

BlackBerry 10 Device Simulator



# User Guide



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# BlackBerry 10 Device Simulator



The BlackBerry 10 Device Simulator lets you load and test your apps even when you don't have a physical device. You can access most of the features you would find on a physical device.

Using the simulator, you can use your mouse to simulate gestures, configure snapshots for debugging, and simulate features such as tilting or rotating the device.

*[BlackBerry 10 Device Simulator User Guide PDF](#)*



# Getting started

Install and configure the simulator. Connect to the simulator, and change the simulator device settings.

Start here to download, install, and configure your BlackBerry 10 Device Simulator. You can also learn how to view and change the simulator device settings.

## Configuring the simulator

### Connect the controller to the simulator

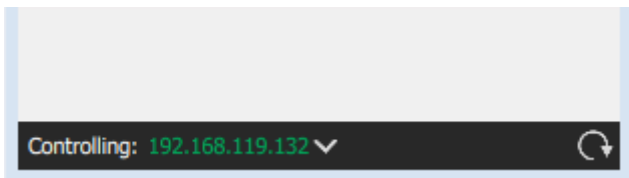
The controller is an application that lets you simulate physical properties and features of a BlackBerry 10 device, such as orientation, sensors, battery, location, and near field communication (NFC). The controller also lets you change the size of the BlackBerry 10 device simulator so that it fits on your computer screen. To use the controller, you must connect it to the IP address of the simulator. After you connect the controller to the simulator, you can use the **Device** menu to control the simulator or use the **View** menu to see the log files that you generate with your actions on the simulator. The simulator setup application installs the controller setup application in a controllers folder.

#### 1. Open the controller:

- In Windows, click **Start > BlackBerry 10 Simulator > Controller**.
- In Linux, navigate to the folder where you installed the simulator and run the **controller** file.
- In Mac OS, navigate to the location where you installed the simulator, right-click **.vmware**, click **View package contents**, and extract the contents of the **controllers** folder. Double-click the **controller** application.

When you open the controller with one simulator running, the controller should automatically connect to the simulator. If you have two or more simulators running, the controller should open a dialog box for you to select the simulator you want to connect to.

- #### 2. If the controller doesn't automatically connect to the simulator, you can connect manually. Click the **Refresh** button in the bottom right corner of the controller.



- #### 3. Select the simulator in the Auto Discover area.

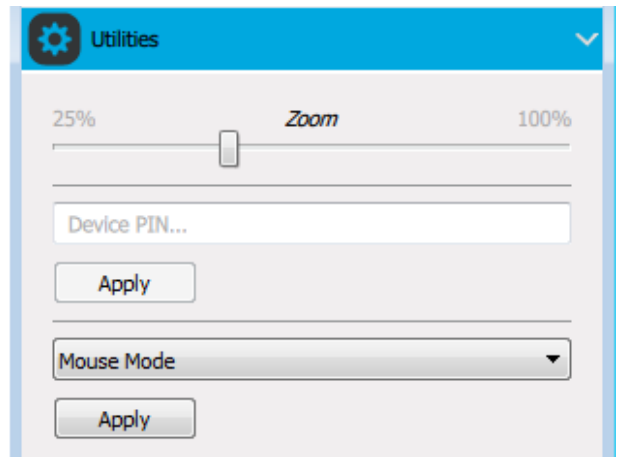
If you are running multiple instances of the simulator, select the address of the simulator that you want to control from the **IP address** drop-down list.

Note that the simulator's IP address is displayed in the bottom of the simulator window.

## Change the zoom level

To change the size of the simulator so that it fits on your computer monitor:

1. In the controller, click **Utilities**.
2. In the **Zoom** slider, change the percentage to reduce or increase the simulator size.
3. Click **Apply**.



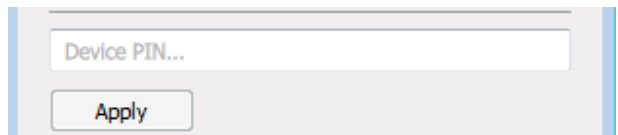
**Note:** At a 70% zoom level, the simulator fits on most computer monitors. This is the default zoom level.

Other options:

- Use the diagonal bars on the lower right corner to drag the window to the size that you want. This will only resize the simulator's window, but not the simulator.
- Use the **ves-zoom <percentage>** command in a Telnet or Putty window.

## Change the simulator's PIN

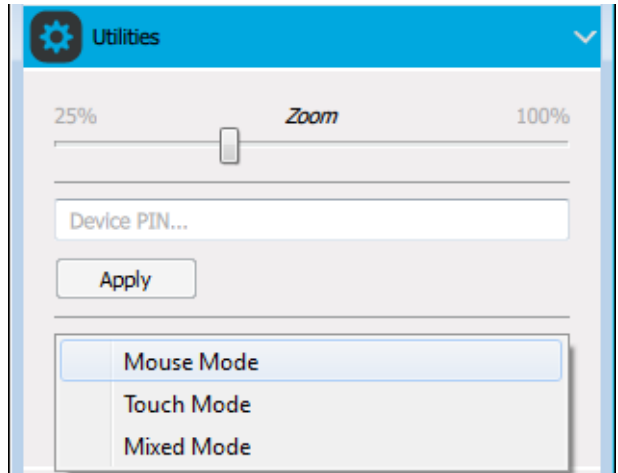
You can change the PIN of a simulator so that you can simulate multiple devices. To change the PIN, in the controller window, click **Utilities**. Enter a valid PIN and click **Apply**. You can verify that your new PIN was set using the options menu in the simulator.





## Set mouse and touch inputs

You can restrict the simulator to accept only mouse inputs, only touch inputs, or both. In the controller, click **Utilities** and choose the type of input you would like from the drop-down list.



