

Quick Start Guide (Electron)

Objective

This guide is intended to quickly guide the user through the initial out-of-box product experience to developing a simple Electron sample application.

This procedure is a “short cut” to provide a high-level view of the application development process and PIQUE™ hardware capabilities. In-depth details, configuration and customization options, and hardware implementation details are covered in related documents.

Requirements

- PIQUE Starter Kit
- Computer capable of running Oracle™ VirtualBox software.

Initial Demonstration

Ensure the supplied microSD card is inserted into the PIQUE, then connect the PIQUE to the 12VDC power supply using the included AC power supply via the 3-pin connector. The connector is keyed to prevent a reverse-polarity connection.



Shortly after connecting power, the TFT touchscreen will display a startup screen, then transition to the demonstration program's main screen.



Test the various demonstrations of touchscreen functions, on-screen keyboard input, and graphics response time as desired.

This program is written using Qt, not Electron.

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Running the Development Virtual Machine

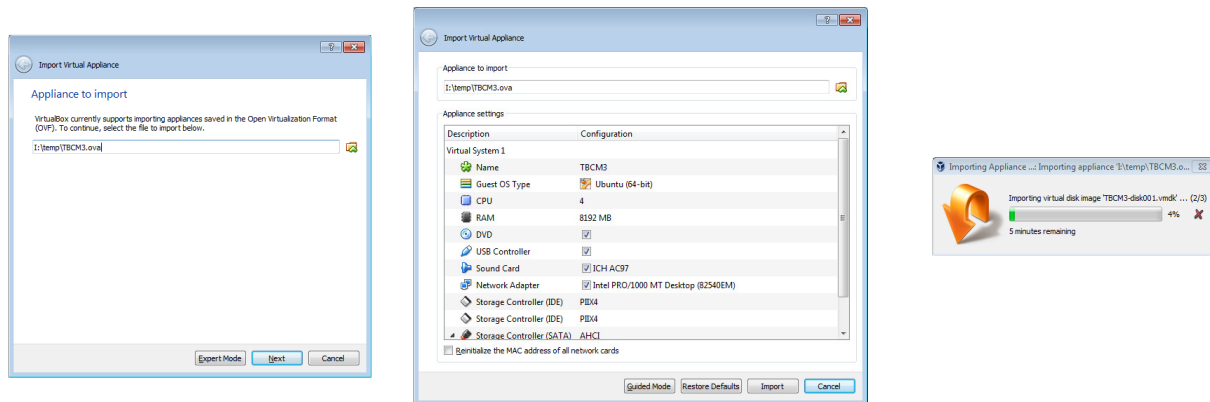
Install Oracle VirtualBox™ for Windows, OS X, or Linux. The latest version is available at:

<https://www.virtualbox.org/wiki/Downloads>

Download the PIQUE Preinstalled Environment file using the link provided at:

