Using
ADOBE® DEVICE CENTRAL CS5 & CS5.5

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Contents

Chapter 1: What's new

What's new (CS5.5)

Support for Flash Player 10.2 emulation

Preview and test content for the latest version of Flash Player optimized for mobile devices.

Use Flash Professional CS5.5 to create content for desktop, tablets, and mobile devices. Then use Device Central to test and preview content for your targeted device profiles.

Emulate native device APIs like accelerometer, multitouch, and gestures when testing SWF files in HTML pages.

Expanded set of profiles including iOS-based devices

- Access the latest profiles for devices shipping with support for AIR 2.5. Use these profiles to create multiscreen content in Flash Professional CS5.
- Support for devices that don't support Flash such as iOS-based devices and RIM devices.

Improved HTML5 emulation support and HTML debugging

Easily emulate web content and debug using the more robust controls onscreen.

HTML5 emulation support

- Media query support gets profiled per device and is applied to the emulation. For more information, see "Media query support (CS5.5)" on page 31.
- HTML5-features like video and audio, canvas, SVG, local storage, and web workers are profiled for devices. Canvas, MPEG4-encoded Audio and Video (AAC & H.364) are supported during emulation.
- Information on pixel density helps users optimize content for devices with different pixel densities.
- Support for the latest version of WebKit:
  - Better simulation for smartphones and tablets.
  - Access to WebKit default style sheet, and option to view the source code. For more information, see "Use the Apple WebKit browser layout for rendering" on page 40.
  - Font mapping. For more information, see "Change the font mapping" on page 10.
  - Emulate native Flash APIs when testing mobile web content.
  - Multi-touch and accelerometer support. For example, you can test jQTouch based applications, and SWF files within web pages.

Enhancements to HTML debugging

- Options to enable/disable information about HTTP headers and data. For more information, see "The Output panel (Flash and web)" on page 38.
- Options to enable/disable JavaScript and CSS. For more information, see "Use the Apple WebKit browser layout for rendering" on page 40.

- Information on network status messages.
- Controls that help zoom the page being previewed with an option to zoom only the text. For more information, see "Use the Apple WebKit browser layout for rendering" on page 40.
- Rotating the device helps test page behavior on devices that change page orientation depending on how the device is held. For more information, see "Rotate the display" on page 34.
- Use real device size previews to zoom the device profile to a size that approximately matches the dimensions of the actual physical device. For more information, see "Zoom in or out" on page 34.

Cross product mobile content emulation

Increased integration across creative suite applications enables cross product mobile content emulation.

Redraw support for SWF movies

Redraw regions allow you to see areas of your movie rendered and processed by Flash Player. For more information, see "Display redraw regions" on page 44.

What's new (CS5)

To see a video tutorial introducing Adobe® Device Central CS5, visit the Adobe website at www.adobe.com/go/lrvid5503_ws_en.

Adobe Fireworks® support You can design in Adobe® Fireworks® for selected devices and view in Device Central. While working in Fireworks, you can switch back and forth to Device Central to test the content. Include device-specific information in your design workflows to save time. See "Create mobile content with Adobe Device Central and Adobe Fireworks" on page 29 for more information.

Adobe Captivate® support You can select devices and test content for Adobe® Captivate®. You can find the best preset screen sizes for targeted devices or select a custom size. You can also create mobile project templates using Adobe Captivate. While working in Adobe Captivate, you can switch back and forth to Device Central to test the content. See "Create mobile content with Adobe Device Central and Adobe Captivate" on page 28 for more information.

Advanced device input emulation Device Central supports advanced input capabilities, such as geolocation, accelerometer, and multitouch emulation. Device Central also supports the development workflow with interactive viewing and testing of applications that support these features. You can test and emulate the physical inputs of an application. For example, you can simulate the steering movement of an aircraft in the 3D space of a flight simulator game designed for devices. See "The testing panels" on page 36 for more information.

HTML rendering Incorporate the browser engine, Apple® WebKit, to display mobile web pages. You can test SWF content embedded in an HTML file for mobile devices. Adobe® Dreamweaver® users can test and debug HTML content for mobile and other devices directly in Device Central. You can also inspect the Adobe® Flash® memory consumption and adapt the network performance to the mobile content. See "The Web Rendering panel (web and Flash embedded in HTML)" on page 40 for more information.