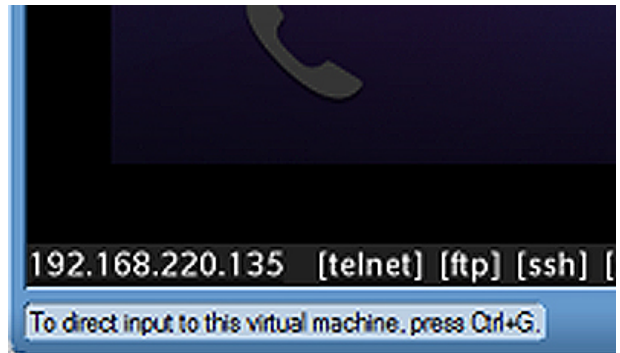
## Connect to the simulator using Telnet or FTP

You can connect to the BlackBerry 10 simulator with the IP address of the simulator and a devuser account using Telnet or FTP. You don't require SSH keys and you don't need to use BlackBerry Connect. To FTP to the simulator, you can use FileZilla or any FTP application. To connect to the simulator using Telnet, you can use Putty or any other Telnet application. You can use devuser as the username and password to connect.

## Get the IP address of your simulator

To Telnet or FTP to the simulator, you need to get the simulator's IP address, which is displayed in the lower left corner of the simulator's screen. This is the same IP address that you can find in the controller's Connect dialog box.

This is the IP address that you use with Momentics IDE if you want to deploy your application to the simulator.



**Note:** Do not use the IP address (169.254 ...) found under System Settings > Security and Privacy > Development Mode for either Momentics IDE or to Telnet/FTP to the simulator.

## Telnet to the simulator

1. In a command window, type Telnet <IP address of a simulator>.
2. When you are prompted for the login, type devuser.
3. When you are prompted for the password, type devuser.

**Note:** For versions of Windows later than Windows XP, you must enable Telnet separately.

## Configuring the BBM server simulator

If you plan to use the BlackBerry 10 Device Simulator to test your BlackBerry Messenger connected app, you need to configure your development environment to support BBM.

## Install Java

The first thing you need to do is [download and install the Java SE 6 update 37 or later](#) (JDK or JRE, 32-bit or 64-bit).

**Note:** The BBM server simulator does not support Java 7.

Next, you set up Java environment variables and [unlimited strength encryption](#).

### Set up Java environment variables

1. In Windows, open the **Environment Variables** dialog box.
2. Set the `JAVA_HOME` system variable to the directory where you installed Java (for example, in the 32-bit version of Windows, `C:\Program Files\Java\jre6`.  
(In the 64-bit version of Windows, the default path for 32-bit Java is `C:\Program Files (x86)\Java\jre6`).
3. In the `Path` environment variable, add `%JAVA_HOME%bin;` to the beginning of the string.
4. Click **OK** to save and close the **Environment Variables** dialog box.
5. Verify that your environment variables are set correctly.
  - a) Open a command prompt.
  - b) Type `java -version` and verify that the Java version is the same as the version that you set in the environment variable:

```
java version "1.6.0_38"  
Java(TM) SE Runtime Environment (build 1.6.0_38-b05)  
Java HotSpot(TM) Client VM (build 20.13-b02, mixed mode, sharing)
```

### Set up unlimited strength encryption

The Java Cryptography Extension (JCE) enables encryption by using a key size of greater than 128 bits.

**Note:** You must live in an eligible country to enable this functionality. You can find more information in the `readme.txt` file contained in the following .zip file.

1. [Download the `jce\_policy-6.zip`](#) file from the Oracle website.
2. Extract the contents of the `jce_policy-6.zip` file to your computer.
3. In the security directory of the system JRE (for example, `C:\Program Files (x86)\Java\jre6\lib\security\`), replace the `local_policy.jar` and `US_export_policy.jar` files with the files you extracted.



# Using the simulator

Learn how to simulate gestures. Change simulated conditions such as ambient light and facial proximity. Simulate device movements like orientation, tilt, and rotation.

You can interact with the BlackBerry 10 device using simple gestures to open and close apps, peek at the hub, pinch and zoom, and so on. The BlackBerry 10 Device Simulator lets you use your mouse to simulate these gestures.

## Launching apps on the simulator

### Launch your app on the simulator from the SDK

You can debug or run your app on the simulator by setting up a launch configuration with the simulator as the target. The instructions vary slightly for different SDKs. For more information, select the SDK you use:

- If you use the BlackBerry 10 Native SDK, you'll [set build and launch configurations in Momentics](#).
- If you're developing web apps using the BlackBerry WebWorks SDK, you can [set up the launch configuration in Ripple to deploy to the simulator](#).
- If you develop apps using any Eclipse plug-in, you'll [set build and launch configurations in Eclipse](#).

## Simulating gestures

Here is your guide to navigating the simulator using your mouse to simulate touch screen gestures.

Be sure that you have set the right zoom level to see the top and bottom frames of the simulator without having to scroll. For most computer screens, 70% zoom should fit.

## Minimize an app



Swipe up from the bottom of the screen to minimize any open apps and show the home screen.

## Settings and options



On the home screen, swipe down from the top of the screen to access general settings.

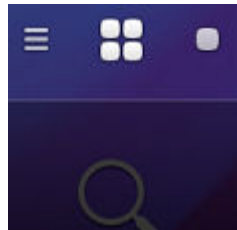
In an application, swipe down from the top of the screen to see the application's options.

## Move through screens



Swipe left and right to move between screens (for example, the home screen and application screens).

## Jump to a screen



Tap the icons on the bottom of the screen to switch screens. This



icon appears if you have minimized applications running. Tap on the three-bar icon

(



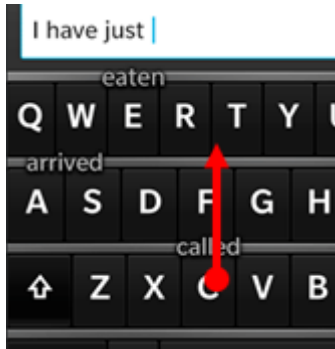
) to go to the BlackBerry Hub.

