

YANG derived-from-of-self example (updated)

yangsters-smansfield-yang-derived-example-0323

Example of YANG derived-from-or-self()

- This is an example of what the derived-from-or-self() YANG function does related to augment statements
- ieee802-small-interface.yang
 - Example of creating an “interface”
 - Has two derived identities to use for the example
- ieee802-small-bridge-interface.yang
 - Example that augments small interface and provides an example of a “bridge port”
- ieee802-small-car-interface.yang
 - Example that augments small bridge interface
 - Derives a new type from “small-ethernet-type”

YANG

```
module: ieee802-small-interface
++rw small-interfaces
  +-rw small-interface* [name]
    +-rw name          string
    +-rw type?         identityref
    +-rw small-bridge:ethernet-port-strict
      | +-rw small-bridge:ethernet-port-strict-leaf-example? string
      | +-rw car-interface:car-strict-example
      |   +-rw car-interface:car-strict-leaf-1? string
    +-rw small-bridge:ethernet-port-open
      +-rw small-bridge:ethernet-port-open-leaf-example? string
      +-rw car-interface:car-derived-from-example
        +-rw car-interface:car-derived-leaf-1? string
```



ieee802-small-interface.yang



ieee802-small-bridge-interface.yang



ieee802-small-car-interface.yang

When statements used

- Strict Example

```
augment "/small-interface:small-interfaces/small-interface:small-interface/small-bridge:ethernet-port-strict" {  
    when "../small-interface:type = 'small-interface:small-ethernet-type'" {
```

- Derived From Example

```
augment "/small-interface:small-interfaces/small-interface:small-interface/small-bridge:ethernet-port-open" {  
    when "../small-interface:type = derived-from-or-self(..small-interface:type, 'small-interface:small-ethernet-type')" {
```

Instance data that works

```
{  
  "name": "Car1",  
  "type": "ieee802-small-car-interface:car-interface-type",  
  "ieee802-small-bridge-interface:ethernet-port-open": {  
    "ethernet-port-open-leaf-example": "car example 1",  
    "ieee802-small-car-interface:car-derived-from-example": {  
      "car-derived-leaf-1": "car interface example leaf"  
    }  
  },  
},
```

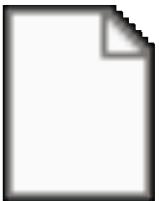


e-ok.json

This works because of the use of
derived-from-or-self()

Instance data that doesn't work

```
{  
  "name": "Fail Case 1 - This one should fail",  
  "type": "ieee802-small-car-interface:car-interface-type",  
  "ieee802-small-bridge-interface:ethernet-port-strict": {  
    "ethernet-port-strict-leaf-example": "added attribute  
to ethernet-port-strict",  
    "ieee802-small-car-interface:car-strict-example": {  
      "ieee802-small-car-interface:car-strict-leaf-1": "car  
interface example leaf"  
    }  
  }  
}
```



e-error.json

This identity is
derived from
another base
type so this
example fails

```
scott@Cosima:~/rws1/derived/small$ expect e-error.in  
spawn /usr/local/bin/yanglint  
> load ieee802-small-interface  
> load ieee802-small-bridge-interface  
> load ieee802-small-car-interface  
> data -t config -f json e-error.json  
libyang[0]: When condition "small-interface:type = 'small-  
interface:small-ethernet-type'" not satisfied. (path: Data  
location "/ieee802-small-interface:small-interfaces/small-  
interface[name='Fail Case 1 - This one should fail']/ieee802-  
small-bridge-interface:ethernet-port-strict".)  
YANGLINT[E]: Failed to parse input data file "e-error.json".  
> quit
```

What this means

- If an IEEE module augments IETF interface and does not use derived-from-or-self
 - Any module that augments the IEEE module will only be able to use the Interface types that are specifically listed in the “when” condition.
- IEEE 802.1Q bridge has relaxed this restriction to allow by using derived-from-or-self on bridge-port.
 - So for example the type can be ianaif:ethernetCsmacd or anything that derives from that.

ieee802-dot1q-bridge.yang

```
***snip***  
augment "/if:interfaces/if:interface" {  
    when  
        "derived-from-or-self(if:type,'ianaif:bridge') or "+  
        "derived-from-or-self(if:type,'ianaif:ethernetCsmacd') or "+  
        "derived-from-or-self(if:type,'ianaif:ieee8023adLag') or "+  
        "derived-from-or-self(if:type,'ianaif:ilan')"  
    description  
        "Applies when a Bridge interface.";  
}  
description  
    "Augment the interface model with the Bridge Port";  
container bridge-port {  
    description  
***snip***
```