

## Installing and Using PrintConnect

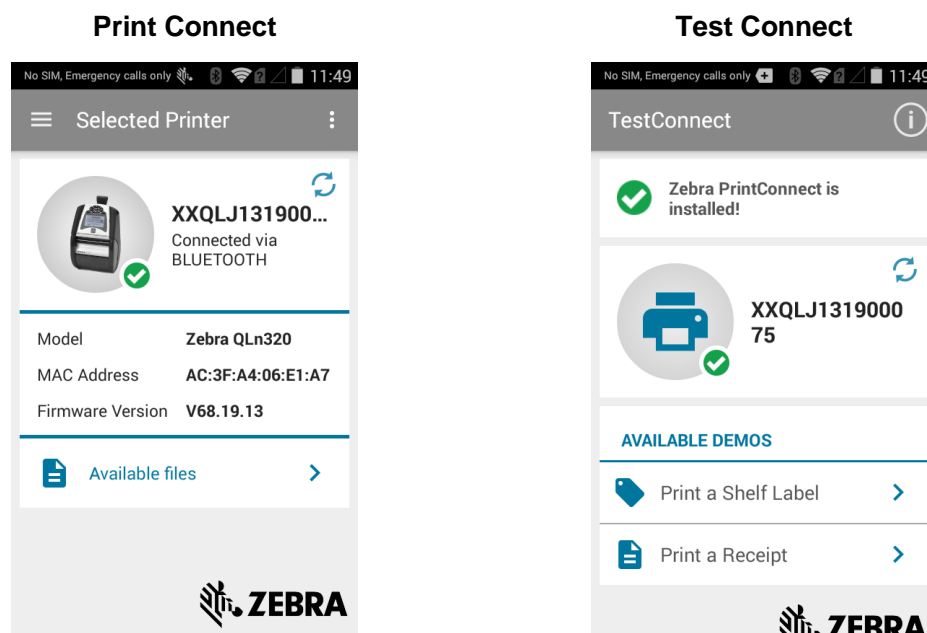


## Introduction

PrintConnect is an Android application which will merge variable data from your application with a Zebra Programming Language (ZPL) template and print the complete document on various mobile and stationery Zebra Link-OS printers via wired ethernet, wireless or Bluetooth connections.

Create your own templates using ZebraDesigner™, our label design software for Windows® and store them on your device or on a Cloud storage account for use with PrintConnect. To ensure your printing solution delivers optimal print speed and throughput, this solution has been designed to use ZPL which is the native command language for Zebra printers.

TestConnect is an application that can be used to demonstrate PrintConnect and validate your printer connection to PrintConnect. TestConnect contains pre-set variable data for the fields used in the example label and receipt templates included with PrintConnect. TestConnect allows you to print either template with different predefined sets of variable data.



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## Requirements

- PrintConnect supports the following Zebra printers.
  - iMZ series, QLn series, ZQ series mobile printers.
  - ZD series, ZT series stationary printers.
- PrintConnect supports the following Android devices.
  - ET1, MC3200, MC40, MC67, Nexus 10 (4.2), Nexus 7 (4.2), TC55, TC70.
- PrintConnect is supported on the following Android operating systems.
  - 4.1, 4.2, 4.3, 4.4 and 5.0.

## Use Cases

PrintConnect can be used to print the receipt and label document types described below.

A combination of PrintConnect, your Android application and your templates designed using the ZebraDesigner software creates a flexible solution that can be used in any industry.

A receipt is typically defined as a variable length label. One example is in retail stores where each purchased item occupies a separate line on the receipt; hence, the more items purchased, the longer the receipt.


A label is typically defined as having a fixed length and is utilized in many different industries. One example is in manufacturing where each package moving along a production line has a packing label affixed to the outside of the box. This label may contain objects such as graphics (company logo), text using different fonts (company name, item descriptions) and barcodes to name some of the fields that appears on a label.

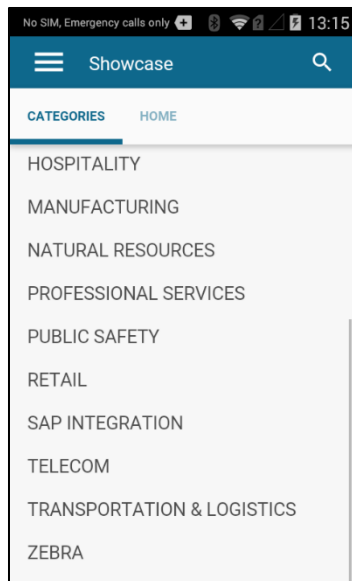
## Installing PrintConnect and TestConnect

Both PrintConnect and TestConnect are available from the Zebra AppGallery. PrintConnect is available on [Google Play](#). TestConnect and its source code are available in the [Link-OS SDK](#).

### Installation from the App Gallery

This procedure describes how to install PrintConnect and TestConnect from the [Zebra AppGallery](#).

1. On your Zebra mobile computer, launch the AppGallery. Touch the  icon and touch the **Login** option.
2. Login to your AppGallery account. To create an account, touch the **Need an Account?** option and complete the Join Now form.
3. After successfully logging in to your account, touch the **CATEGORIES** option.
4. Scroll and touch **ZEBRA** from the list of categories. All available applications from Zebra shall be listed.



5. Find and touch the PrintConnect item.
6. Touch the INSTALL button. You will be notified what access the application requires and if you want to install the application. Touch **Next**. Touch **Install**. The application will download and install.
7. Touch **Done** to return to the AppGallery or touch **Open** if you wish to launch the app.  
To install the TestConnect application repeat the above steps and select the TestConnect item from the AppGallery ZEBRA category.

## Test Printing Using TestConnect

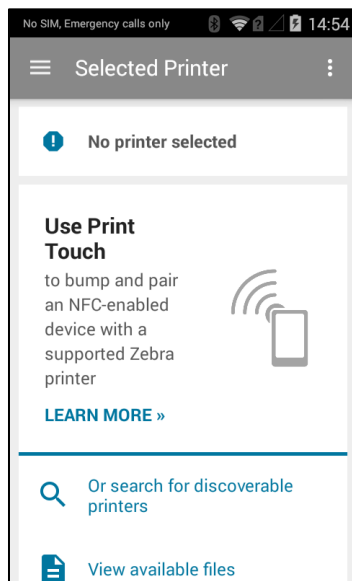
This procedure describes using TestConnect to test the PrintConnect setup with your printer.