## Display the keyboard



Tap the lower left frame to show or hide the keyboard. The keyboard is not available for 10.1 Beta.

## Swipe words from the keyboard



To select a suggested word from the keyboard, swipe the key upwards. Note that you can also enter information using your computer's keyboard.

## Peek at the BlackBerry Hub



From any app, swipe up from the bezel and to the right to open the Hub and see your latest emails, messages, phone calls, and so on.

## Rotate to landscape orientation



Tap the bottom right corner of the screen to change between landscape and portrait orientation.

If your app does not support rotation, the screen will not rotate until you leave the app.

# Multi-touch



On the BlackBerry 10 Device Simulator version 10.1 and later, you can simulate more than one gesture at a time.

For example, you can simulate using two fingers to pinch or zoom in on an area of the screen. To set each gesture path, click the right mouse button and drag from the start point to the finish point. To run all of the paths, tap the screen with the left mouse button.

Notes:

- Each path plays back at its recorded speed.
- The simulator supports up to 10 paths.
- Swiping from the bezel is supported, for example, to display settings or the BlackBerry Hub.

## Type numbers and symbols

To see numbers and special characters, tap the **?123** key or swipe down on the keyboard. Tap the **ABC** key or swipe up on the keyboard to return to letters.

## Move apps

1. Tap and hold an app's icon until all of the icons blink.
2. Drag the icon to the new location.
3. When you are finished, tap anywhere in the screen.

## Group apps into a folder

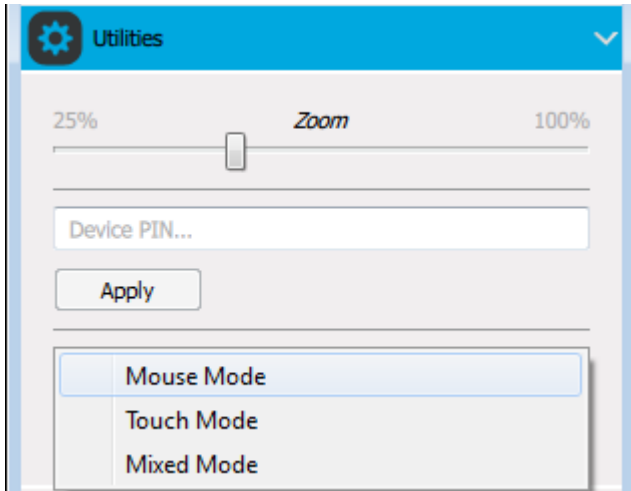
1. Tap and hold an app's icon until all of the icons blink.



2. Drag one icon on top of another to combine them into a new folder.
3. When prompted, enter a folder name.

## Using mouse and touch inputs

You can restrict the simulator to accept only mouse inputs, only touch inputs, or both. In the controller, click **Utilities** and choose the type of input you would like from the drop-down menu.



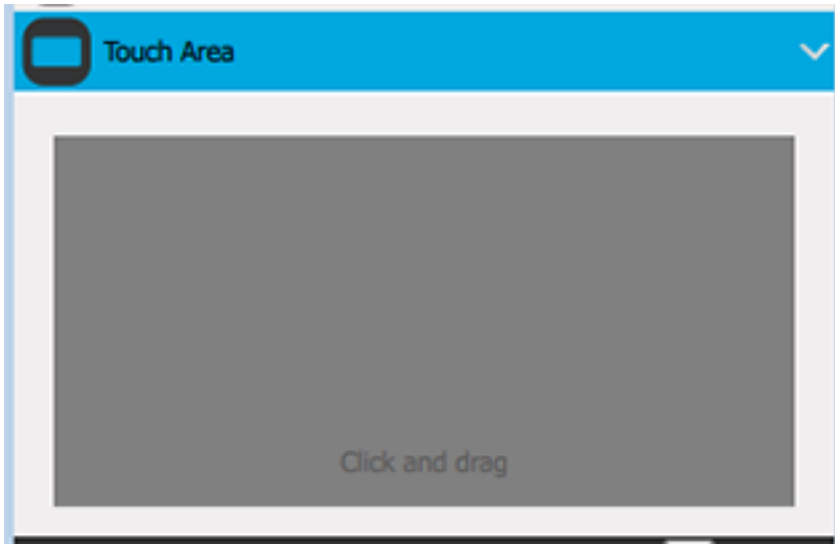
**Mouse Mode:** Use both left and right clicks to represent default mouse clicks.

**Touch Mode:** Use left-clicks as single-touch events, and initiate multi-touch playback. Use right-clicks to specify touch points for multi-touch simulation.

**Mixed Mode:** Use left-clicks to represent default clicks and to initiate multi-touch playback. Use right-clicks to specify touch points for multi-touch simulation.

## Using Touch Area inputs

The Touch Area is available to simulate devices that feature touch input other than a conventional touch screen. In the controller, click **Touch Area**.



The Touch Area supports two types of touch input: swipes and single taps.



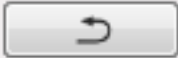

- To perform a swipe, click and drag your mouse in the Touch Area.
- To perform a single tap, click your mouse button in the Touch Area.

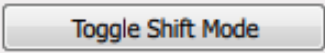
## Using BlackBerry Classic trackpad and key inputs

The trackpad and navigation keys found on the BlackBerry Classic smartphone are available for simulation. In the controller, click **Classic**.



Click and hold your secondary mouse button on the Controller's trackpad area and drag your mouse to navigate and scroll the simulator screen. Click your primary mouse button to simulate a trackpad click and activate a highlighted item.

