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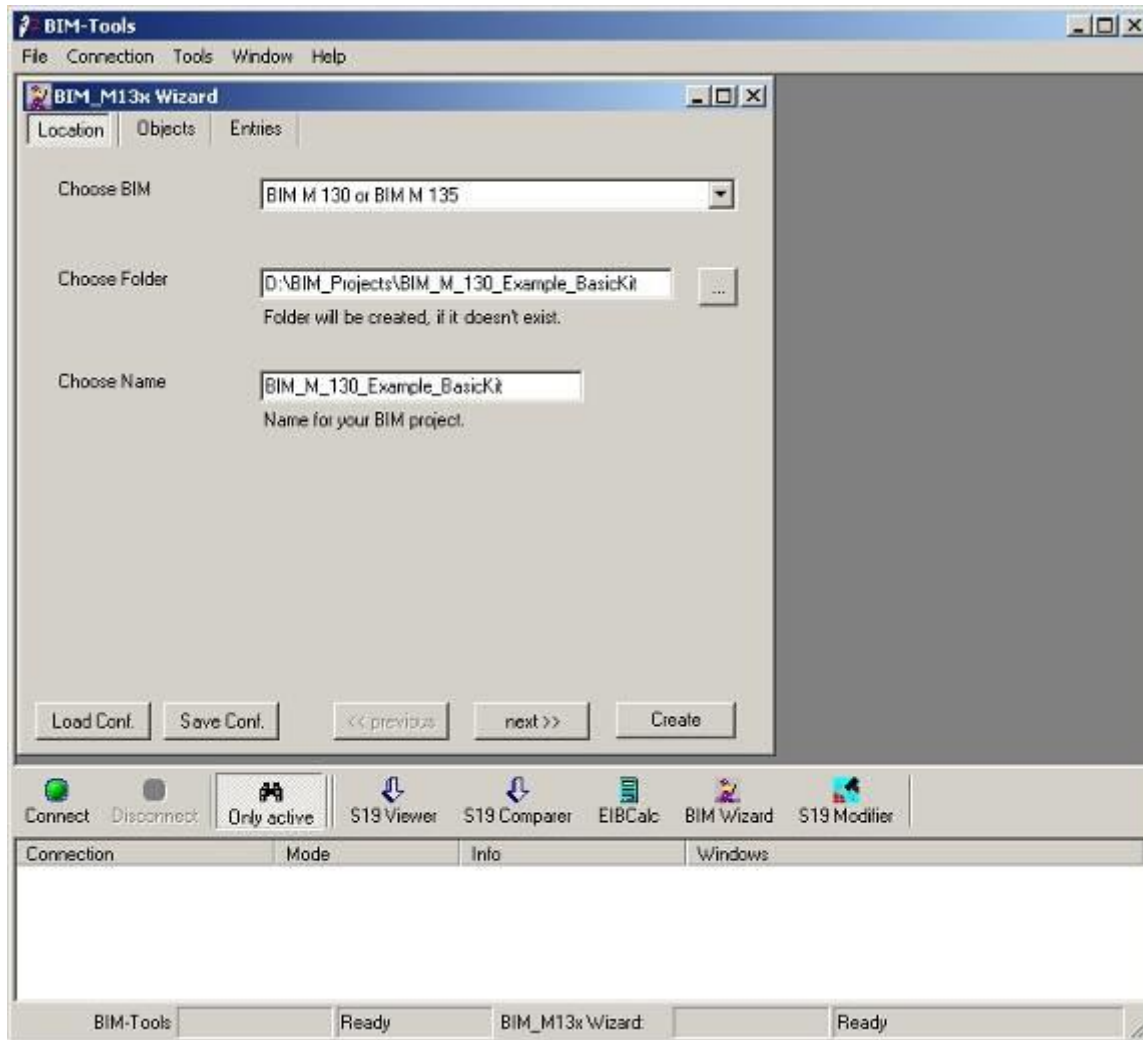
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