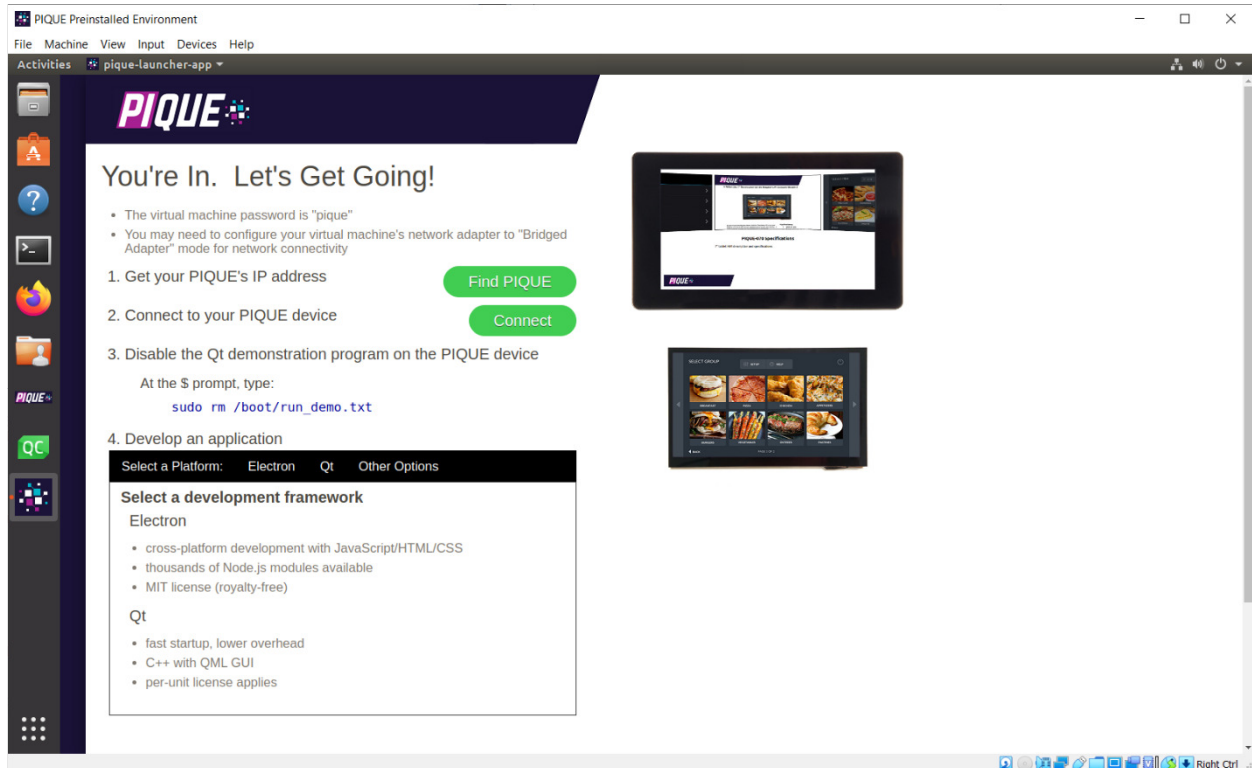
<http://thecircuitfoundry.com/products/PIQUE/support/index.html>.

Run VirtualBox. From the File menu, select “Import Appliance...”, navigate to the location of the downloaded file, and click Next.



When Virtual System 1’s settings are shown, click Import to create the virtual machine.

Launch the PIQUE Preinstalled Environment from VirtualBox. If necessary, log in with the password “**pique**”. After booting and logging in, the PIQUE Launcher application will be shown.



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Connecting via SSH

Connect the PIQUE to your local network via onboard or USB Ethernet, then remove and reconnect the P2 power connection. After startup, the demonstration program will display the PIQUE's local IP address.



In the virtual machine, you can also press the **Find PIQUE** button to search for your PIQUE device.

Next, click the **Connect** button, edit the connection address/name as needed, and then press Enter. Log in with the password “**raspberry**”.

```
pi@raspberrypi ~  
File Edit View Search Terminal Help  
Enter IP address or name to connect to: raspberrypi.local  
Opening SSH connection to raspberrypi.local with username "pi"  
(likely password: "raspberry")  
The authenticity of host 'raspberrypi.local (10.1.10.126)' can't be established.  
ECDSA key fingerprint is SHA256:bCvL6490C/3vqSwckH80U+TnVlNmMsBug+R7Qx0ADNw.  
Are you sure you want to continue connecting (yes/no)? yes  
Warning: Permanently added 'raspberrypi.local' (ECDSA) to the list of known hosts.  
pi@raspberrypi.local's password:  
Linux raspberrypi 4.9.59-v7+ #1047 SMP Sun Oct 29 12:19:23 GMT 2017 armv7l  
  
The programs included with the Debian GNU/Linux system are free software;  
the exact distribution terms for each program are described in the  
individual files in /usr/share/doc/*/*copyright.  
  
Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent  
permitted by applicable law.  
Last login: Tue Feb  9 22:01:04 2021 from 10.1.10.125  
  
SSH is enabled and the default password for the 'pi' user has not been changed.  
This is a security risk - please login as the 'pi' user and type 'passwd' to set a new password.  
pi@raspberrypi:~$
```