Button	Function
 <p><b>Call key</b></p>	<ul style="list-style-type: none"> <li>• Answers a call.</li> <li>• Opens the Phone app.</li> </ul>
 <p><b>Menu key</b></p>	<ul style="list-style-type: none"> <li>• Opens an app action menu.</li> <li>• Selects a highlighted menu item.</li> <li>• Shows the Active Frames page (press and hold).</li> </ul>
 <p><b>Back key</b></p>	<ul style="list-style-type: none"> <li>• Returns to the previous screen.</li> <li>• Closes a menu.</li> </ul>
	<ul style="list-style-type: none"> <li>• Ends a call.</li> <li>• Returns to the home screen.</li> </ul>

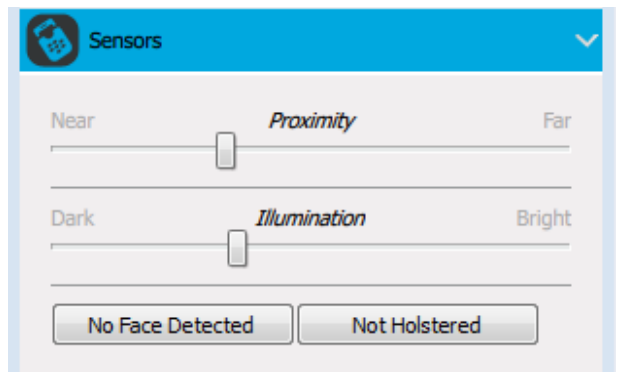
Button	Function
End key	<ul style="list-style-type: none"> <li>Turns off the device (press and hold).</li> </ul>
	Toggles shift mode, which simulates pressing the keyboard shift key while using the trackpad.
<b>Shift Mode toggle</b>	

## Changing simulated conditions

Use the controller to simulate physical properties and functions of a BlackBerry 10 device, such as orientation, sensors, battery, location, and Near Field Communication (NFC).

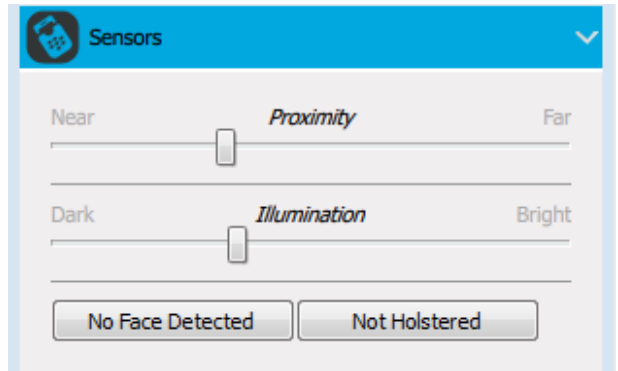
### Simulate proximity information

You can use the proximity simulator to test applications that use proximity sensors. For example, an application might use proximity to detect that a phone call is happening by checking the proximity of a user's face. To set the simulated proximity, in the controller, click **Sensors** and adjust the proximity by dragging the **Proximity** slider. Changes take effect immediately.



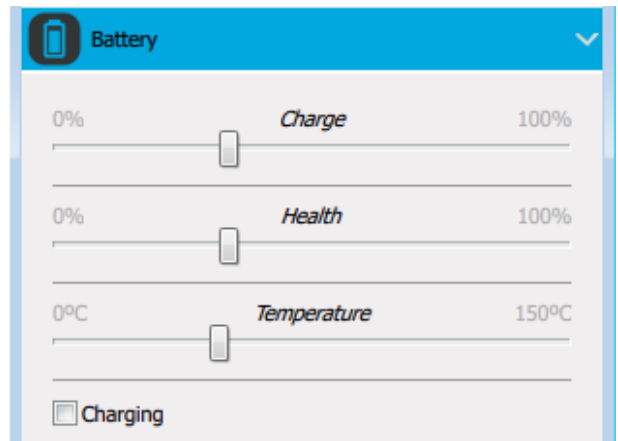
## Simulate ambient light

You can use the illuminance simulator to test applications that use illuminance sensors. For example, an application might increase its back-light power if the light level is low. To set the simulated illuminance (the amount of light in the room), in the controller, click **Sensors**. Adjust the illuminance by dragging the **Illumination** slider. Changes take effect immediately.



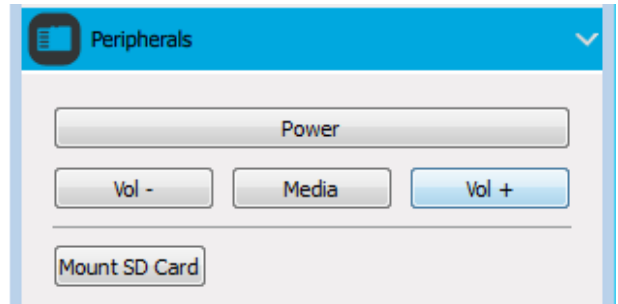
## Set the battery's charge and temperature

To simulate changes in the battery level, in the controller, click **Battery**. Adjust the charge, the health, or the temperature of the battery by dragging the sliders. Click **Charging** to simulate charging the battery. Changes can take up to 120 minutes to take effect.



## Press device buttons

To simulate buttons being pressed on the device, in the controller, click **Peripherals**. The Buttons dialog box opens for you to press buttons for which your application can then respond. For example, a music application needs to respond to the media buttons.



## Simulate connecting an SD card

To connect a virtual SD card to the simulator, in the controller, click **Peripherals > Mount SD Card**.

To disconnect an SD card, in the controller, click **Peripherals > Unmount SD Card**.

## Simulating device movement

You can simulate the position of the device in space by entering the degree of orientation around each axis by adjusting the roll, pitch, and yaw. Roll represents the position of the device relative to the z axis (perpendicular to the screen), pitch represents the position of the device relative to the x axis, and yaw represents the position of the device relative to the y axis. By default, the simulator displays the device oriented face up as if it is lying flat on a table, with the screen upward and the bottom edge facing downward.