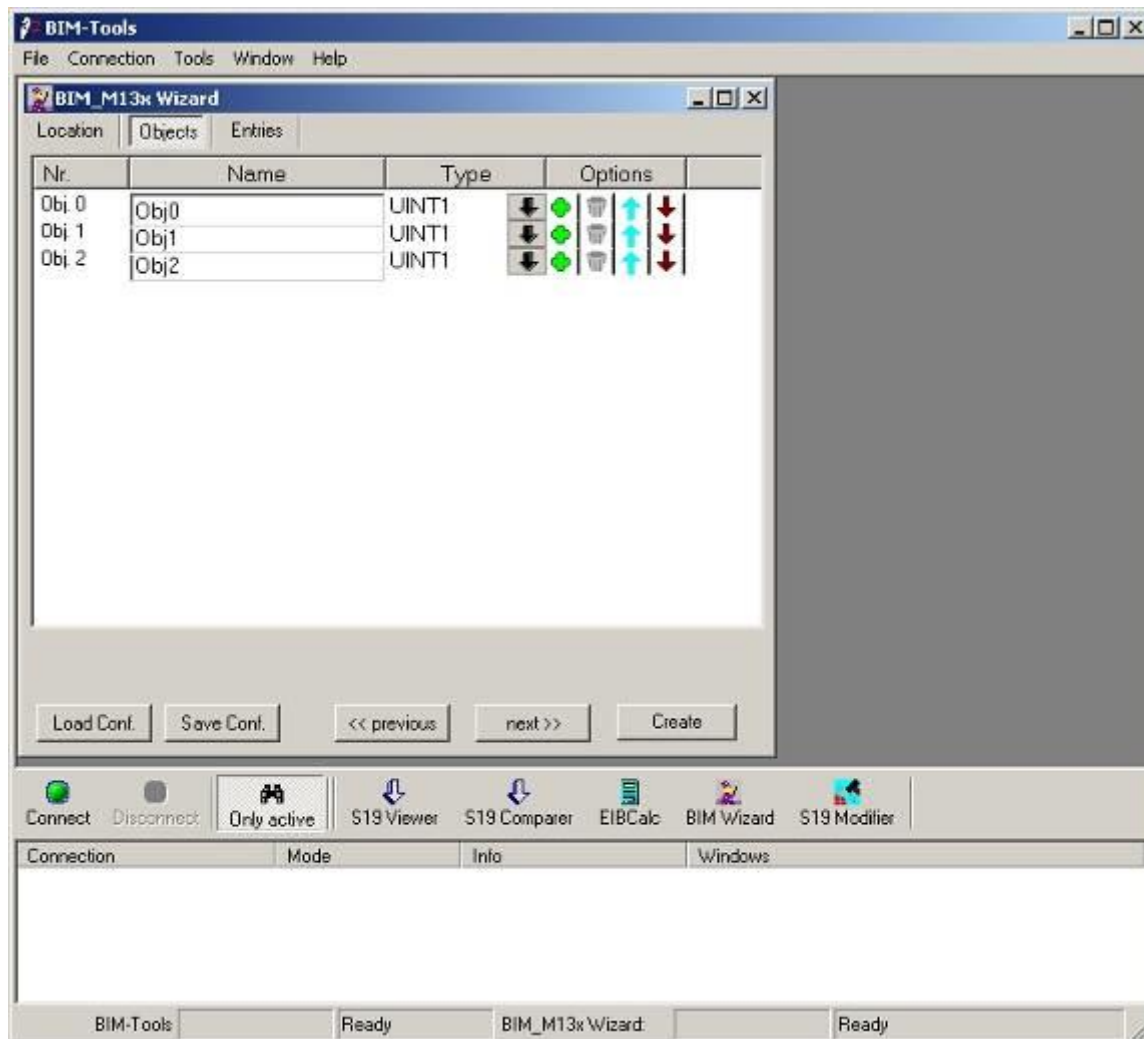
BIM-Tools how to start exemplified as on the “basic kit” project