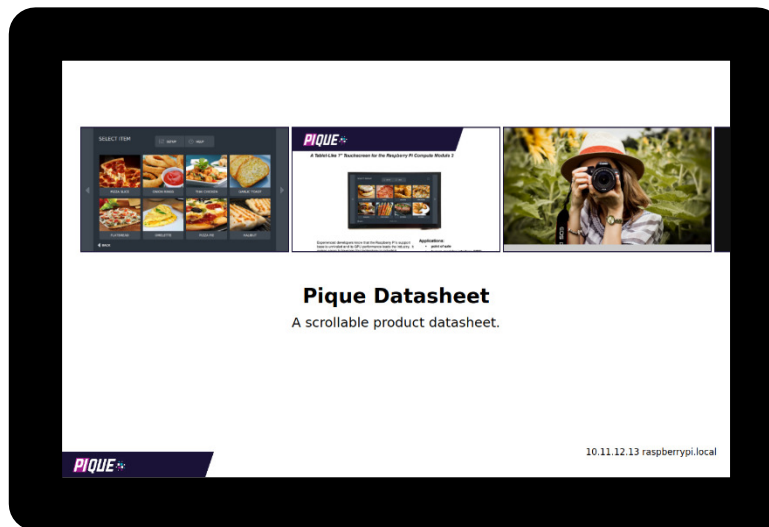
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Switching to the Electron Demonstration Application

Issue the following command to run the Electron demo instead of the Qt demo on startup, then restart the PIQUE.

```
set-demo electron  
sudo reboot now
```


The PIQUE will reboot and run the Electron demonstration.



Test the various demonstrations as desired.

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Creating an Electron Application

As before, click the  button, edit the connection address/name as needed, and log in, then enter these commands:

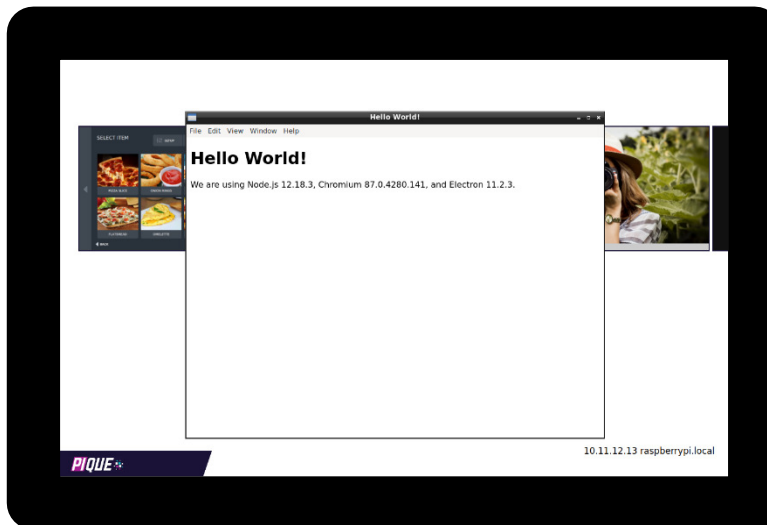
```
cd ~/code
git clone https://github.com/electron/electron-quick-start
cd electron-quick-start
npm install
```

Running the Application on PIQUE

Enter this command to start the program on display “0” – the PIQUE screen:


```
DISPLAY=:0 npm start
```

View the application running on the PIQUE:



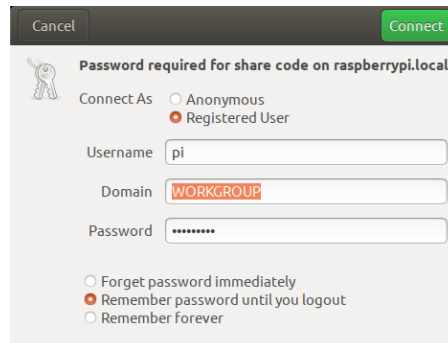
Running the Application Locally

Click the  button in the virtual machine to access the PIQUE device's file system.