**Note:** The simulator smoothly transitions from the current position of the device to the new position to emulate real-world conditions.

To set orientation:

1. In the controller, click **Orientation**.
2. In the **Roll**, **Pitch**, and **Yaw** fields, enter the degree of orientation around each axis. Press the **Enter**.



## Tilt the device

You can simulate holding a physical device by its sides and tilting it. This is useful for testing games that require fine control of a rotation. A black circle represents the top of a joystick sticking out of the middle of the device screen. Moving the joystick upwards tilts the top edge of the device backwards and the bottom edge forwards.

1. In the controller, click **Orientation**.
2. Click and drag the black circle to tilt the simulator.

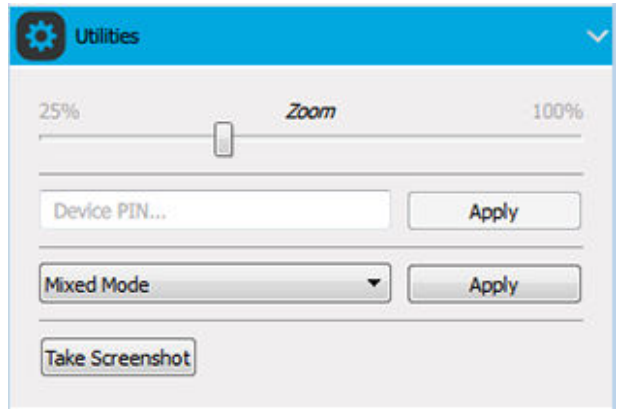
## Rotate the device

You can simulate rotating an upright device front to back, left to right, or side to side, by clicking **Orientation**. To rotate the device, click Orientation and drag or click the simulator image. You can also drag or click the blue circle, use the joystick, or manually type in the coordinates you would like to use.

## Taking screen shots

You can take a high-resolution screen shot of anything the simulator is displaying. The simulator saves the screen shot in .bmp file format.

1. In the controller, click **Utilities**.
2. Make sure that the screen you want to capture is visible in the simulator, then click **Take Screenshot**.
3. In the Save Screenshot dialog box, select a save location, then enter the name of your screen shot, including the .bmp file extension.



## Testing Bluetooth apps

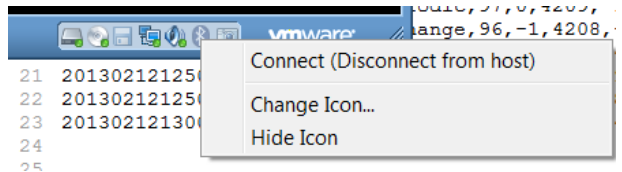
The BlackBerry 10 Device Simulator supports Bluetooth testing by substituting an adapter for the Bluetooth chipset. There are two types of supported USB Bluetooth adapters: a dongle, and a built-in adapter typically deployed on laptops.

To change VMware settings to enable a built-in adapter:

1. Navigate to **Edit virtual machine settings** in your VMware Player and click **Add**.
2. Select **USB Controller** and click **Next**.
3. Click **Finish**, and then click **OK**.
4. Restart the simulator.

To connect a USB Bluetooth adapter to your VMware Player:

1. Insert the Bluetooth dongle into an available USB port.
2. When the BlackBerry 10 Device Simulator starts up, click the grey Bluetooth icon at the bottom of the VMware Player window.
3. Restart the simulator.

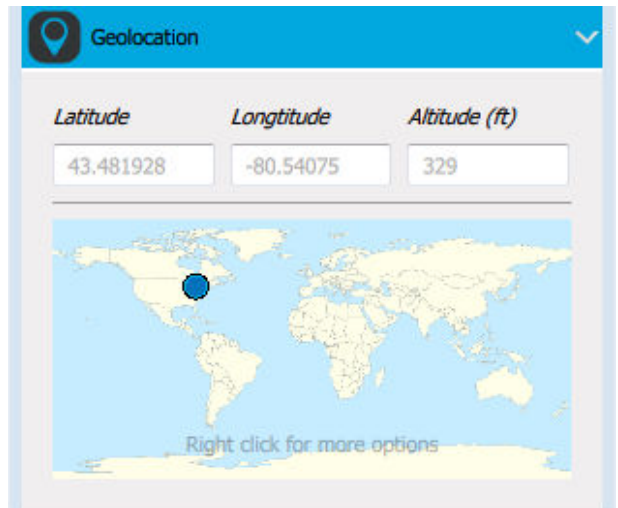




# Testing GPS-enabled apps

You can set the GPS location of your simulator by specifying latitude, longitude, and altitude. Latitude and longitude are specified in degrees as signed decimals, and altitude is specified in meters above mean sea level as an unsigned decimal.

1. In the controller, click **Geolocation**.
2. In the **Latitude**, **Longitude**, and **Altitude** fields, enter the GPS location or right-click and choose **Play From File** to select a preset location.



## Travel along a route

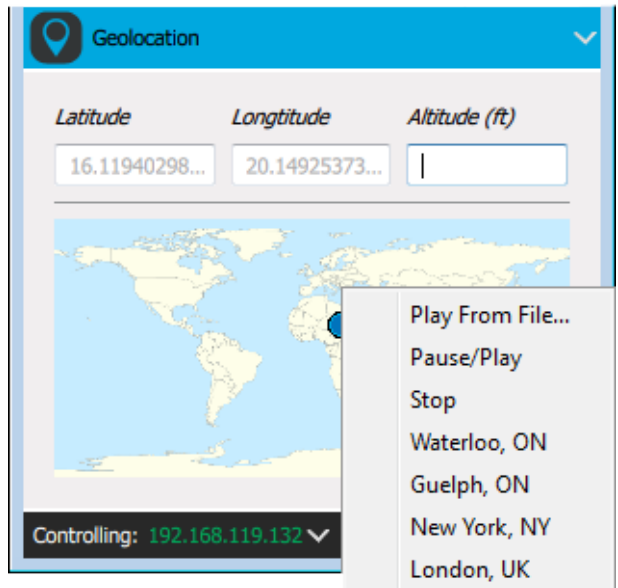
You can use the controller to test navigation and mapping applications using the GPS Route Playback. The controller provides a continuous stream of GPS updates to the simulated device. Events appear in the log file as the controller plays the route (approximately one event per second, by default, but you can specify a different frequency in your route file).