- If ETS is not installed, install FalconRuntime_emb.msi from www.knx.org
- run BIM_Tools
- start BIM Tools

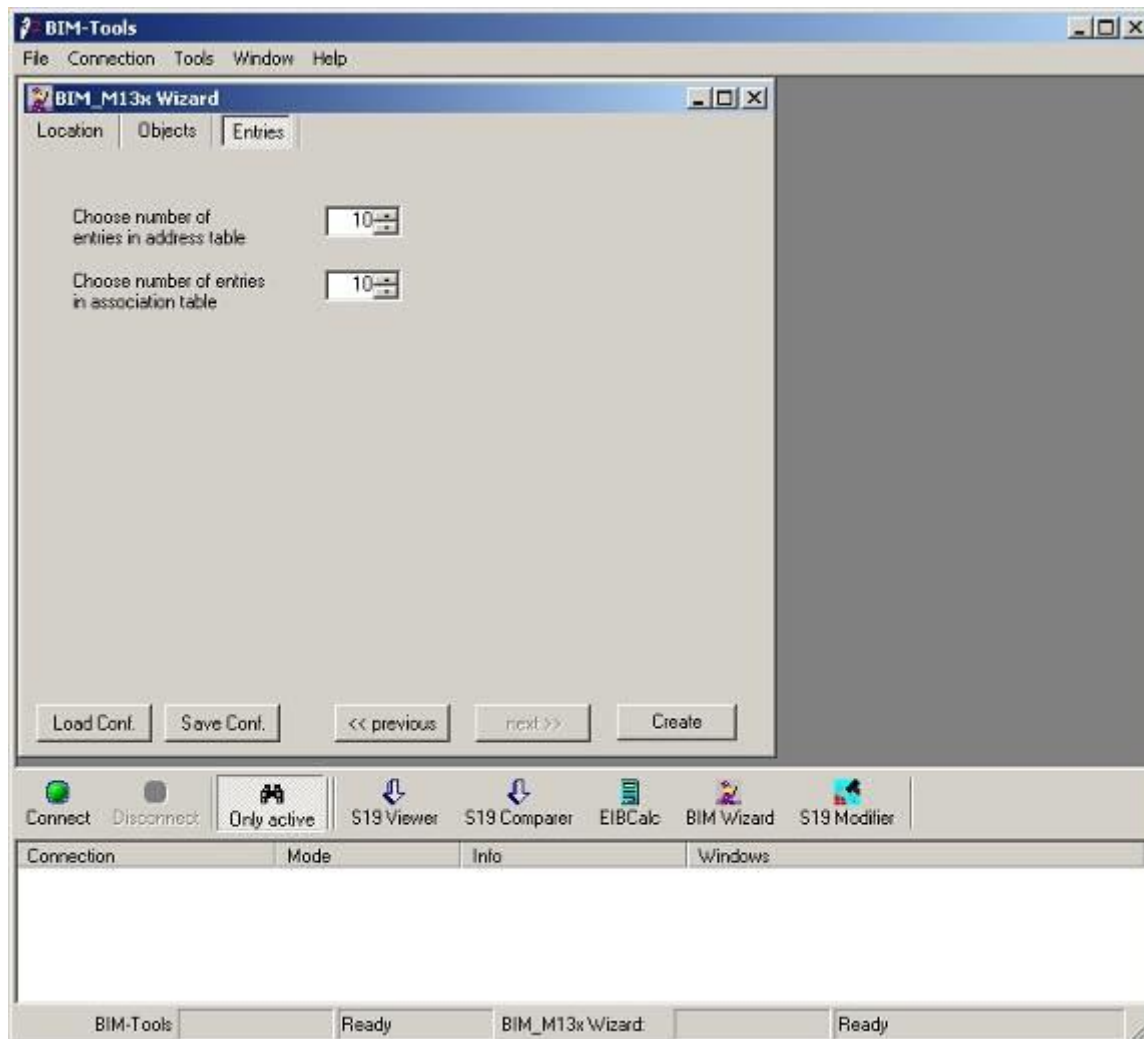
- click on "BIM Wizard"