### PrintConnect Setup

PrintConnect requires you setup a connection to a printer. This procedure describes how to use PrintConnect to discover and connect to your printer.

**Pre-requisites:** For successful network discovery your mobile device should be connected to the same subnet as your printer. For Bluetooth communications Bluetooth should be enabled on your device and printer. NFC should be enabled to use the Print Touch feature. Refer to the user documentation for your device or printer for further details on configuring the printer and device.

1. Launch the PrintConnect application on your device. Upon launching for the first time it will indicate No printer selected.

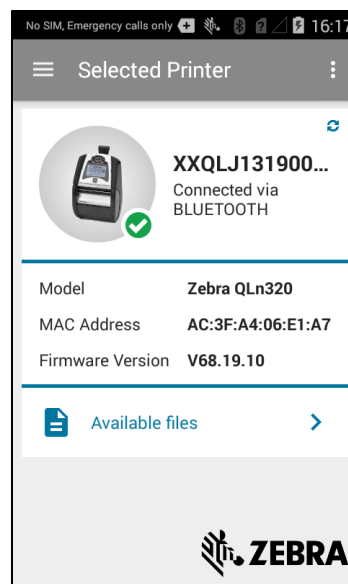
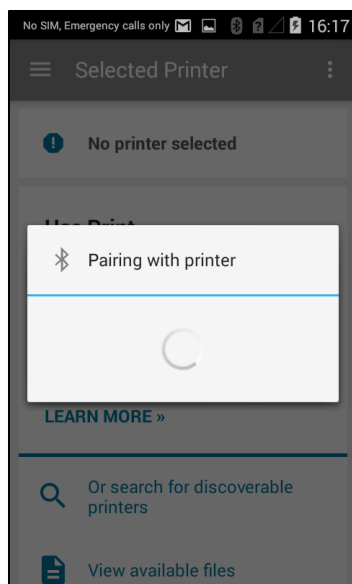


2. The simplest method to setup a connection to your printer with an NFC-enabled device is to use the [Print Touch](#) feature on printers that support Print Touch. Printers supporting Print Touch will have this icon on the outside of the printer.

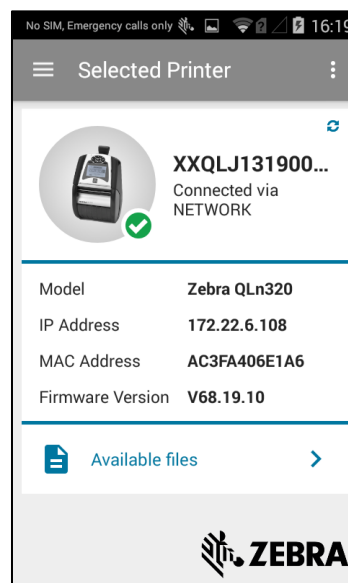
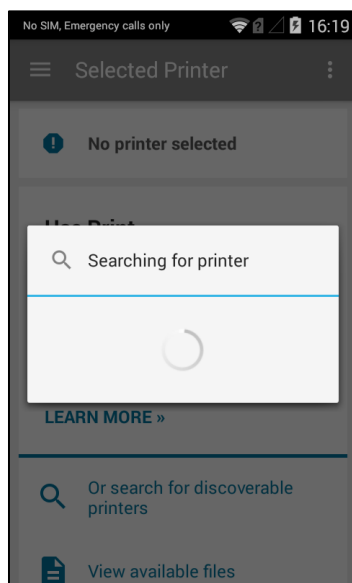



To connect to the printer 'bump' the device against the Print Touch icon on the printer. PrintConnect will find and connect to the printer as shown in the images below.

Bluetooth connection



### Network connection





3. To discover printers without using Print Touch, touch the  icon on the main screen to display the Select Printer menu. Touch the **Discovered Printers** option. PrintConnect will search and display a list of discovered Bluetooth and network connected printers.
4. Touch your printer in the list. PrintConnect will find and connect to the printer as shown in the images in step 2 above.
5. PrintConnect is now successfully associated with your printer.

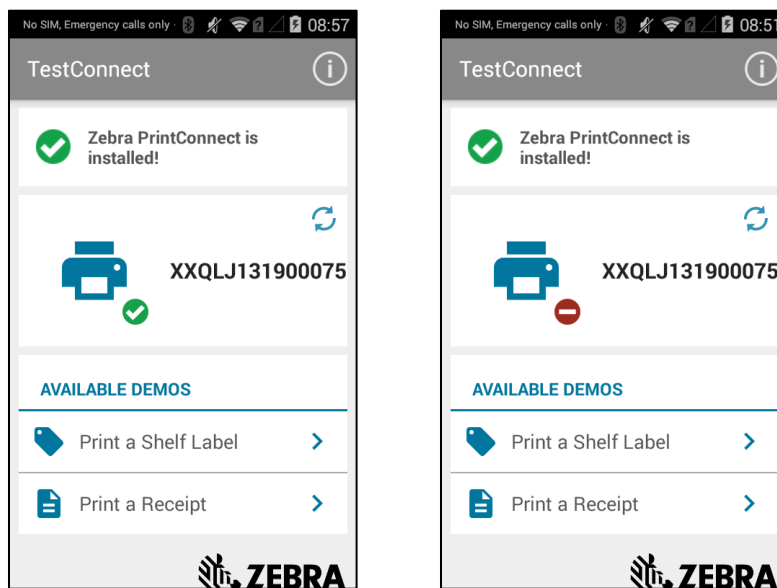
### Perform a Test Print Using TestConnect

Now PrintConnect is successfully associated with your printer TestConnect can be used to test the connection. This procedure describes how to perform a test print using TestConnect.

