Rocky Enterprise Linux 9.2 Manual Pages on command 'dbus-binding-tool.1'

$ man dbus-binding-tool.1

dbus-binding-tool(1) User Commands dbus-binding-tool(1)

NAME

dbus-binding-tool - C language GLib bindings generation utility.

SYNOPSIS

dbus-binding-tool [--force] [--help] [--ignore-unsupported] [--mode=pretty|glib-client|glib-server] [--output=file] [--prefix=sym? bol-prefix] [--version] [file...]

DESCRIPTION

dbus-binding-tool is used to expose a GObject via D-Bus. As input, dbus-binding-tool uses a D-Bus Introspection XML file. As output, the client-side or server-side bindings is generated. This output is a header file which eases the use of a remote D-Bus object. Output is sent to standard out or to the filename specified with the --output ar? gument.

EXTENDED DESCRIPTION

The following is a sample D-Bus Introspection XML file which describes an object that exposes one method, named ManyArgs:

<?xml version="1.0" encoding="UTF-8" ?>

```
<node name="/com/example/MyObject">
  <interface name="com.example.MyObject">
    <method name="ManyArgs">
      <arg type="u" name="x" direction="in" />
      <arg type="s" name="str" direction="in" />
      <arg type="d" name="trouble" direction="in" />
      <arg type="d" name="d_ret" direction="out" />
      <arg type="s" name="str_ret" direction="out" />
    </method>
  </interface>
</node>
```

dbus-binding-tool supports annotations in the XML format to further control how the bindings are generated.

client-side bindings

When building client-side bindings, the --mode=glib-client argument is used. The client-side bindings support the "org.freedesk?top.DBus.Glib.NoReply" annotation. This is specified within the <method> tag to indicate that the client is not expecting a reply to the method call, so a reply should not be sent. This is often used to speed up rapid method calls where there are no "out" arguments, and not knowing if the method succeeded is an acceptable compromise to halve the traffic on the bus. For example:

```
<method name "FooMethod">
  [...]
  <annotation name="org.freedesktop.DBus.GLib.NoReply" value="yes"/>
  [...]
</method>
```

server-side bindings

When building server-side bindings, the --mode=glib-server argument is used. Also the --prefix argument must be used when building server-side bindings so that functions in the generated output are prefexed with the specified value. The server-side bindings support the follow?ing annotations:

"org.freedesktop.DBus.GLib.CSymbol"

This annotation is used to specify the C symbol names for the various types (interface, method, etc.), if it differs from the name D-Bus gen? erates.

```
<interface name="com.example.MyObject">
  <annotation name="org.freedesktop.DBus.GLib.CSymbol" value="my_object"/>
  [...]
  <method name "ManyArgs">
    <annotation name="org.freedesktop.DBus.GLib.CSymbol" value="my_object_many_args"/>
    [...]
  </method>
</interface>
```

"org.freedesktop.DBus.GLib.Async"

This annotation marks the method implementation as an asynchronous function, which does not return a response straight away but will send the response at some later point to complete the call. This is used to implement non-blocking services where method calls can take time. When a method is asynchronous, the function prototype is different. It is required that the function conform to the following rules:

- ? The function must return a value of type gboolean; TRUE on suc? cess, and FALSE otherwise.
- ? The first parameter is a pointer to an instance of the object.
- ? Following the object instance pointer are the method input values.
- ? The final parameter must be a (DBusGMethodInvocation *). This is used when sending the response message back to the client, by calling dbus_g_method_return or dbus_g_method_return_error.

For example:

```
<method name "FooMethod">
  [...]
  <annotation name="org.freedesktop.DBus.GLib.Async" value="yes"/>
  [...]
</method>
```

"org.freedesktop.DBus.GLib.Const"

This attribute can only be applied to "out" <arg> nodes, and specifies that the parameter is not being copied when returned. For example, this turns a 's' argument from a (char **) to a (const char **), and results in the argument not being freed by D-Bus after the message is sent. For example:

```
<arg type="u" name="x" direction="out">
  <annotation name="org.freedesktop.DBus.GLib.Const" value=""/>
</arg>
```

"org.freedesktop.DBus.GLib.ReturnVal"

This attribute can only be applied to "out" <arg> nodes, and alters the expected function signature. It currently can be set to two values: "" or "error". The argument marked with this attribute is not returned via a pointer argument, but by the function's return value. If the attri? bute's value is the empty string, the (GError *) argument is also omit? ted so there is no standard way to return an error value. This is very useful for interfacing with existing code, as it is possible to match existing APIs. If the attribute's value is "error", then the final ar? gument is a (GError *) as usual. For example:

```
<arg type="u" name="x" direction="out">
  <annotation name="org.freedesktop.DBus.GLib.ReturnVal" value=""/>
</arg>
```

OPTIONS

The following options are supported:

--force

Overwrite the output file if it already exists with a newer time? stamp than the source files.

--help

Display usage information.

--ignore-unsupported

If set, then unsupported signatures for <method> parameters are ig? nored.

--mode=pretty|glib-client|glib-server

If the value is "glib-client", then client bindings are generated.

If the value is "glib-server", then server bindings are generated.

If the value is "pretty", then the output is in a more human read?

able format.

--output=file

Specify the output file.

--prefix=symbol-prefix

Functions in the generated output are prefixed with the symbol-pre?

fix value.

--version

Display the version number of the dbus-binding-tool command.

OPERANDS

The following operands are supported:

file A list of one or more input D-Bus Introspection XML

files to include in the generated output.

FILES

The following files are used by this application:

/usr/bin/dbus-binding-tool Executable for the D-Bus Binding Tool

application.

ATTRIBUTES

See attributes(5) for descriptions of the following attributes:

??

? ATTRIBUTE TYPE ? ATTRIBUTE VALUE ?

??

?Availability ?SUNWdbus-bindings ?

??

?Interface stability ?Volatile ?

??

SEE ALSO

dbus-cleanup-sockets(1), dbus-daemon(1), dbus-monitor(1), dbus-send(1),

dbus-uuidgen(1), libdbus-glib-1(3), attributes(5)

NOTES

Written by Brian Cameron, Sun Microsystems Inc., 2009.