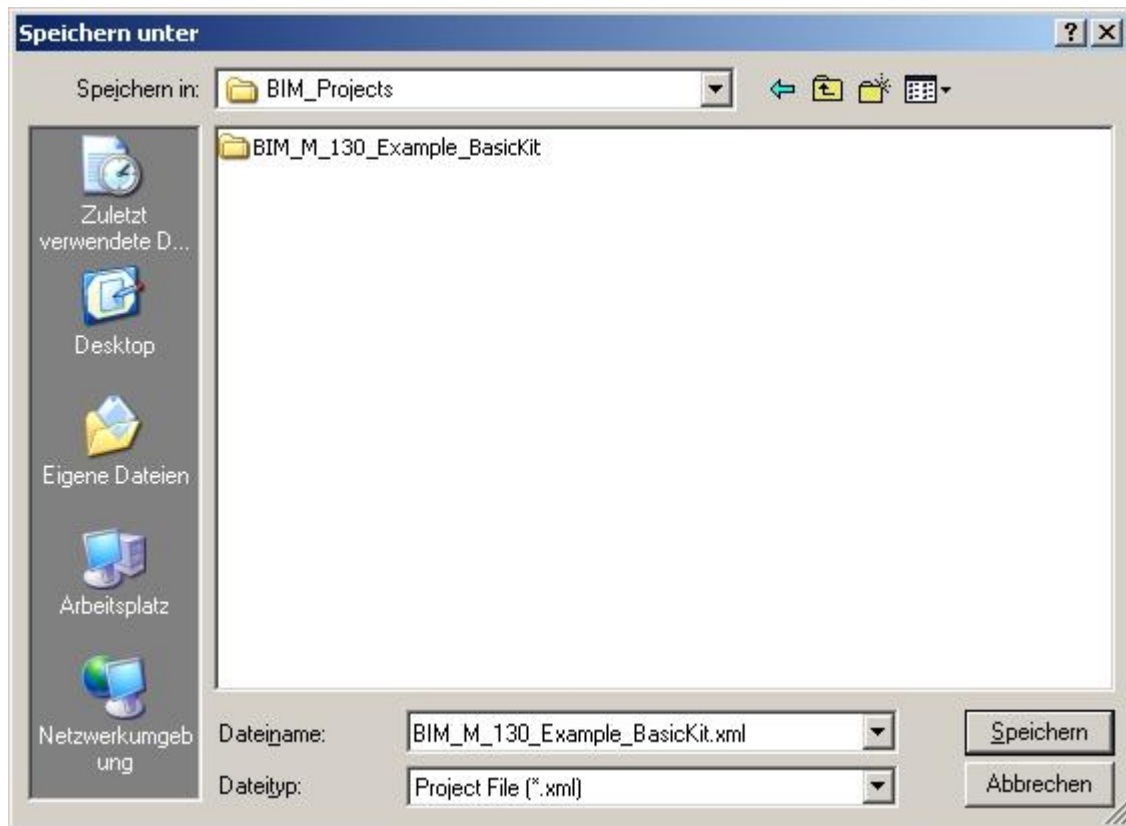
- choose BIM M 13x device
- choose a folder where the BIM M13x project should be stored
- enter a name for the BIM M 13x project
- click on "next>>"



- enter a name for communication object 0
(the name must fit to the conventions for variable names in programming language C)
- (click on '+' to add the next communication object)
- (use the other icons to change type, move or delete communication objects)
- click on "next>>"