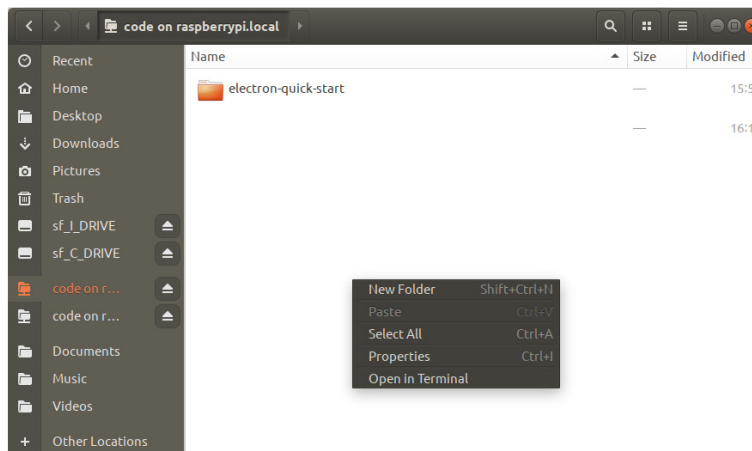
Note: If your PIQUE isn't named **raspberrypi.local**, click the  button, then press CTRL-L and enter **smb://raspberrypi.local/code**, substituting your device's name or IP address.

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Provide login credentials to access the PIQUE's code folder and click "Connect":



Right-click in the window area and select Open in Terminal.

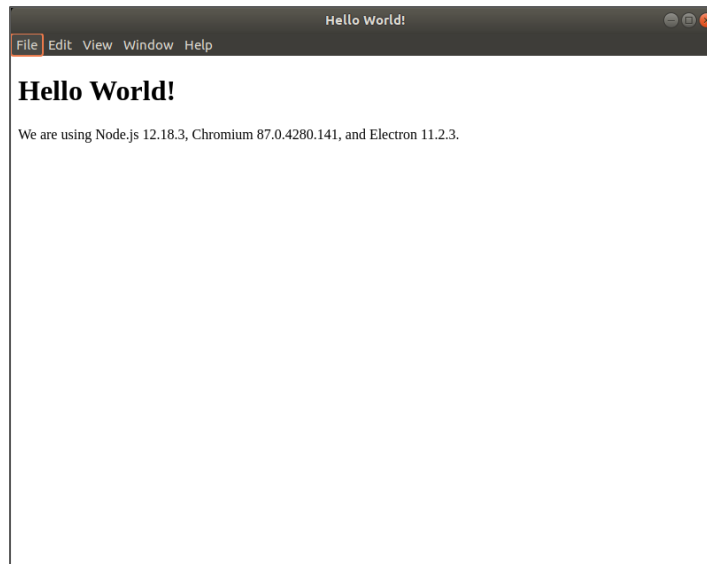


In the terminal window, enter these commands:

```
cp -R electron-quick-start ~/code
cd ~/code/electron-quick-start
rm -r node_modules
npm install
npm start
```

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The same application will appear in a window on the virtual machine:



Conclusion and Next Steps

This guide is helpful for initial operation and gaining a high-level view of the development procedure. Consult the other guides in the documentation center to better understand various aspects of the PIQUE Preinstalled Environment and the PIQUE System Image.

For in-depth Electron development articles and guides, consult <https://www.electronjs.org/docs>.

A wide variety of Electron example applications are listed here: <https://www.electronjs.org/apps>.

For further support, contact The Circuit Foundry:

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phone 630-454-4407