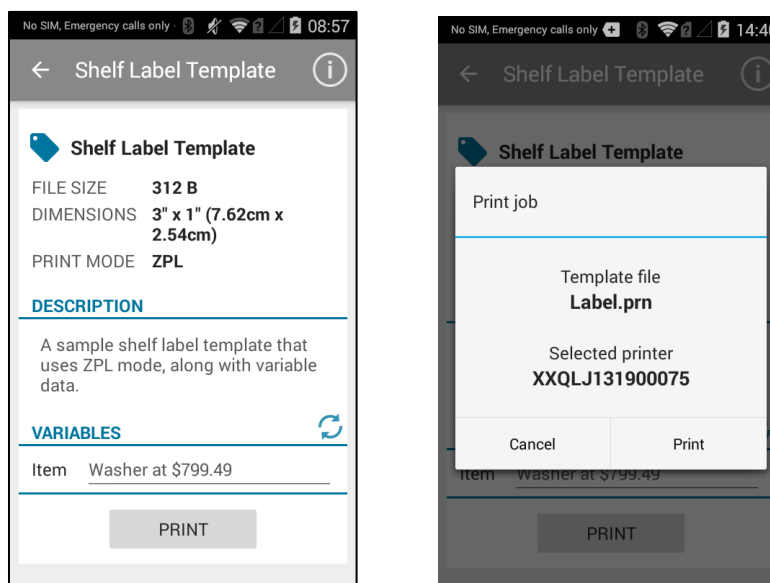
**Note:** TestConnect can only be used with the PrintConnect application.

1. Launch the TestConnect application on your device.
2. The following information is displayed on the TestConnect main screen:-
  - Whether or not PrintConnect is installed.
  - The printer associated with PrintConnect.
    -  indicates the printer is ready to print.
    -  indicates the printer is not ready to print.
  - Available demos.

With the printer ready to print touch the **Print a Shelf Label** option.



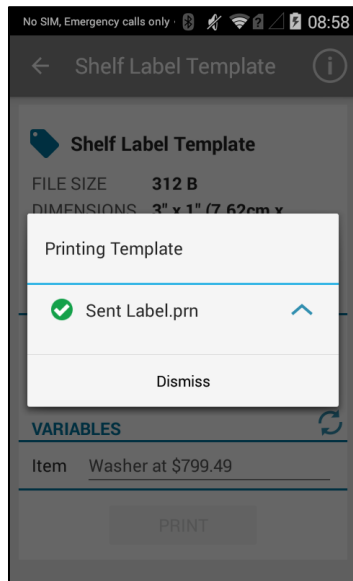
3. Touch the **PRINT** button to open the Print job dialog.




4. Touch the **Print** button. A label should print similar to the one shown below.



5. Touch **Dismiss** to close the Printing Template dialog.



6. Touch the  icon to change the variable information. Repeat steps 3 - 6 any number of times to print labels with different information.

**Note:** You cannot enter your own variable information.

To print the sample receipt select the **Print a Receipt** option in step 2.

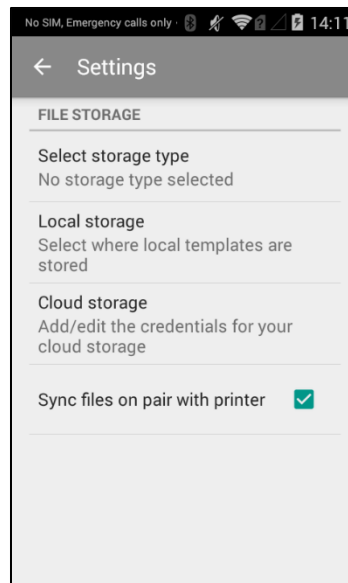
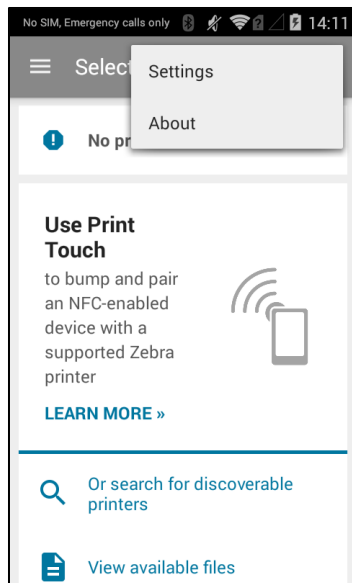
## Cloud Storage Setup

This procedure describes how to configure your Cloud storage account in PrintConnect. This enables you to store template files in your Dropbox or Box Cloud storage account and download them to your device for use with PrintConnect. An internet connection is required on the device in order to configure your Cloud storage account.

This procedure uses a Box storage account. The same procedure can be used to configure your Dropbox account.

1. Launch PrintConnect and touch the  icon and then touch **Settings** to display the settings menu.

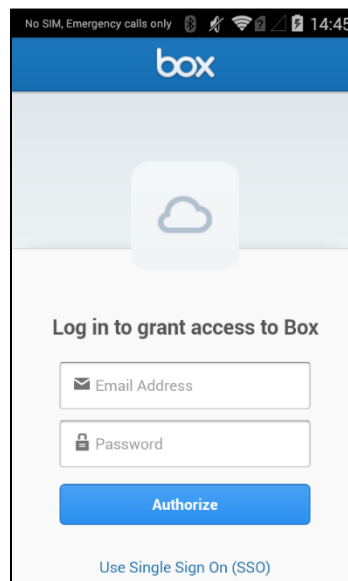
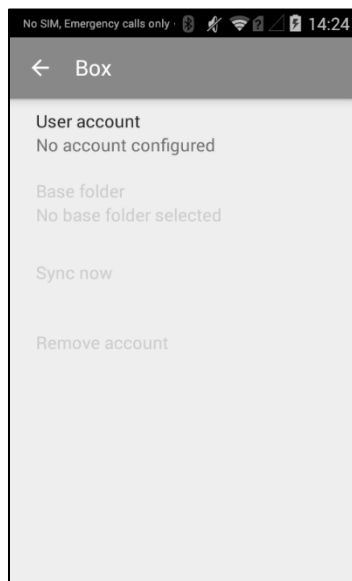




