faircode.netguard.DatabaseHelper, 25  
eu.faircode.netguard.DatabaseHelper.AccessChangedListener, 9  
eu.faircode.netguard.DatabaseHelper.ForwardChangedListener, 31  
eu.faircode.netguard.DatabaseHelper.LogChangedListener, 36  
eu.faircode.netguard.DownloadTask, 30  
eu.faircode.netguard.DownloadTask.Listener, 36  
eu.faircode.netguard.ExpandedListView, 30  
eu.faircode.netguard.Forward, 31  
eu.faircode.netguard.FragmentSettings, 31  
eu.faircode.netguard.GlideHelper, 32  
eu.faircode.netguard.IPUtil, 35  
eu.faircode.netguard.Packet, 37  
eu.faircode.netguard.ReceiverAutostart, 39  
eu.faircode.netguard.ReceiverPackageRemoved, 39  
eu.faircode.netguard.ResourceRecord, 40  
eu.faircode.netguard.Rule, 40  
eu.faircode.netguard.ServiceExternal, 42  
eu.faircode.netguard.ServiceSinkhole, 42  
eu.faircode.netguard.ServiceSinkhole.Command, 19  
eu.faircode.netguard.ServiceTileMain, 43  
eu.faircode.netguard.SwitchPreference, 43  
eu.faircode.netguard.Usage, 61  
eu.faircode.netguard.Util, 62  
eu.faircode.netguard.Util.DoubtListener, 29  
eu.faircode.netguard.WidgetAdmin, 63  
    onReceive, 64  
eu.faircode.netguard.WidgetMain, 64  
  
fetch  
    net.kollnig.missioncontrol.Common, 21  
findTracker  
    net.kollnig.missioncontrol.data.TrackerList, 56  
  
getAppInfo  
    net.kollnig.missioncontrol.data.TrackerList, 57  
getAppName  
    net.kollnig.missioncontrol.Common, 21  
getAppTrackers  
    net.kollnig.missioncontrol.data.TrackerList, 57  
getBlockingKey  
    net.kollnig.missioncontrol.data.TrackerBlocklist, 49  
getBlocklist  
    net.kollnig.missioncontrol.data.InternetBlocklist, 34