ActionScript® 3.0 debugging You can debug an Adobe® ActionScript® 3.0 content file created for the latest version of Flash Player. For example, Adobe® Flash® Player 10.1 and Adobe® Flash® Lite™ 4.0. Use Device Central with Flash Professional CS5 to add ActionScript 3.0 code and set breakpoints. Simulate content in Device Central to view the debug notifications. The debugging message enables you to optimize your content for targeted devices. See "Debug an ActionScript 3.0 file" on page 52 for more information.

Support for latest version of Flash® Preview and test content for the latest versions of Flash Player optimized for mobile devices. Use Flash Professional CS5 to create content for desktop and mobile devices. You can test the performance and memory consumption of the device. You can also change the device network settings, such as date, time, battery level, and signal strength to simulate corresponding content reactions. The ActionScript 3.0 debugging message enables you to optimize your content for targeted devices. See "Test content in Adobe Device Central" on page 33 for more information.

Support for Flash® Lite™ for the digital home You can create content and test for Adobe® Flash® Lite™ for the digital home devices. You can select Flash Lite for the digital home device profiles from the Device Library and simulate the remote control key entries. The Emulate workspace provides different keypad options, such as remote control, QWERTY, numeric keypad, and game controller. The keypad options help to simulate input controls of the device. See "The Key Pad panel (Flash, bitmap, web, and video)" on page 41 for more information.

Note: *You can't simulate the performance of the content for Flash Lite for the digital home devices in Device Central. Use Device Central only for the initial tests of the remote control keypad and layout of the SWF content. Use real devices for the final testing of the remote control keypad and the performance of the application content.*

Workspace area Device Central provides a new workspace area, enabling you to browse, create, and emulate content. Use the Browse workspace to search devices from the Device Library. Use the Create workspace to create new content for targeted devices. Use the Emulate workspace to preview and test content for targeted devices. You can switch between different workspace modes. The Emulate workspace loads different workspace areas, based on the content you are testing. For example, when you emulate a SWF file for testing, you see the Emulate Flash workspace area. You can also use the Test menu to perform basic tasks of the Emulate workspace associated with the content and scripts for devices. See "Workspace overview" on page 4 for more information.

Sharing device profiles Create and share device profiles with the Adobe Device Central community using your Adobe® ID. You can see the icon beside a shared profile in the Device Library. See "Share a device profile" on page 15 for more information.

Profile commenting and rating Post ratings and comments for a device profile, using your Adobe® ID. All Adobe Device Central community users can view each others' ratings and comments. See "Post comments and rating" on page 15 for more information.

Device Library The Device Library contains more than 600 supported devices. You can browse, search, and sort device profiles. You can directly compare multiple device profiles along several dimensions. You can also create custom groups of devices for quick project access. See "About Device Library" on page 16 for more information.

Device profile filters The Filter option enables you to filter your choice of devices from the Device Library. You can sort devices based on criteria, such as operating system, manufacturer's name, or support for Flash® or mobile video, and so on. See "Creating custom filters" on page 16 for more information.

Network connections Device Central recognizes and supports the system proxy settings specified in the operating system for all tasks related to the Internet. You can view and change the proxy settings of your system, using the Network option. See "Network preferences" on page 10 for more information.

Chapter 2: Introducing Adobe Device Central

Adobe® Device Central CS5 offers a way for developers of mobile content to test their work on a wide variety of mobile devices. Device Central works with content developed on different Adobe products as well.

About Adobe Device Central

Device Central provides mobile content developers and testers with a way to create and preview mobile content and desktop content, on a large variety of devices. Device Central displays realistic skins of a wide range of mobile and desktop devices that show:

- What the devices look like
- How your content appears on those devices

You can interact with emulated devices more as you do with actual devices, including testing performance levels, network states, memory, battery power levels, and types of lighting.

Device Central provides a library of devices to choose from. Each device has a profile that contains information about the device, including the media and content types it supports. You can search through available devices, compare multiple devices, and create custom groups of the devices you use most.

