TWN4

Configuration Cards

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ELATEC GmbH

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1 TWN4 CONFIG / Configuration Cards

1.1 Introduction

With AppBlaster V3, an alternative method is introduced, how TWN4 can be configured:

The well-known way is to program a firmware image into TWN4 via host interface.

The newly introduced way is to configure TWN4 via the RF interface just by swiping a configuration card. This system is called TWN4 CONFIG.

There are several advantages by using TWN4 CONFIG Cards:

- There is no need to unplug TWN4 from the host in order to configure it.
- There is no need to disassemble the device wherein TWN4 is integrated.
- Updates can be done very quickly without need of additional tools or even the click of a button.

See below the resulting workflow by using a configuration card:
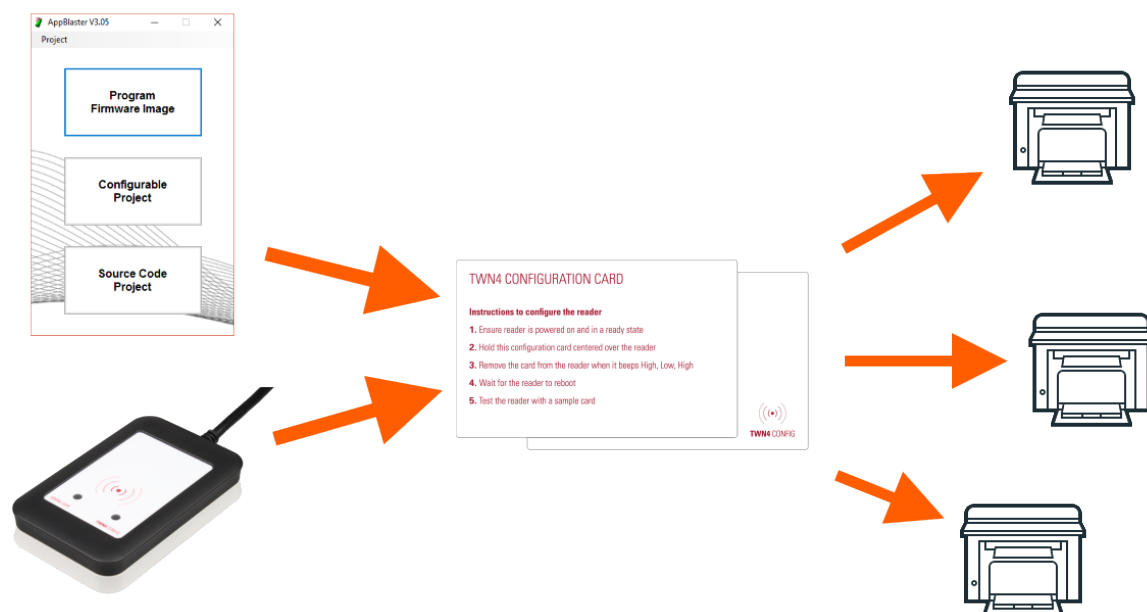
With AppBlaster and TWN4 CONFIG Programmer, a TWN4 CONFIG Card is programmed. TWN4 in the field can be re-configured directly with that programmed TWN4 CONFIG Card.
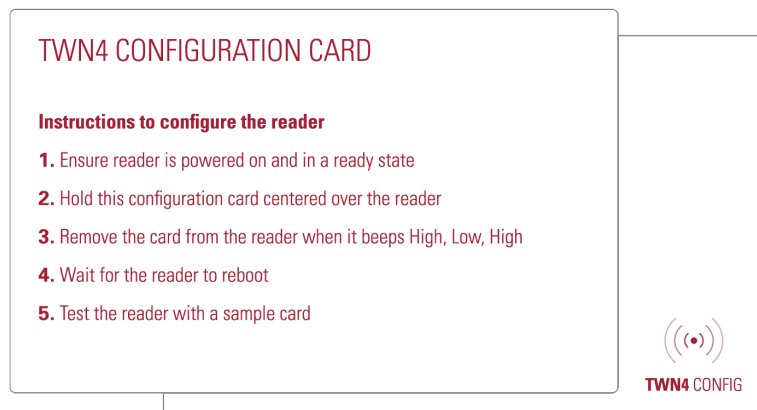
Please note:

A TWN4 CONFIG Card contains the App-part of a firmware image. This means it is possible to exchange the App within a TWN4 but not the firmware itself.