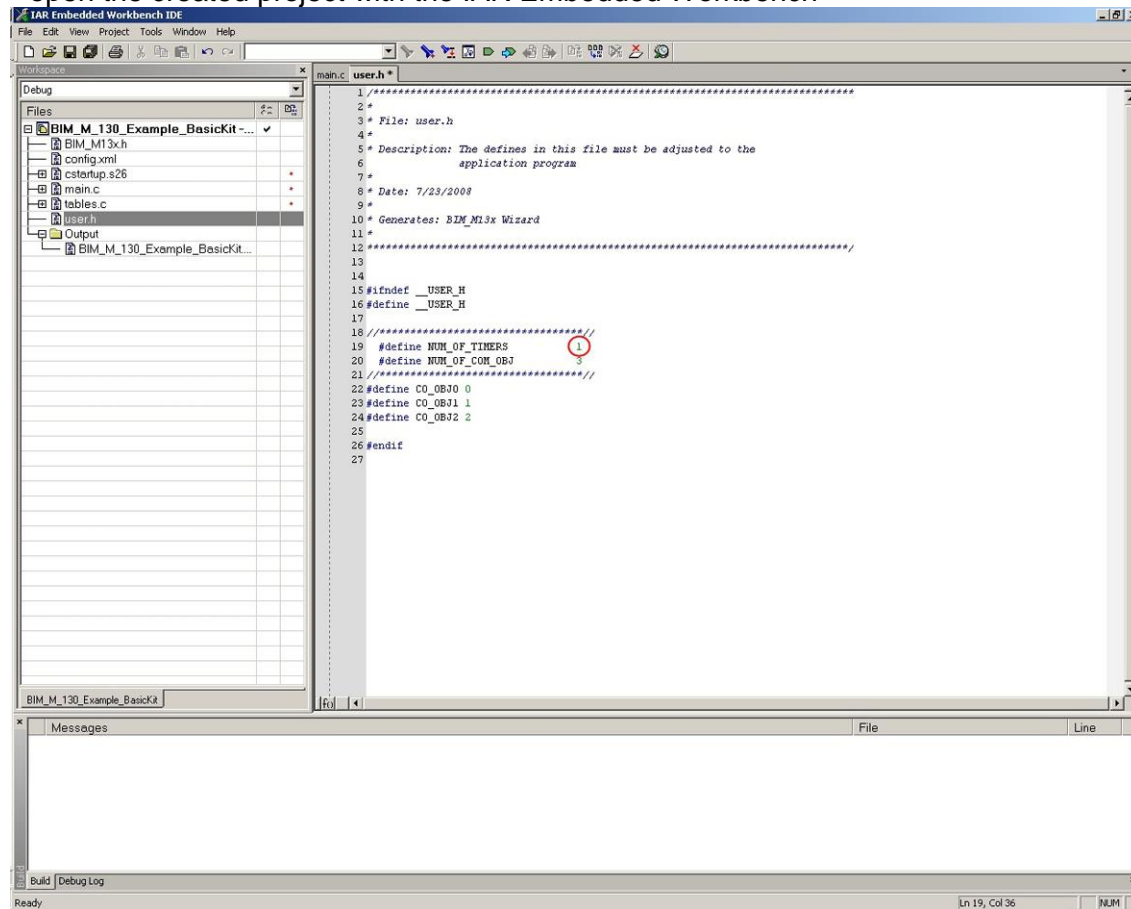


- the minimum size for the address and association tables are already calculated, increase the values if necessary
- (click on "Save Conf." to save this configuration)