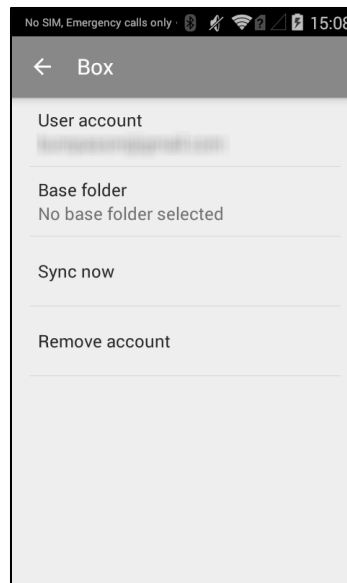
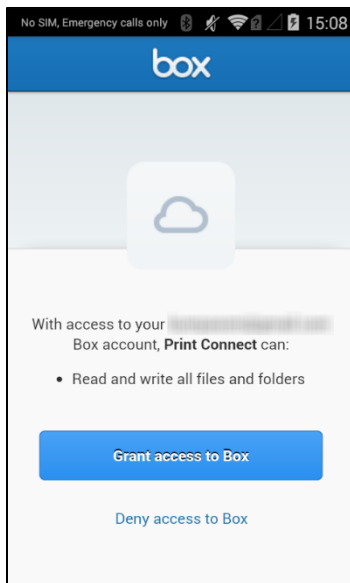
2. Touch the **Cloud storage** option to open the Cloud account screen. Touch either the Dropbox or Box option to open the user account configuration screen.

**Note:** The Cloud storage option will be disabled if the device has no internet connectivity.

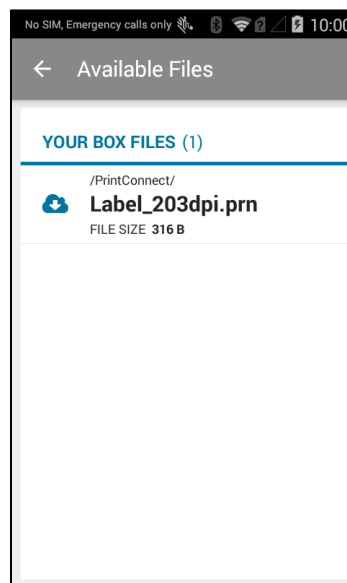
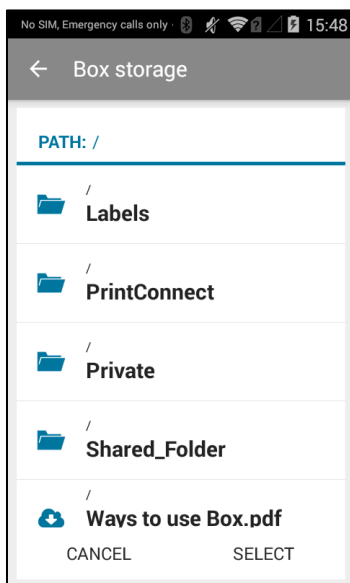
3. Touch the **User account** option to display the login screen for your Cloud storage account. The default authentication method is Email Address and Password. To use Single Sign On touch the **Use Single Sign On (SSO)** option.



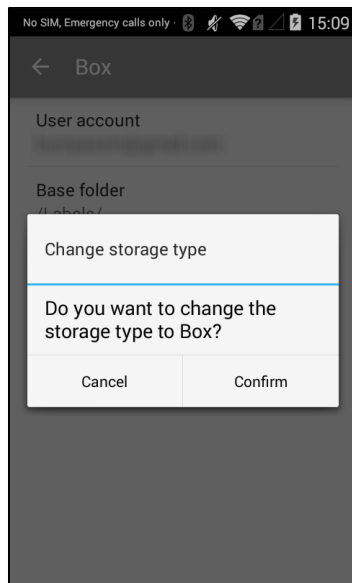
4. Enter your login credentials and touch the **Authorize** button.
5. You will be prompted to grant PrintConnect read and write file and folder access to your Cloud storage account. Touch the button to grant PrintConnect access to the account.



6. Touch the **Base folder** option to open the storage path screen. The folders in your Cloud storage account will be displayed. Touch the folder where your template files will be stored. In this example the PrintConnect folder is selected in our account. Touch the **SELECT** button to confirm and set your folder selection.






7. You will be prompted to change the storage type to Box or Dropbox. Touch **Confirm** to continue.






The Cloud account screen should now show your account email address and the base folder you selected.

8. Touch the back button until you return to the **Selected Printer** screen.
9. Touch the **Available files** option. The files stored in the base folder selected in step 6 will be displayed.

The icons displayed next to each file indicate the following:-

-  Requires downloading.
-  Already downloaded.
-  A newer version of the file exists and requires synchronizing.

Touch the cloud icon next to a filename to download it. The icon will change from  to  indicating the file has been downloaded.

If the file on your cloud storage site is newer than the one on the device the  icon will be displayed next to the filename. Touch the icon to update the device to use the newer version of the file.

10. Long press the file downloaded in the previous step to open the Print job dialog. Touch the **Print** button to perform a test print of the template.

**Note:** a “long press” means touching the item and holding your finger in place for a few seconds.

## Modify and Print the Sample Label Template

This section describes how to use ZebraDesigner, our label design application to modify the Shelf Label sample template, transfer the modified template to your device and then use TestConnect to print it.

## Download and install ZebraDesigner

This procedure describes how to download and install the ZebraDesigner software.

1. The ZebraDesigner software can be downloaded from our website. Click [here](#) to open the download page.
2. Click the download link. You will be directed to the End User License Agreement.
3. To download the software you must review and agree to the terms of the End User License Agreement. If you agree click the ACCEPT AND BEGIN DOWNLOAD NOW button.
4. On your computer browse and locate the downloaded file and double click it to start the installation wizard. Follow the on screen instructions to complete the ZebraDesigner installation.

## Download the sample template

This procedure describes how to acquire the Shelf Label template that you will modify in the ZebraDesigner software.