The controller supports the following formats:

- NMEA: National Marine Electronics Association's Global Positioning System Fixed Data (GGA) format.
- RMC: Recommended Minimum Specific GPS/Transit Data format.

1. In the controller, click **Geolocation**, right-click and choose **Play From File**.

2. Browse to a NMEA or a RMC route. The controller provides preloaded NMEA routes, but you can also provide your own. The route must consist of one *NMEA sentence* per line.
3. Click **Open**.
4. To stop playback at a specific position, right-click and choose **Pause**. To resume from the same position, right-click and choose **Play**.
5. To stop playback, right-click and choose **Stop**. To start the route from the beginning, click **Play**.



## Testing NFC apps

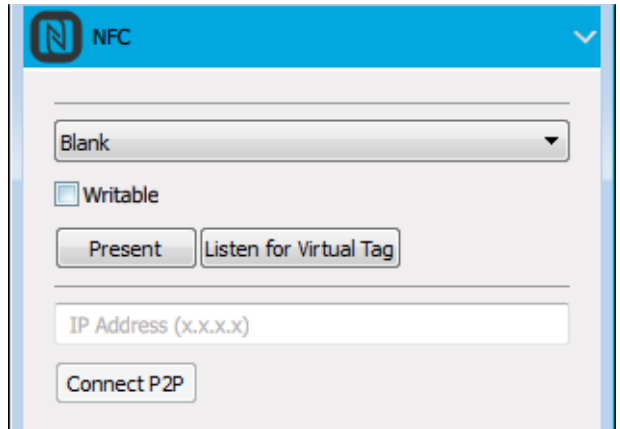
BlackBerry devices that support near field communication (NFC) can read a smart tag, a smart accessory, or another NFC-enabled device. NFC technology is designed to transfer small amounts of data over a short distance. For example, you could provide pairing information for a Bluetooth accessory. You can create NFC tags, populate them with data, and present them to the simulated device. The default tag type is Blank, which means that the tag has no information and is writable by the device. You can also use Text, URI, or Smart Poster tags to perform the following tasks:

- Provide a URL where a user can retrieve more information about an advertisement on a smart poster, such as a movie or a coupon.
- Provide pairing information for a Bluetooth accessory.
- Provide identification information for a smart dock.

## Create a new NFC tag

1. In the controller, click **NFC**.

2. Choose an NFC tag type and enter the required information.
3. If you want your app to be able to write to the tag, select the **Writable** check box.

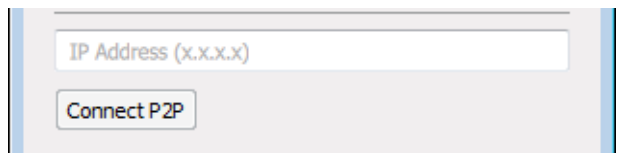


## Simulate tapping an NFC tag on a device

1. In the controller, in the **NFC** dialog box, select your tag.
2. Click **Present**.
3. To simulate moving the tag away from the simulator, click **Remove**.

## Simulate a P2P NFC connection

1. Ensure that you have two simulators running.
2. In the controller, click **NFC**.
3. Enter the IP Address of the simulator you wish to connect to and click **Connect P2P**.
4. To disconnect, click **NFC > Disconnect**.



## Near Field Communication (NFC) support

NFC defines standards for smartphones to establish two-way radio communication for transmitting a small amount of information over a short distance, such as an inch or two. For example, you can use NFC for monetary transactions, data exchange, and a simplified setup of more complex communications, such as Wi-Fi.

NFC requires a provider and a target. The provider generates an RF field that can power a passive target. There are two ways to configure NFC:

- *Passive communication*

The provider device creates an RF carrier field and the target device answers by modulating the existing field. In this mode, the target device draws operating power from the provider's field, such as between a smartphone and an unpowered NFC tag. Tags may be read-only or read-writable. The simulator can emulate a target as described in the NFC tag emulation mode and NFC smart poster mode sections below.

- *Active communication*

Two devices can communicate as peers, as described in the NFC P2P support section below, by running two simulators concurrently. Each simulator alternates between acting as a provider (generating its own transmitting field) and a target (deactivating its field while listening).

There are three simulation components in the simulator:

- *Simulation provider*

`SimNFCProvider` simulates `OpenNFCProvider` and the device driver. It implements NFC Provider APIs, and communicates with the other two NFC components in the same way as `OpenNFCProvider`.

- *NFC simulation GUI*

The GUI provides a means to simulate a peer device in an NFC simulation:

- When simulating a tag reader/writer on the device, the GUI acts as a tag.
- When simulating tag emulation on the device, the GUI acts as a tag reader/writer.

The NFC simulation GUI also allows you to control and configure NFC simulation.

- *Simulation connector*

The connector simulates the NFC connection and events between the device and its peer in NFC simulation. For tag reader/writer and tag emulation, it connects the simulator with the GUI. For peer-to-peer simulation, it connects two simulators to each other.

## NFC smart poster support

NFC smart posters are similar to QR codes. Users can receive additional information directly to their smartphone. The following describes the passive communication simulator's smart poster tag implementation:

You can access these commands from the controller using the NFC menu.