- net.kollnig.missioncontrol.data.TrackerBlocklist, 49
- getCategory
  - net.kollnig.missioncontrol.data.Tracker, 46
- getCategoryName
  - net.kollnig.missioncontrol.data.TrackerCategory, 52
- getChildren
  - net.kollnig.missioncontrol.data.TrackerCategory, 52
- getDisplayName
  - net.kollnig.missioncontrol.data.TrackerCategory, 52
- getHostCountriesCount
  - net.kollnig.missioncontrol.details.CountriesFragment, 24
- getHosts
  - net.kollnig.missioncontrol.data.Tracker, 46
- getId
  - net.kollnig.missioncontrol.data.TrackerLibrary, 55
- getInfo
  - net.kollnig.missioncontrol.data.PlayStore, 38
- getInstance
  - net.kollnig.missioncontrol.data.InternetBlocklist, 34
  - net.kollnig.missioncontrol.data.TrackerBlocklist, 50
  - net.kollnig.missioncontrol.data.TrackerList, 57
- getLaunchIntent
  - net.kollnig.missioncontrol.Common, 22
- getName
  - net.kollnig.missioncontrol.data.Tracker, 46
  - net.kollnig.missioncontrol.data.TrackerLibrary, 55
- getSnackbar
  - net.kollnig.missioncontrol.Common, 22
- getSubset
  - net.kollnig.missioncontrol.data.TrackerBlocklist, 50
- getTrackerCountsAndTotal
  - net.kollnig.missioncontrol.data.TrackerList, 58
- hasAdSettings
  - net.kollnig.missioncontrol.Common, 23
- icmp\_session, 32
- ip6\_hdr\_pseudo, 35
- isCallable
  - net.kollnig.missioncontrol.Common, 23
- isUncertain
  - net.kollnig.missioncontrol.data.TrackerCategory, 53
- loadSettings
  - net.kollnig.missioncontrol.data.InternetBlocklist, 34
  - net.kollnig.missioncontrol.data.TrackerBlocklist, 50
- loadTrackers
  - net.kollnig.missioncontrol.data.TrackerList, 58
- net.kollnig.missioncontrol.analysis.AnalysisException, 17
- net.kollnig.missioncontrol.analysis.TrackerLibraryAnalyser, 55
  - analyse, 55
- net.kollnig.missioncontrol.Common, 20
  - adSettings, 20
  - browse, 20
  - dayOfYear, 20
  - emailIntent, 21
  - fetch, 21
  - getAppName, 21
  - getLaunchIntent, 22
  - getSnackbar, 22
  - hasAdSettings, 23
  - isCallable, 23
- net.kollnig.missioncontrol.data.InternetBlocklist, 33
  - block, 33
  - blockedInternet, 33
  - clear, 34
  - getBlocklist, 34
  - getInstance, 34
  - loadSettings, 34
  - unblock, 35
- net.kollnig.missioncontrol.data.Pair< T, U >, 37
- net.kollnig.missioncontrol.data.PlayStore, 38
  - getInfo, 38
- net.kollnig.missioncontrol.data.Tracker, 45
  - getCategory, 46
  - getHosts, 46
  - getName, 46
  - Tracker, 45
- net.kollnig.missioncontrol.data.TrackerBlocklist, 47
  - block, 47, 48
  - blocked, 48
  - blockedTracker, 48
  - clear, 49
  - getBlockingKey, 49
  - getBlocklist, 49
  - getInstance, 50
  - getSubset, 50
  - loadSettings, 50
  - unblock, 51
- net.kollnig.missioncontrol.data.TrackerCategory, 51
  - getCategoryName, 52
  - getChildren, 52
  - getDisplayName, 52
  - isUncertain, 53
  - setUncertain, 53
- net.kollnig.missioncontrol.data.TrackerLibrary, 53
  - equals, 54
  - getId, 55
  - getName, 55
  - TrackerLibrary, 54
- net.kollnig.missioncontrol.data.TrackerList, 56
  - findTracker, 56
  - getAppInfo, 57
  - getAppTrackers, 57
  - getInstance, 57
  - getTrackerCountsAndTotal, 58
  - loadTrackers, 58
- net.kollnig.missioncontrol.details.ActionsFragment, 9
  - sendEmail, 10

- net.kollnig.missioncontrol.details.CountriesFragment, 24
  - getHostCountriesCount, 24
- net.kollnig.missioncontrol.details.TrackersFragment, 58
  - TrackersFragment, 59
  - updateTrackerList, 59
- net.kollnig.missioncontrol.details.TrackersListAdapter, 60
- net.kollnig.missioncontrol.DetailsActivity, 26
  - savePrefs, 27
- net.kollnig.missioncontrol.DetailsStateAdapter, 27
- ng\_session, 36
- onReceive
  - eu.faircode.netguard.WidgetAdmin, 64
- pcap\_hdr\_s, 38
- pcaprec\_hdr\_s, 38
- savePrefs
  - net.kollnig.missioncontrol.DetailsActivity, 27
- segment, 41
- sendEmail
  - net.kollnig.missioncontrol.details.ActionsFragment, 10
- setUncertain
  - net.kollnig.missioncontrol.data.TrackerCategory, 53
- tcp\_session, 44
- Tracker
  - net.kollnig.missioncontrol.data.Tracker, 45
- TrackerLibrary
  - net.kollnig.missioncontrol.data.TrackerLibrary, 54
- TrackersFragment
  - net.kollnig.missioncontrol.details.TrackersFragment, 59
- udp\_session, 60
- uid\_cache\_entry, 61
- unblock
  - net.kollnig.missioncontrol.data.InternetBlocklist, 35
  - net.kollnig.missioncontrol.data.TrackerBlocklist, 51
- updateTrackerList
  - net.kollnig.missioncontrol.details.TrackersFragment, 59