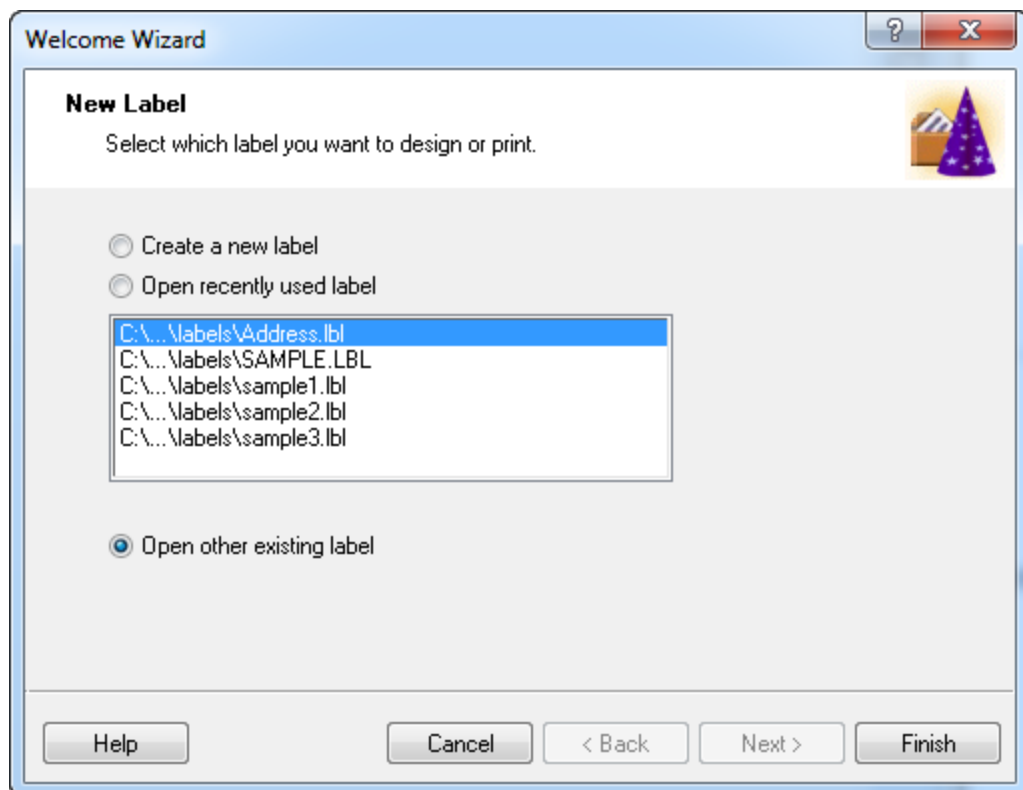
The sample label and receipt templates used in PrintConnect were designed using the ZebraDesigner software and have been made available for download from the Zebra website.

1. Click [here](#) to open the PrintConnect webpage.
2. Download and extract the sample ZebraDesigner templates.
3. Navigate to the **C:\Zebra\PrintConnect\Demo Label\ZebraDesigner Templates** folder.
4. Locate the **Label\_203dpi.lbl** file. This is the template file that will be modified in ZebraDesigner in the next section.

## Modify the template file in ZebraDesigner

This procedure describes how to open the label file in ZebraDesigner and make a simple modification to it. It will then be transferred to your device for use with PrintConnect.

1. First, it's necessary to install the Windows printer driver that was used in the design of the template. From the Start menu browse to the Zebra Technologies program group and then launch **Printer install** from the ZebraDesigner 2 folder. If required click yes on the User Account Control dialog. The printer installation wizard will be displayed.
2. Click Next.
3. Click Install Printer.
4. From the list of printers select **ZDesigner ZT410-203dpi ZPL** and click Next.
5. In the available ports list select FILE: and click Next.
6. Uncheck all boxes on the Additional Install Options dialog and click Finish.
7. The driver installation will complete and the installation wizard will close automatically.
8. From the Start menu browse to the Zebra Technologies program group and launch ZebraDesigner 2 from the ZebraDesigner 2 folder.
9. The Welcome Wizard will be displayed. Select the **Open other existing label** option and click Finish. The Open dialog will be displayed.