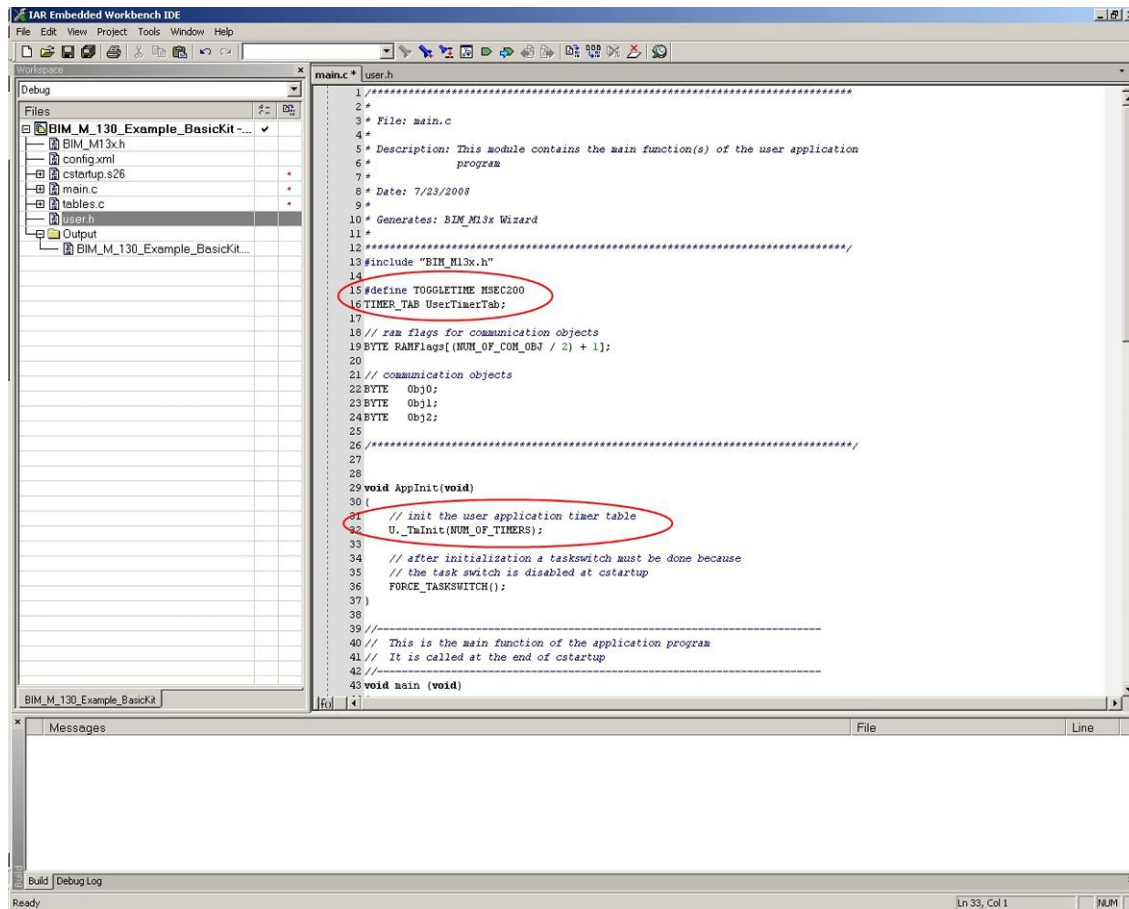


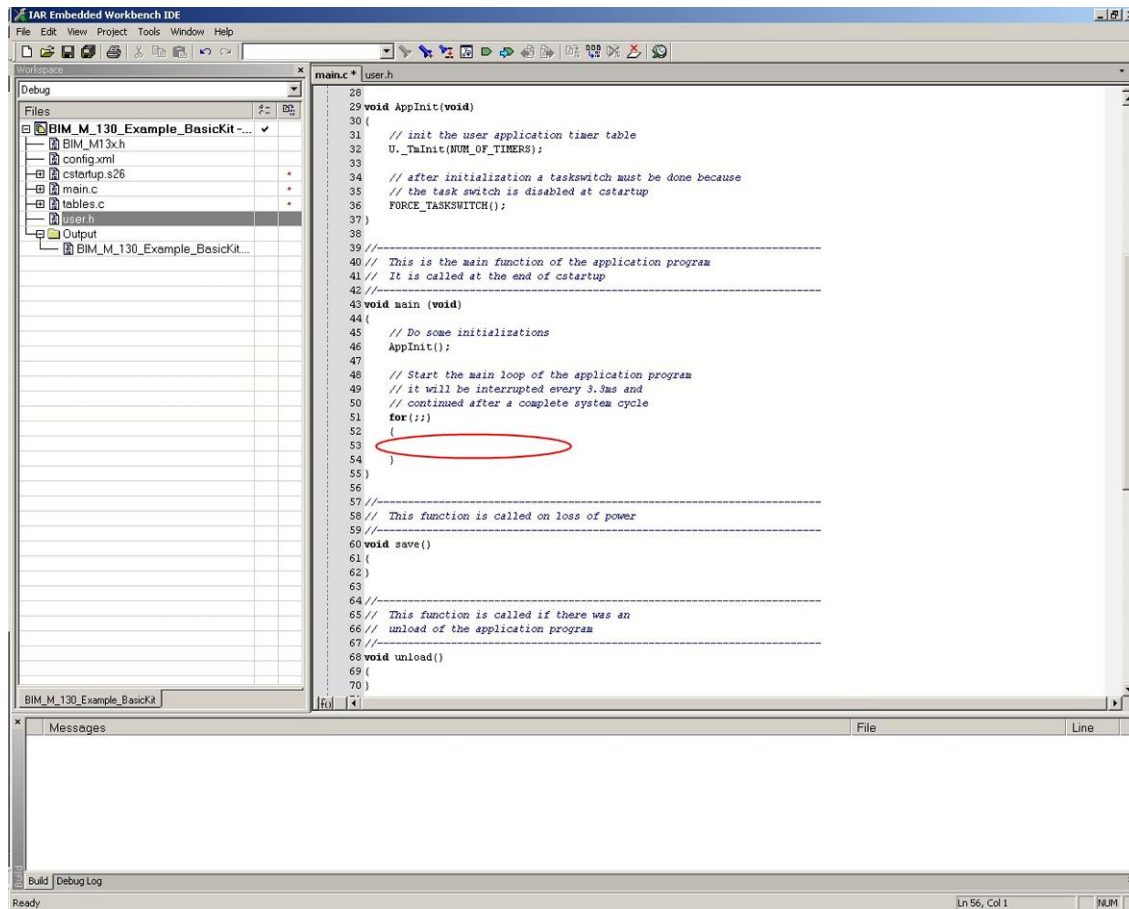
- click on "Create"