Device Central supports different media formats, including Adobe Flash®, Adobe Flash® Lite™, bitmap, video, and web formats. You can use different media formats to create different types of content, such as mobile applications, advertising banners, mobile videos, screen savers, or wallpapers.

More Help topics

"About content types" on page 37

"Working with device profiles" on page 12

"Testing with the Emulate workspace" on page 33

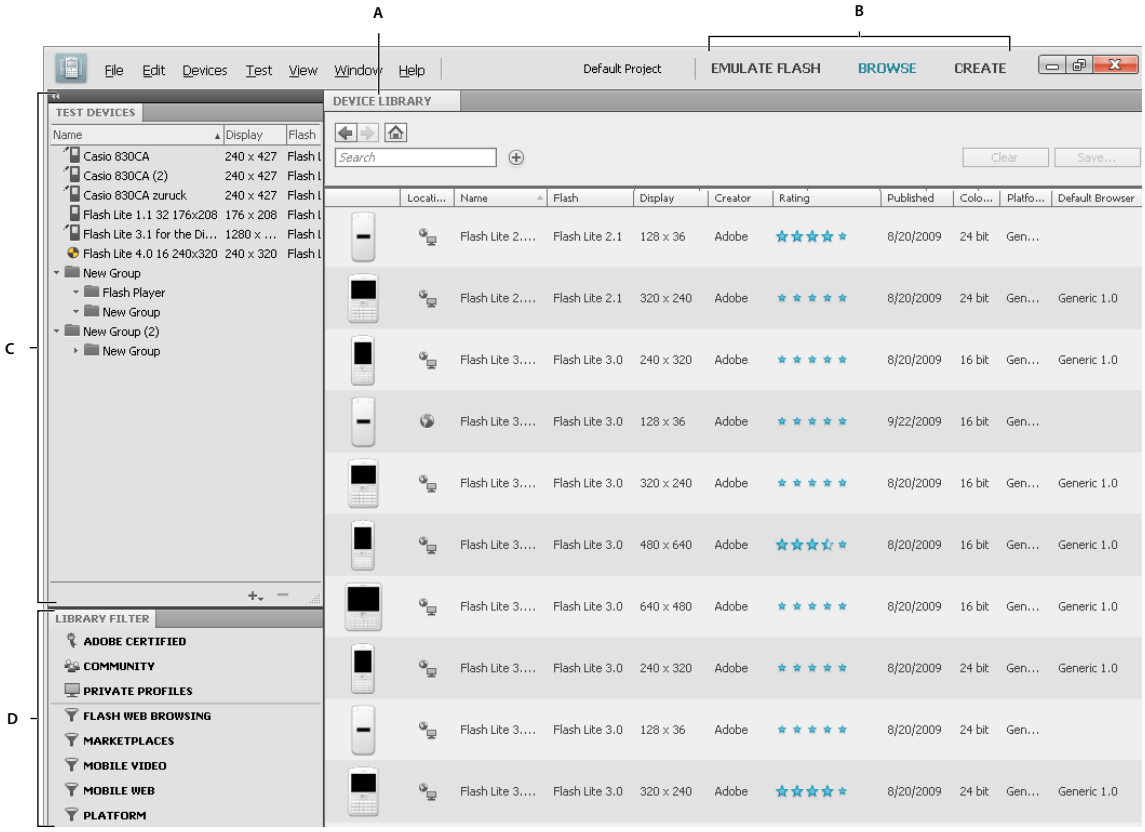
Workspace overview

Use the workspace area to view, search, and create device profiles and test content for devices. To display a workspace area, select one of the workspaces from the application bar. For example, to display the Device Library panel and Library Filter panel, select the Browse workspace. Select the Emulate workspace to view information on emulation-related tasks and files. You can toggle between different workspace modes from the application bar or from the Windows menu.

Browse workspace

Use the Device Library interface and the Library Filter panel of the Browse workspace to view, search, and download device profiles. The Device Library panel has search parameters to filter the devices in the Device Library.

When you select a single device to view the profile details, the first line lists the media types that the device supports. You can view profile details, such as Flash, bitmap, video, and web, in addition to general information. To display information about the content types that are supported in Device Central, click a media type. For example, if you click the media type Bitmap, the content types Fullscreen, Screen Saver, and Wallpaper display.