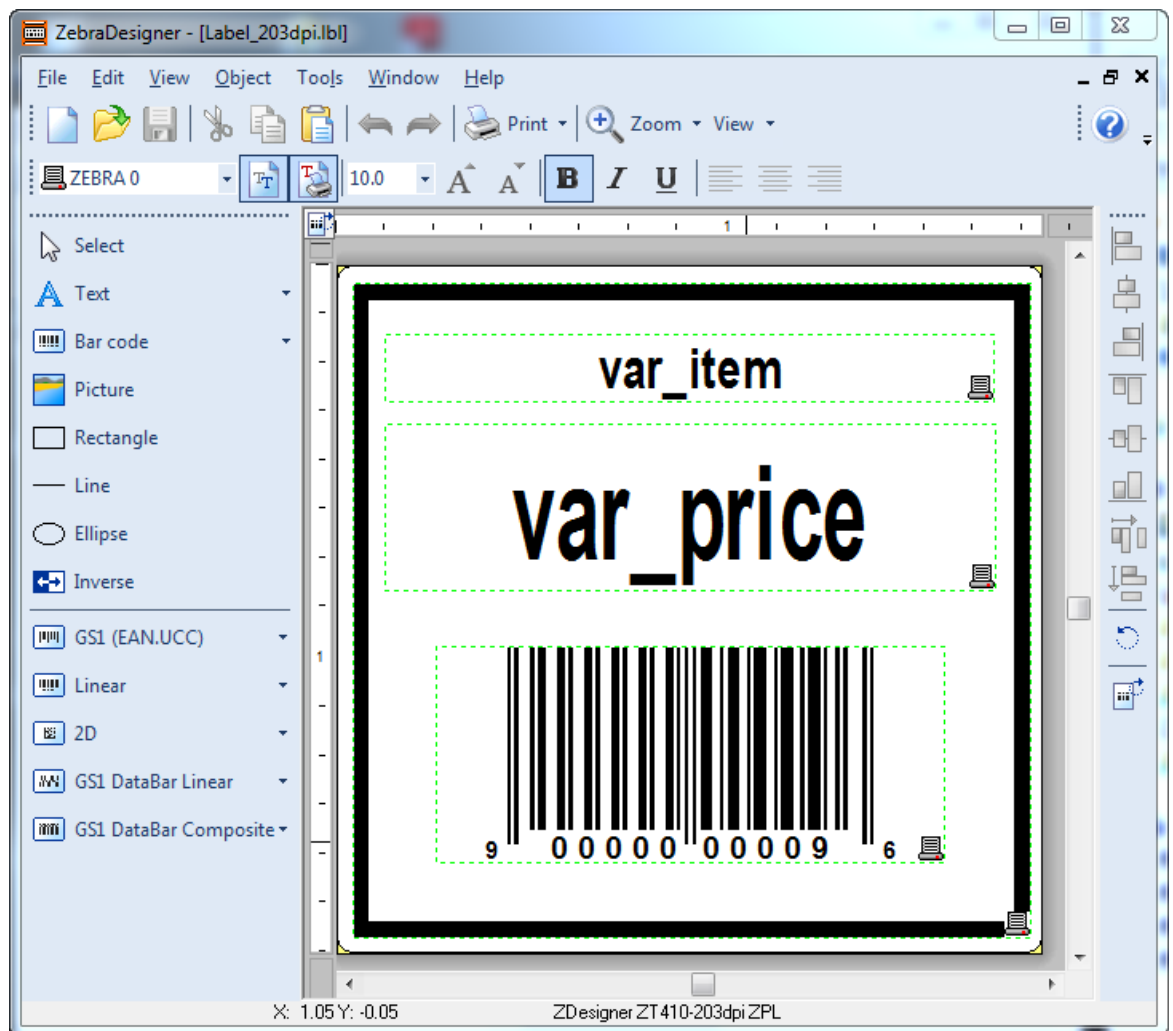


10. Browse to the location of the template file that was downloaded in the previous section. Select the **Label\_203dpi.lbl** file and click Open.
11. The template file should be displayed in ZebraDesigner. You will add a fixed text “company name” field to the template. To create space on the label for this new field first highlight the var\_price field and press the down arrow on your keyboard to move the field down. Next perform the same procedure on the var\_item field. There should now be space at the top of the template for a new text field.

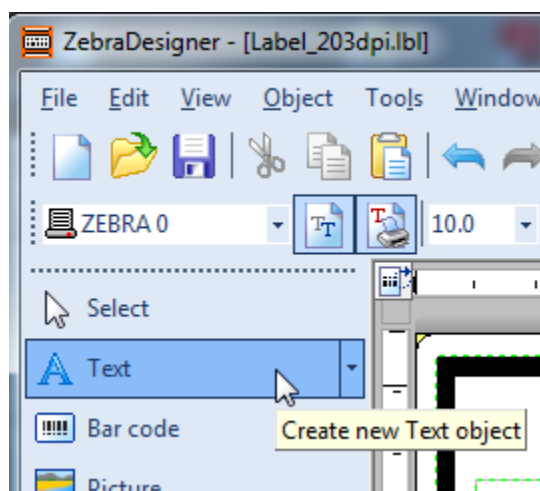
**Note:** The TestConnect application uses the variable names var\_item, var\_price and var\_upc. As you will use TestConnect to test the modified template these field names should not be changed.

**Note:** ZebraDesigner validates user input for barcode fields so it’s not possible to use a text based field name for a numeric barcode type. It will be necessary to modify the output file to include the text based variable name for any barcode fields.

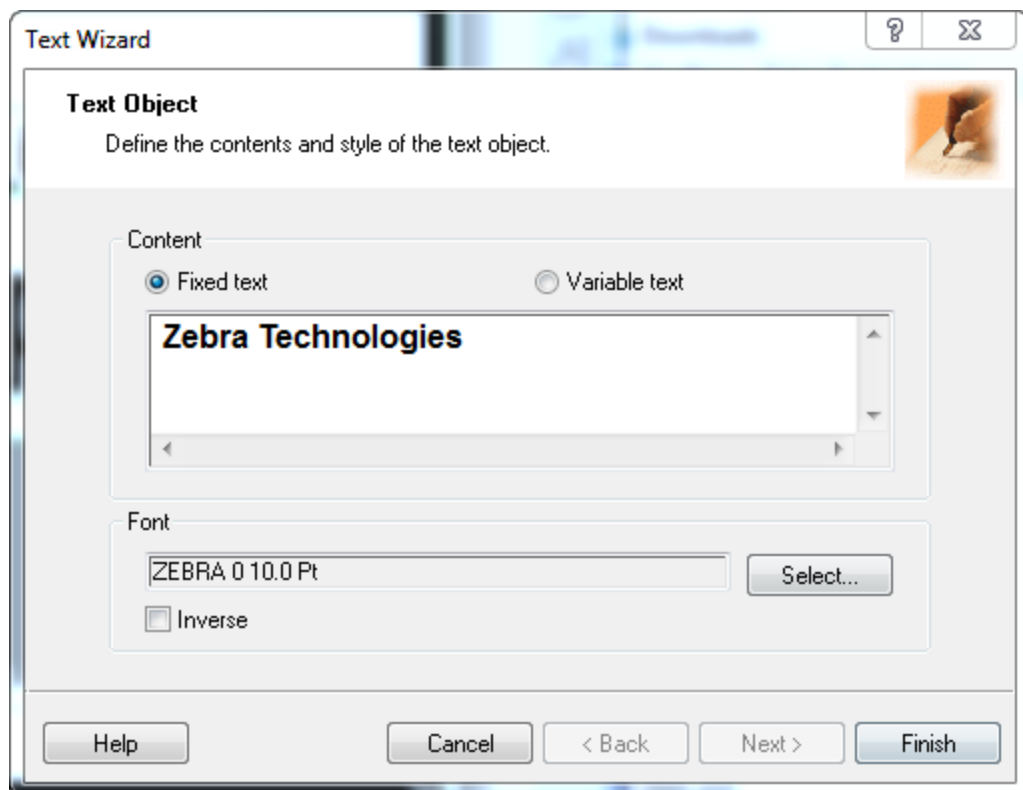
**Note:** Since PrintConnect uses a search and replace technique it’s recommended that variable field names contain a unique prefix such as var\_ to distinguish between fixed text fields and variable names to prevent accidental replacement of fixed text.