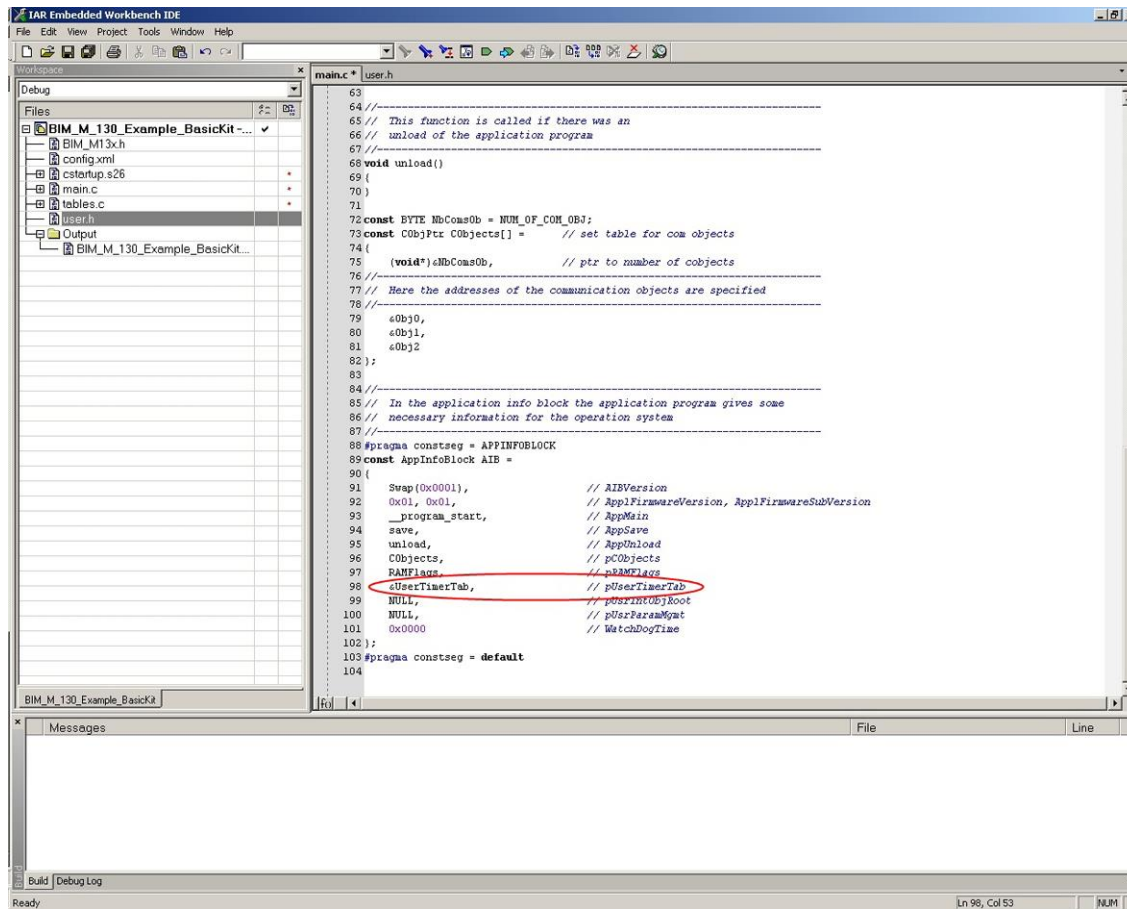
- open the created project with the IAR Embedded Workbench