1.2 Requirements

There are a few requirements to configure TWN4 with a configuration card:

- On TWN4, the firmware V3.04 (or later) must be installed

- TWN4 must be configured to accept TWN4 CONFIG Cards

- A TWN4 CONFIG Card is needed (see description below)

- A TWN4 CONFIG Programmer is needed to program a configuration onto a TWN4 CONFIG Card (see description below)

- AppBlaster V3 or later

1.3 TWN4 CONFIG Card

TWN4 CONFIGURATION CARD

Instructions to configure the reader

1. Ensure reader is powered on and in a ready state

2. Hold this configuration card centered over the reader

3. Remove the card from the reader when it beeps High, Low, High

4. Wait for the reader to reboot

5. Test the reader with a sample card

TWN4 CONFIG

The picture above is showing front and rear side of a TWN4 CONFIG Card.

The memory size of a TWN4 CONFIG Card is 8 kBytes. It can be re-written.

The rear side of the TWN4 CONFIG Card offers plenty of white space, where additional project-specific labelling can be done. It is strongly recommended to do so!

Notes:

- TWN4 CONFIG Cards can be purchased pre-formatted and ready-to-use
- In order to store configurations on a TWN4 CONFIG Card, a TWN4 CONFIG Programmer is needed

1.4 TWN4 CONFIG Programmer

In order to program a configuration card, a TWN4 CONFIG Programmer is needed. A TWN4 CONFIG Programmer can be purchased separately or as part of a TWN4 CONFIG Kit. A TWN4 CONFIG Programmer can be recognized by its unique black/white colour scheme.

1.5 Creating a Configuration Card

Creating a configuration card is similar to dealing with a normal project (configurable or source code).

The result of a project is an image file which contains the firmware and the App. Instead of programming a image directly into a TWN4, the App section of the image file is programmed onto the configuration card.

1.5.1 Step 1: Provide Configuration Information

Depending on if you are working on a configurable project or a source code project provide all needed configuration specific information like described:

In a configurable project, follow steps 1 to 6

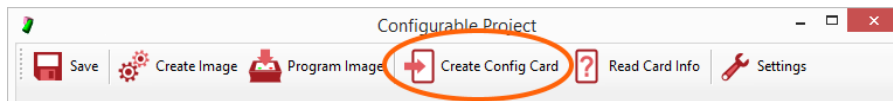In a source code project, follow steps 1 to 4

1.5.2 Step 2: Connect TWN4 CONFIG Programmer

Connect TWN4 CONFIG Programmer to your PC. Once a TWN4 CONFIG Programmer is connected to the host, the tool unhides two additional buttons like shown below:
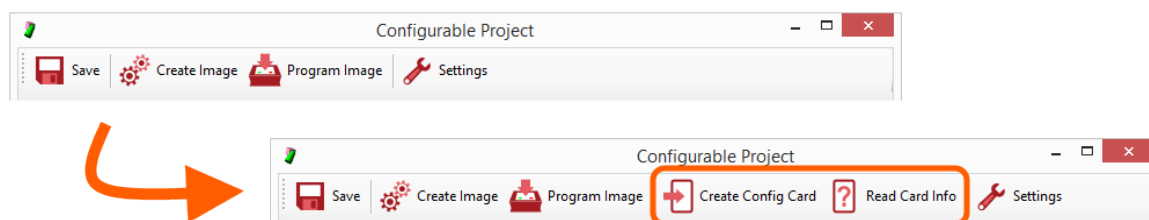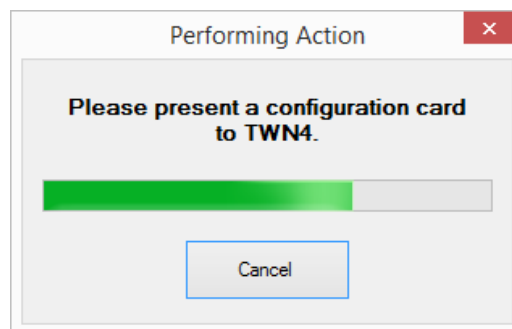
1.5.3 Step 3: Program a TWN4 CONFIG Card

In order to program a configuration card, click the button "Create Config Card".

Once the button "Create Config Card" was clicked, the firmware image is created (like button "Create Image"). As soon as the firmware image is created following dialog appears:

The dialog asks the user to now present a configuration card to the TWN4 card programmer.