1. To present a smart poster tag:

- In the **NFC** controller, choose **Smart Poster** from the drop-down list. When **Smart Poster** is selected, you are prompted for a **URI** (mandatory), **Title** (optional), and **Action** (optional).

The following are possible values for **Action**:

- **No action**
- **Launch** the browser
- **Save** for later (for example, bookmark a URI)
- **Edit** for editing (for example, open the URI in a URI editor)

2. To receive a smart poster tag in write command.

This is handled in a manner similar to that of a virtual text tag, the difference is that a smart poster may contain URI, text (Title) and Action.

3. To receive a virtual smart poster tag (emulation mode).

This is handled in a similar manner as a virtual text tag. The difference is that a virtual smart poster tag may contain URI, text (Title) and Action.

## NFC tag emulation

Emulating an NFC tag is similar to the tag read/write emulation. You need to run the simulator and the controller. To test emulation, you must run an application on the simulator that emulates the virtual tag, and set the controller to listening mode. To set up the controller, click **NFC > Listen for virtual tag**.

To run the **Tap2Test** application on the simulator:

1. Select **Emulate tag**.
2. Append a record (this creates the message for the virtual tag).
3. Click **Register**.

The controller displays a dialog box that indicates a virtual tag is detected. You can now view the content of the tag.

To use a second NFC application on the simulator, run the application on the simulator, and set the controller to listening mode. When the application calls the appropriate APIs to register for a virtual tag (or for tag emulation), the tag appears on the controller.

## NFC Peer-to-Peer (P2P) support

In P2P mode, two NFC devices can exchange data. When there is a small amount of data to be transferred between the devices (such as a URL), the data is transferred using the NFC SNEP protocol. When there is a large amount of data (such as a picture), typically a Bluetooth connection is established using NFC (also called connection handover), and then the data is transferred over the Bluetooth connection. Currently, the simulator supports only SNEP for P2P.

The major work in simulating P2P communication is managing connectivity between two simulators. Unlike other modes, the simulator is not involved in NDEF message constructing. Three levels of connections are involved in simulating P2P communication:

1. A physical connection between two devices
2. LLCP connection
3. Connection between a SNEP client and SNEP server

# Simulating phone calls

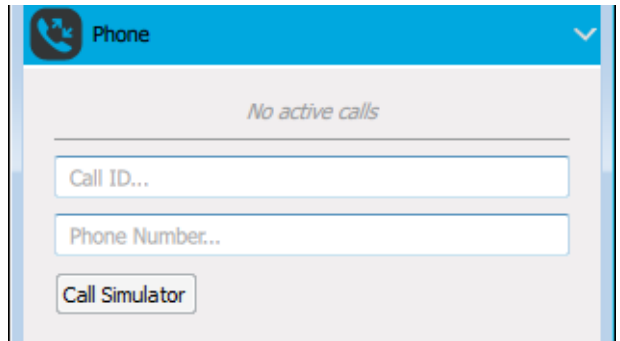
## Send a phone call to the simulator

If your application supports incoming phone calls, you can test this by sending a call from the controller.

1. In the controller, click **Phone**.
2. Enter a call ID and a phone number for the simulator, and press **Call Simulator**.

The dialed number appears in the status window. Your app can now detect a call using the API.

3. To end the call, click **Hang Up**.



# Using the camera

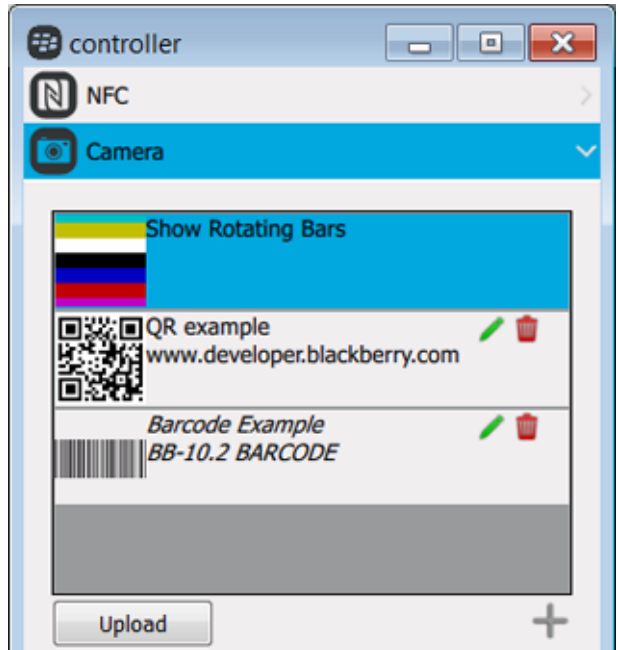
The BlackBerry 10 Device Simulator supports the Camera functionality. You can load images from your computer into the view finder, and then edit and save them just like you can when you take pictures on a device. If your app supports scanning for QR codes or barcodes, you can create the codes in the Controller, and upload them to the camera to simulate scanning.

## Display a picture in the Camera

1. In the controller, click **Camera**.
2. Click the Plus (+) button, click **Image**, and click **Select Picture**.
3. Choose the image you would like to use, click **Open**, and then click **OK**.
4. Click **Upload**.