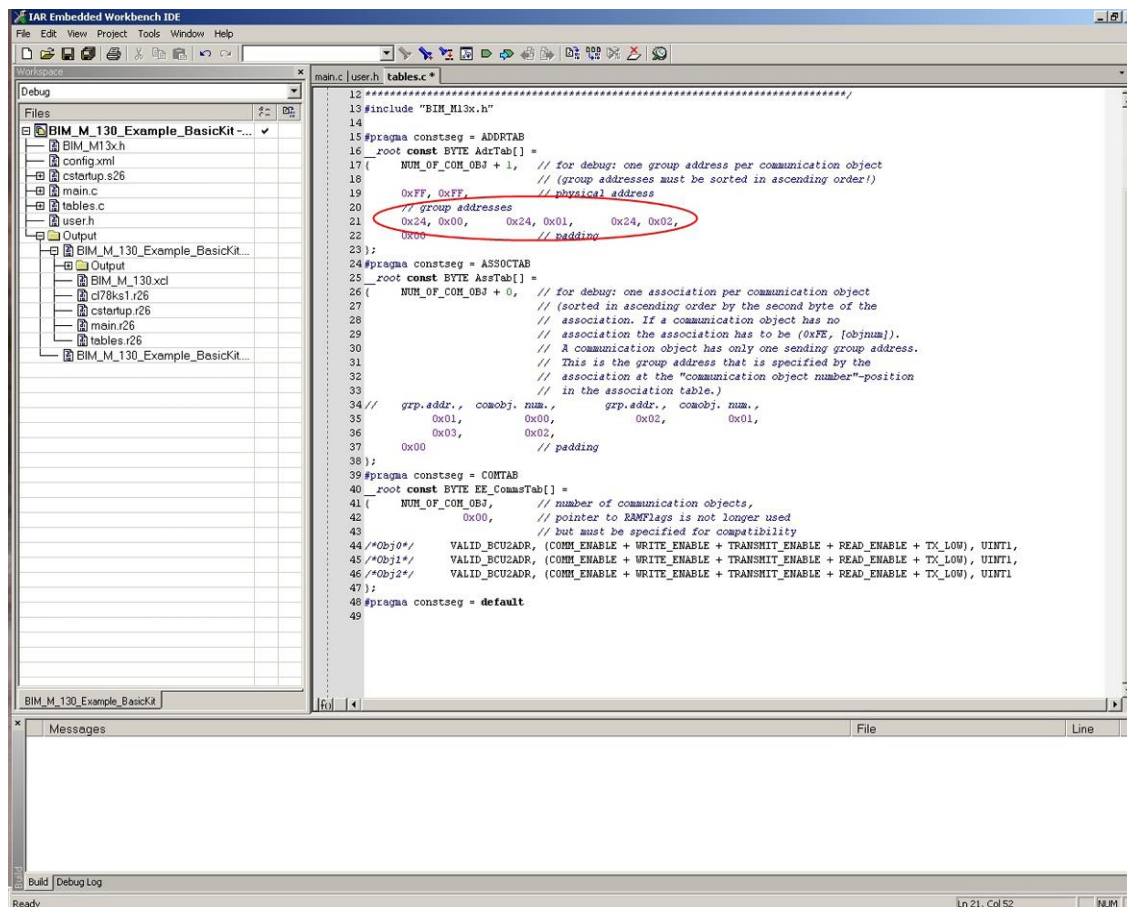


- add some code in "ApplInit()" and "main()" (see *code.txt* file for basic kit project)









(hint: assuming that one of your communication objects is called "myinput" then you can test if there is an update for the communication object by writing the following code: if (U_TestObject(CO_MYINPUT)) {...} see "user.h")

- after finished debugging select "Release" configuration and rebuild your application

(hint: in the config.xml file there is the following entry:

```
<PropertyCompare>
<ObjectIndex>00</ObjectIndex>
<PropertyID>4E</PropertyID>
<StartIndex>001</StartIndex>
<NumOfElements>1</NumOfElements>
<Data>010203040506</Data>
</PropertyCompare>
```

This entry tells the ETS to read the property PID_HARDWARE_TYPE and compare the value (the hardware type has 6 bytes) with the value specified in the config.xml entry. If the values doesn't match the download will not continue. This feature can be used to ensure that only the right application program of one manufacturer is loaded in the right hardware.

If you do not want to use this feature you can leave out the complete "PropertyCompare" element, but keep in mind if you will develop a new product with the BIM the ETS will only check

the manufacturer and will load the application program of your actual product in the new product which could possibly damage it.)

- the BIM Wizard automatically entered a post build command line option that calls the modifier (aioc.exe)
 - click on "Connect" in BIM Tools
- (the first time click on "Connection -> Manage -> Twisted Pair to open the Falcon Connection Manager; enter your interface to the knx bus)

(Disconnect the minicube, if still connected.)

- choose your interface
 - press programming button on your BIM EVB
 - choose "Device Connection Mode"
 - click on "Find via Programming Button"
 - click on the individual address of your BIM EVB
 - click on "Connect"
 - click on "Download"
 - click on "Open"
 - choose the modified S19 file from your project (the file is in the folder Release\Exe in your project)
 - click on "Download"
-
- click on "Connect" in BIM Tools
 - choose your interface
 - choose "Connectionless Mode"
 - click on "Connect"
 - click on "Group Com"
 - click on "Start"
 - enter a group address (by default the BIM Wizard assigns for each communication object one group address starting with 0x1100 for object 0)
-
- enter your data
 - choose "Less 7Bit" if you entered just one byte and you want the use only some bits
 - click on "Send"
 - the BIM Tool sends a group value write to the knx bus; you can see this in the window below (you will see all group telegrams on the knx bus in the window below)