

Collecting Data from LabJack devices into the Database

The function `ljlist_all()` gives a description of all the connected LabJack devices. The information obtained here is used to configure devices later.

```
ljlist_all("ANY" , "ANY") =
```

Serial Number	Device Type	Connection Type	IP Address
"470018874"	"T7"	"ETHERNET"	"192.168.1.7"

Next, the first T7 device AIN temperature configuration form is used to set the thermocouple at pin AIN0.

```
fi := ljaintT7_config_form(0 , "AIN Form_301")  
ljaintT7_config_form_configure(fi)
```

The screenshot shows the 'LabJack - AIN Configuration Form' interface. At the top, there are three fields: 'Device Type' (set to 'T7'), 'Connection Type' (set to 'ANY'), and 'Device ID' (set to 'ANY'). Below these are four tabs for AIN channels: 'AI(0:3)', 'AI(4:7)', 'AI(8:11)', and 'AI(12:13)', with 'All' as a fifth option. The 'AI(0:3)' tab is active, showing a grid of four columns for AIN0, AIN1, AIN2, and AIN3. The AIN0 column is expanded to show configuration options: a 'Thermocouple' dropdown, 'Offset' (0.0), 'Slope' (1.0), 'Type' (Type E), 'AIN Channel For T Reading' (T Sensc), and 'Temperature Unit' (K). A 'Configure' button is located at the bottom right of the form.

The second LabJack T7 device is configured to read the temperature at AIN0. The same principle as the first device is used.

```
f2 := ljaintT7_config_form(0, "AIN Form 302")
ljaintT7_config_form_configure(f2)
```

Reading data

The first and second device should be opened. The temperature is read from both devices and stored in appropriate vectors. The devices are set to default values, and closed.

```
1 dev1 :=ljdevice_open("T7", "any", "any")
2 dev2 :=ljdevice_open("T7", "any", "any")
3 A_variable := vector_create(100, false, 0)
4 B_variable :=vector_create(100, false, 0)
5 //Read temperature
6 for(i := 0; i < 100; i += 1)
7 {
8   A_variable[i] = ljdevice_read(dev1, "AIN0_EF_READ_A")
```

```

9
10 B_variable[i] = ljaddress2type(dev2, "AIN0_EF_READ_A")
11 }
12 ljdevice_write(dev1, "IO_CONFIG_SET_CURRENT_TO_DEFAULT", 1)
13 ljdevice_close(dev1)
14 ljdevice_write(dev2, "IO_CONFIG_SET_CURRENT_TO_DEFAULT", 1)
15 ljdevice_close(dev2)

```

Adding data to the Database

The two vectors that contain the temperature data from the first and second T7 device are added to the database LabjackT4T7.db. MatDeck provides a Database Browser which can be used to access the aforementioned database. The GUI form used for the Database Browser is shown below.

```

16 database_write("LabjackT4T7.db", "T7_dev1", A_variable)
17 database_write("LabjackT4T7.db", "T7_dev2", B_variable)

```

```
f3 := database_form(o, "Database Toolkit 1")
```

SQLite Database Browser

New Database Open Database

DB Data

Database: LabjackT4T7.db Refresh Data

DB Structure Browse Data Execute SQL

Number of tables: 2

T7_dev1 Create Table Delete Table

Table Definition

Table Name

T7_dev1

Add Field 1 Delete Field

	Name	Type	Not Null	Primary Key	Autoinc.	Unique
1	id	INTEGER	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	column0	TEXT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Create