A progress bar illustrates remaining time to follow this request. If no card is presented or the user clicks the button "Cancel", the operation is cancelled.
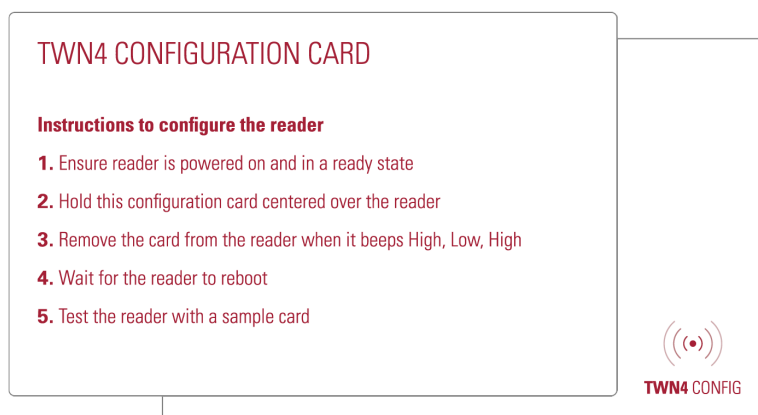
If a configuration card is detected, it is programmed immediately with the newly created App section of the firmware image.

Note:

If the card already was programmed with a configuration before, another dialog appears, which asks to overwrite the configuration card.

1.6 Configuring TWN4 with a Configuration Card

The instructions on how to use a configuration are printed on the card itself:

TWN4 CONFIGURATION CARD

Instructions to configure the reader

1. Ensure reader is powered on and in a ready state

2. Hold this configuration card centered over the reader

3. Remove the card from the reader when it beeps High, Low, High

4. Wait for the reader to reboot

**5.** Test the reader with a sample card

TWN4 CONFIG

Here are a some more details about this process:

1. Ensure reader is powered on and ready state
   Comment: The ready state is typically reached immediately after reader was connected to the host or powered on.

2. Hold the configuration card centered over the reader
   Comment: Especially, hold the configuration card in read range of the reader.

3. Remove the card from the reader when it beeps High, Low, High
   Comment: If reading the configuration card fails, it beeps Low, Low, Low. Depending on progress of the configuration, the reader may do a reboot as well.

4. Wait for the reader to reboot
   Comment: The completion of the reboot normally can be recognized as another beep sequence. Most often, it is Low, High at a lower volume.

5. Test the reader with a sample card

1.7 Reading Information from the Card

While reading the configuration from a configuration card is only possible by TWN4, there is an additional section on the configuration card, which stores some general information. This information is public accessible and can be read by a click on button "Read Card Info" in the tool bar:
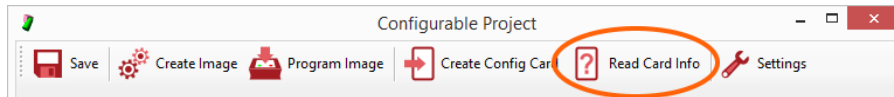

Once button "Read Card Info" is clicked, following dialog appears:
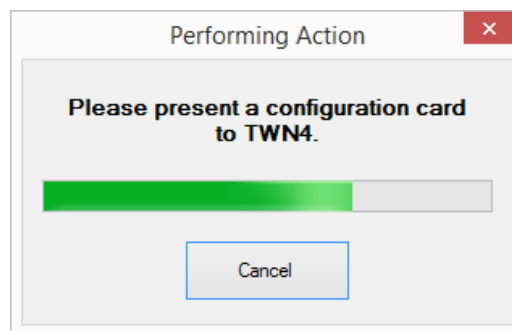
The dialog asks the user to now present a configuration card to the TWN4 card programmer.

A progress bar illustrates remaining time to follow this request. If no card is presented or the user clicks the button "Cancel", the operation is cancelled.

If a configuration card is detected, information is immediately read from the card and displayed in the message-section:
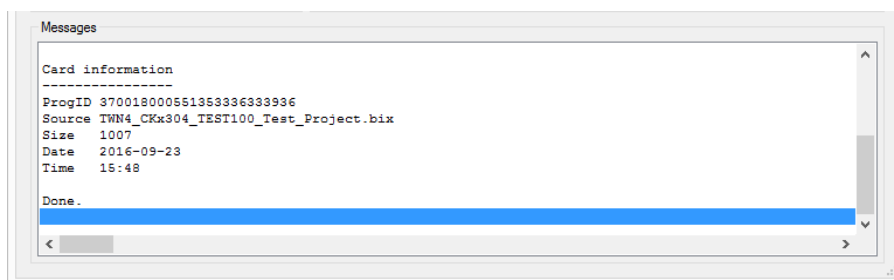
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