- Click the Create new Text object option and then click in the space created at the top of the template. The Text Wizard will be displayed.



- Enter your company name or some other text in the Content area and click Finish.



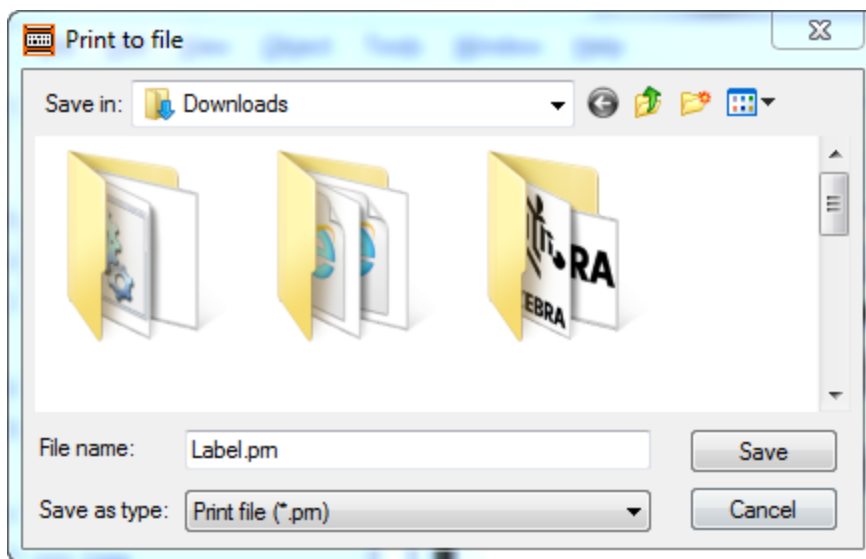
14. Adjust the position of the text field as necessary. To center the field relative to the label press and hold the CTRL key and click the Center button on the alignment toolbar.



15. Click Save to save the changes to the label.
16. Click the Print button in the toolbar to display the Print dialog.
17. Select the **Print to file** option and click Print to open the Print to file dialog.
18. Change the filename to Label.prn and click Save to save the file on your computer.

**Note:** To test the modified template with TestConnect it's necessary to use the Label.prn filename.

**Note:** The .prn file types created by ZebraDesigner contain ZPL printer command language and are for use with PrintConnect. The .lbl files cannot be used with PrintConnect and are solely for use with ZebraDesigner.



19. As previously mentioned it's necessary to modify the barcode variable field name in the output. In a text editor open the saved Label.pm file.
20. Find the text that represents the barcode data in the template design. Replace **9000000009** with **var\_upc**.

```

DIECT~~CD,~CC^~CT~
^XA~TA000~JSN^LTO^MNW^MTD^PON^PMN^LH0,0^JMA^PR6,6~SD15^JUS^LRN^CI0^XZ
^XA
^MMT
^PW365
^LL0356
^LS0
^FO9,10^GB350,337,8^FS
^FT26,89^AON,28,26^FB314,1,0,C^FH\^FDvar_item^FS
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^PQ1,0,1,Y^XZ
  
```



Modified file:

```

DIECT~~CD,~CC^~CT~
^XA~TA000~JSN^LTO^MNW^MTD^PON^PMN^LH0,0^JMA^PR6,6~SD15^JUS^LRN^CI0^XZ
^XA
^MMT
^PW365
^LL0356
^LS0
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^PQ1,0,1,Y^XZ
  
```




21. Save the changes to the file.

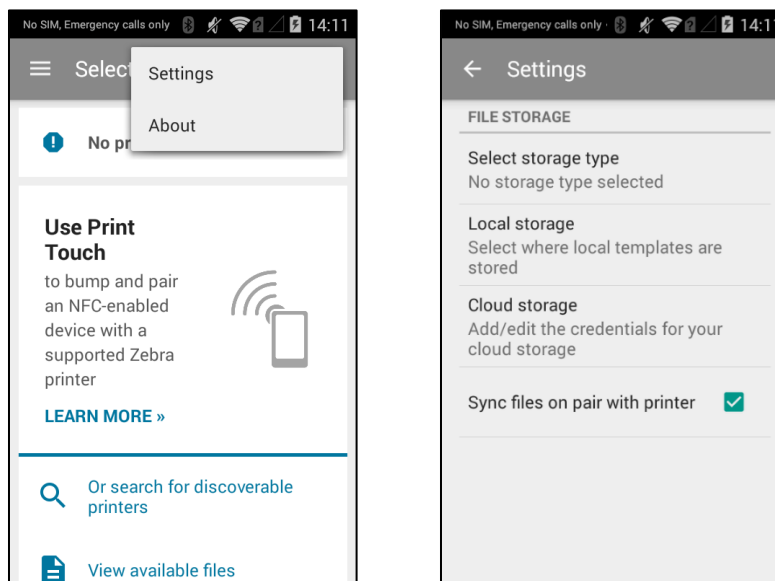
## Print the modified template using TestConnect

This procedure describes how to print the modified template using TestConnect and PrintConnect.

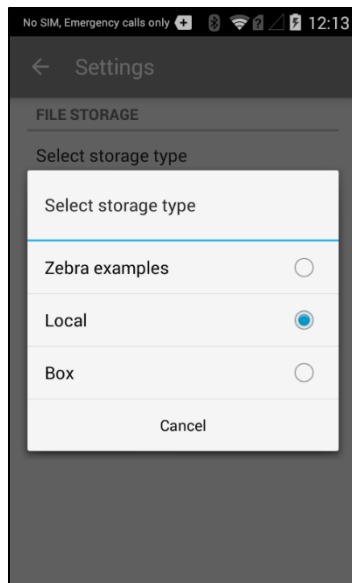
This procedure will use the local storage type in PrintConnect although you may upload the Label.prn file to your cloud storage site and use the method described in the Cloud Storage Setup section to transfer the file to your device. Refer to your Cloud storage site documentation on how to upload files to your Cloud storage site.