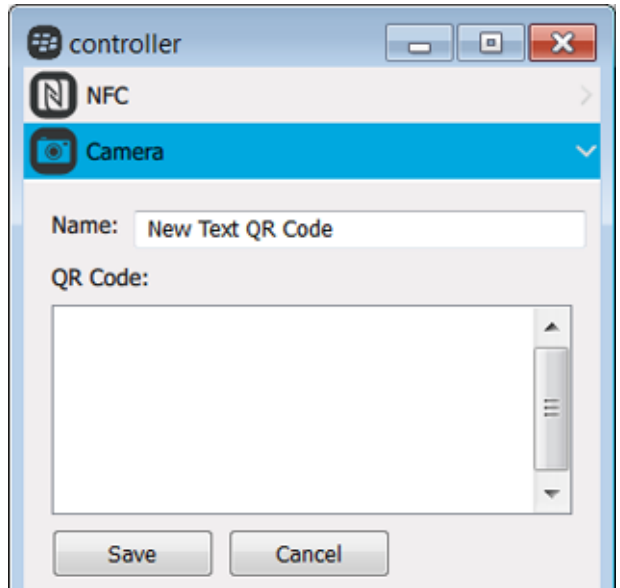
The image appears in the camera application. You can edit and save this image.

5. To clear the image, click **Clear**.



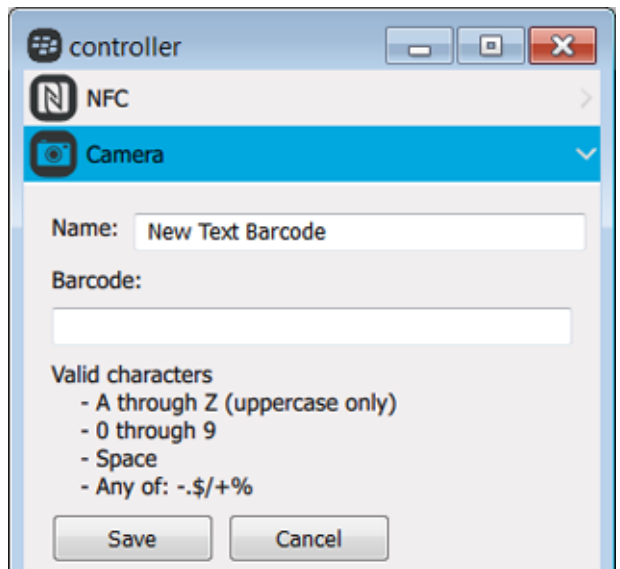
## Upload a QR code to simulate scanning

1. In the controller, click **Camera**.
2. Click the Plus (+) button, and click **QR Code**.
3. Type a name and enter the QR code content (for example, a URL), and then click **Save**.
4. Click **Upload**.
5. Open an app that supports QR code scanning, and test the scanning feature.



## Upload a barcode to simulate scanning

1. In the controller, click **Camera**.
2. Click the Plus (+) button, and click **Barcode**.
3. Type a name and enter the barcode, and then click **Save**.
4. Click **Upload**.
5. Open an app that supports barcode scanning, and test the scanning feature.





# Testing BBM connected apps

To test your BBM connected app in the BlackBerry 10 Device Simulator, you need to install at least two instances of the device simulator in different locations on your hard disk, one for each instance of BBM. Learn more about how to [Run multiple device simulators with BBM](#) on page 33.

After you install the device simulator and a virtual machine, you're ready to get started. The first thing you need to do is start the BBM server simulator. The BBM server simulator enables communication between instances of BBM.

**Note:** You need to run only one instance of the BBM server simulator.

1. In the directory where you installed the simulator, open the **BlackBerry 10 Simulator - <version> BBM** directory.
2. Double-click the **Run BBM Server Simulator** shortcut to open the console and start the server.

Next, start the device simulator: in the **BlackBerry 10 Simulator - <version>** directory, double-click the **BlackBerry 10 Simulator** shortcut.

Then, [connect the device simulator to the controller](#). The controller allows the device simulator to connect to the BBM server simulator.

Now, connect the device simulator to the BBM server simulator.

1. On the **Controller** menu, click **BBIO**.
2. In the **IP address** field, specify the IP of the computer that hosts the BBM server simulator. In the **Port** field, port 3101 is automatically specified.

**Note:** The IP address cannot be 127.0.0.1 or localhost, even if the BBM server simulator is running on the same computer that hosts the device simulator.

3. Click **Connect**. You can see activity in the BBM server simulator console when the connection is successful.
4. To shut down the BBM server simulator when you finish testing, in the **BBM Server Simulator** directory, double-click the **Shutdown BBM Server Simulator** shortcut. After the simulator stops, type exit at the command prompt to close the command window.

## Run multiple device simulators with BBM

If you want to run more than one BlackBerry 10 Device Simulator at a time, you need to install each simulator in a separate location on your hard disk, one for each instance of BBM.

**Note:** You need to run only one instance of the BBM server simulator.

1. Start VMware.
2. Navigate to the directory where you installed the simulator and open the **BlackBerry 10 Simulator - <version>** directory.
3. Select **BlackBerry10Simulator.vmx** and click **Open** to start the simulator.
4. Open the **controllers** directory and run **controller.exe**.
5. Change the default PIN of the simulator by following the instructions in [Configuring the simulator](#).

**Note:** After you change the PIN, restart the simulator.

6. On the **Controller** menu, click **Connection > Connect**.
7. In the **Auto Discover** section, select the entry for the device simulator instance that you want to connect.
8. In the **IP Address** drop-down list, select the IP Address of the corresponding simulator.
9. Click **Connect**. "Connected to <IP Address>" appears on the status bar at the bottom of the controller window.
10. On the **Controller** menu, click **Device > BBIO > Connect to BBM Server**.
11. In the **IP address** field, specify the IP of the computer that is running the BBM server simulator. In the **Port** field, port 3101 is automatically specified..

**Note:** The IP address cannot be 127.0.0.1 or localhost, even if the BBM server simulator is running on the same computer as the device simulator.

12. Click **Connect**.

When the connection is successful, you see activity in the BBM server simulator console.

13. In the device simulator, click the app that you want to run.
14. Repeat steps 1 to 13 for each additional instance of the simulator that you want to run.

For more information, see [Testing BBM connected apps](#) on page 33.

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