Browse workspace
***A.** Device Library **B.** Workspace tabs **C.** Add devices from the Device Library to the Test Devices panel **D.** Use Library Filter to filter devices*

You can change the order in which multiple devices display when viewing profile details in the multiple view panel. You can drag any device from the Device Library panel to a group in the Test Devices panel.

Test Devices panel You can create custom device groups and drag device profiles from the Device Library panel into the Test Devices panel. To share device groups among team members, import and export device references.

Device Library panel You can view all the devices that are available for download to the Test Devices panel (in the Device Central's Default project) or a Custom project. The Device Library displays detailed information on the devices.

***Note:** The same information is displayed, whether you use the single view or the multiple view.*

To access the Device Library, click the Browse workspace. The icon in the Device Library changes from to when you download a device from the Device Library to the Test Devices panel.

Online Device Library To automatically connect to the online Device Library at launch, select On Launch, Automatically Connect To Online Library under the Preferences menu. You can post your custom device profiles, and rate and comment on device profiles on the online Device Library. Select Refresh Online Library from the Devices options menu to refresh the online Device Library. You can compare a device in your Test Devices panel with the updated version of the device in the online Device Library.

Library Filter panel In the Browse workspace, use the Library Filter panel to filter your devices in the Device Library. However, you can't change or delete any Adobe-specific filters. For example, you can't delete the Community filter. When you select a filter, the Device Library panel displays all the devices that match the filter selected in the Library Filter panel. You can also create custom filters; such filters are listed below the divider line in the filter panel. You can add or delete the custom filters.

Create workspace

You can create new files and projects in Device Central, using the Create workspace. Use the New Document interface for creating a mobile document in Adobe Flash®, Adobe Photoshop®, Adobe Illustrator®, Adobe Captivate®, Adobe After Effects®, or Adobe Fireworks®. You can also create a project file using the New Document In option under the File menu. For example, for After Effects®, the tab is called New Composition. In Flash, the command is File > New > Flash Lite 4. Alternatively, you can select File > New Document In > Flash, to create a FLA file and display the Create workspace. The options that appear in the Create workspace depend on the type of document you are creating. For example, when you create a Flash document, you select a Flash Player version, an ActionScript® version, and a content type.

Emulate workspace

You can use the Emulate workspace to simulate content on mobile devices. You can test various media types, such as Flash, bitmap, video, and web. The Emulate workspace testing panels change, based on the content selected for emulation. For example, if you select a SWF file for emulation, the Emulate Flash workspace displays the testing panel relevant to Flash.

To test rich media content files on a device, ensure that the device supports the Adobe® Flash® Lite® version and content type that the file uses. For example, you have a SWF file created in Flash that requires Flash Lite 4. If you try to test the file in the Emulate workspace on a device that supports only Flash Lite 1.1, the file doesn't appear. The Emulate Error workspace is loaded with an error message about the player version.

You can emulate only one device at a time. To select a different device, double-click a device name in the Test Devices panel.

Note: *Testing with the Emulate workspace cuts the cost and time of testing on mobile and desktop devices, but doesn't replace testing on actual devices. Use Device Central for the initial tests as you develop content, and then use real devices for the final testing.*

Emulate workspace
A. *Emulate workspace changes with content type* ***B.*** *Use Testing panels to simulate and performance-tune content* ***C.*** *Select devices from the Test Devices panel* ***D.*** *Test menu tools*

Test menu The Test menu enables you to directly perform basic tasks related to emulation. You can take snapshots, test scripts, record scripts, play content, and record video of the test content. You can view and use the options under the Test menu only in the Emulate workspace.

Testing panels The testing panels enable you to test and performance-tune content in the Emulate workspace. The panels vary, depending on the type of file you are testing.

More Help topics

"Managing device profiles" on page 12

"Testing with the Emulate workspace" on page 33

"Screen modes" on page 7

Screen modes

You can change the screen view mode of the application using the View menu. Select View > Presentation Mode. When you select the Presentation Mode, the application window hides the Test Devices panel, and the entire screen represents the task you have selected.