Here are the steps to follow:

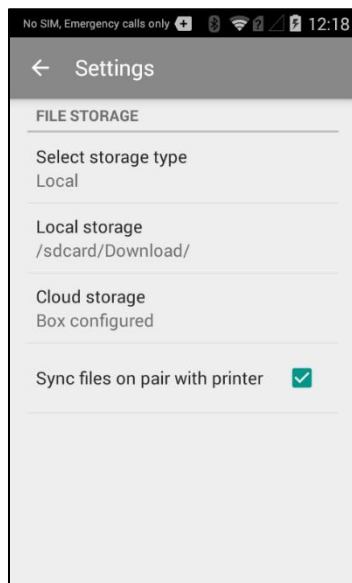
1. Connect your device to your computer and transfer the Label.prn from the computer to the device. It's recommended to transfer the file to the Download folder. Refer to your device documentation for further details on transferring files.
2. Launch PrintConnect and touch the  icon and then touch **Settings** to display the settings menu.



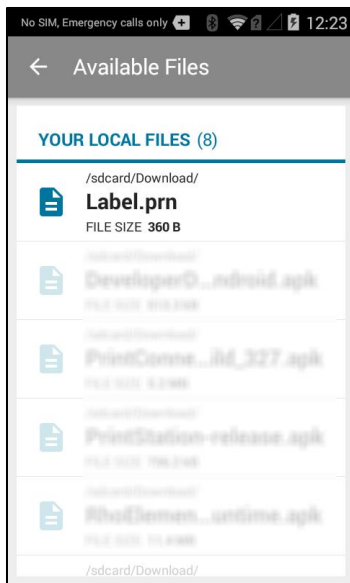
3. Touch the **Select storage type** option to open the Select storage type dialog. Touch the **Local** option. The Local storage option will be set and the dialog will close automatically.



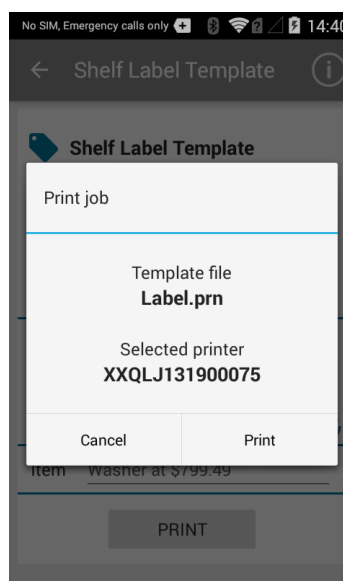
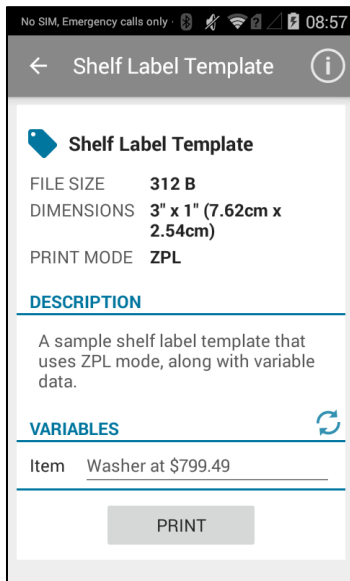
4. Touch the **Local storage** option and browse and touch the Download folder. Touch the **SELECT** button. The Settings screen should show the storage type as Local and Local storage as /sdcard/Download.



5. Touch the back button and on the main screen touch the **Available files** option and verify the Label.prn file is displayed from the /sdcard/Download/ folder.



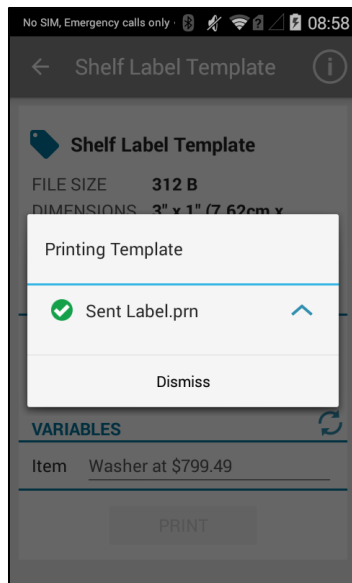
6. Ensure your printer is in a ready to print state and launch TestConnect.
7. Touch the **Print a Shelf Label** option.
8. Touch the **PRINT** button to open the Print job dialog.




9. Touch the **Print** button. The label should print and now include the company name or text you added to the template.



10. Touch **Dismiss** to close the Printing Template dialog.



11. Touch the  icon to change the variable information. Repeat steps 8 - 11 any number of times to print labels with different information.

## Create Your Own Solution

Using the techniques described in the above sections of this document along with information from the User Guide, create your own solution by following the steps below.

1. Visit the PrintConnect product page on [www.zebra.com](http://www.zebra.com) and download the PrintConnect User Guide and review the Intents section and code examples. Template printing using PrintConnect is accomplished by sending intents to PrintConnect. The User Guide provide details on PrintConnect's package name, intent names and their extra key information.
2. Create your own template using ZebraDesigner based on tasks performed in the '**Modify and Print the Sample Label Template**' section above. Tutorial videos are available [here](#) on how to use the features of ZebraDesigner. Click on the Software Tutorials tab.
3. Make your new template available to PrintConnect by transferring it to your mobile device as described in the '**Cloud Storage Setup**' section above.
4. Based on the code examples shown in the User Guide, implement code in your application to use the PrintConnect printing service to print your new template.

## Support

If you need further assistance, Zebra's ISV team is available to help.

Join Zebra's ISV program and get access to the PrintConnect source code and further develop the application to suit your needs.

Click [here](#) for more information and to join Zebra's ISV program.

## Document Control

Version	Date	Description
1.0	21 Sep 2015	PrintConnect App Note
2.0	03 Jul 2018	Updated links and download locations.

## Disclaimer

All links and information provided within this document are correct at time of writing.