Keyboard shortcuts

The following commands have keyboard shortcuts:

Commands	**Windows key**	**Mac OS X key**
Device Central > Preferences	Ctrl + K	Cmd + K
File > Open File	Ctrl + O	Cmd + O
File > New Project	Ctrl + N	Cmd + N
File > Open	Ctrl + O	Cmd + O
File > Open URL	Ctrl + Shift + O	Cmd + Shift + O
File > Jump To Flash	Ctrl + Alt + O	Cmd + Alt + O
File > Save Project As	Ctrl +Alt + S	Cmd + Alt + S
File > Quit (Windows) Device Central > Quit Device Central (Mac OS)	Ctrl + Q	Cmd + Q
Edit > Undo	Ctrl + Z	Cmd + Z
Edit > Redo	Ctrl + Shift + Z	Cmd + Shift + Z
Edit > Cut	Ctrl + X	Cmd + X
Edit > Copy	Ctrl + C	Cmd + C
Edit > Paste	Ctrl + V	Cmd + V
Edit > Select All	Ctrl + A	Cmd + A
Edit > Preferences (Windows) Device Central > Preferences (Mac OS)	Ctrl + K	Cmd + K
Devices > Search Device Library	Ctrl + F	Cmd + F
Test > Take snapshot	Ctrl + R	Ctrl + R
View > Zoom In	Ctrl + +	Cmd + +
View > Zoom Out	Ctrl + -	Cmd + -
View > Magnification > 400%	Ctrl + 4	Cmd + 4
View > Magnification > 300%	Ctrl + 3	Cmd + 3
View > Magnification > 200%	Ctrl + 2	Cmd + 2
View > Magnification > 100%	Ctrl + 1	Cmd + 1
View > Magnification > Fit Device Into Window	Ctrl + 0	Cmd + 0
View > Detached View	Ctrl + Shift + D	Cmd + Shift + D
View > Presentation	Ctrl + Shift + P	Shift + Cmd + P
Window > Log	Ctrl + L	Cmd + L
Window > Show/Hide Emulate Window	Ctrl + M	Cmd + M
Accelerometer panel > Shake In X-Direction	Ctrl + X	Cmd + X

Commands	Windows key	Mac OS X key
Accelerometer panel > Shake In Y-Direction	Ctrl + Y	Cmd + Y
Accelerometer panel > Shake In Z-Direction	Ctrl + Z	Cmd + Z
Help > Device Central Help	F1	Cmd + ?

To open a device group press the Alt + Right Arrow keys, and to close the group press the Alt + Left Arrow keys.

Device Central preferences

You can access Preferences from:

- Windows®: Select Edit > Preferences
- Mac OS®: Select Device Central > Preferences

Automatically connect to online library on launch

To have Device Central automatically connect to the online Device Library, go to General Preferences.

Change the default phone ID

The default phone ID is the International Mobile Equipment Identity (IMEI) number of the device that Device Central is emulating. Each Global System for Mobile Communications (GSM) and Universal Mobile Telecommunications System (UMTS) mobile device has a unique IMEI number. The 15-digit number identifies the origin, model, and serial number of the mobile device.

Specifying a default phone ID instructs Device Central to use that number as the default IMEI for any device tested.

1 Select Edit (Windows) or Device Central (Mac OS) and then Preferences and General.

2 Enter a new number in the Default Phone ID text field.

Change undo levels

Use the Undo Levels option to change the number of times you can revert to a previous state. For example, the default setting of 20 enables you to revert through your last 20 actions.

1 After accessing Preferences, select General from the list.

2 Enter a new number in the Undo Levels text field.

Change the application language

Depending on the language packs installed, you can change the language for Device Central. You can change to British or American English, French, German, Japanese, Spanish, Italian, Dutch, Swedish, Korean, Chinese Traditional, Chinese Simplified, Czech, Danish, Polish, Portuguese, Russian, or Turkish. After you restart Device Central, the user interface displays text in the selected language.

1 Access Preferences > General.

2 Select a language from the Application Language menu.

3 Restart the application.

Change the font mapping

During emulation, Adobe Device Central maps the fonts specified in the application package or web page to the fonts available on your computer or mobile device. If the specified fonts are not available, Adobe Device Central uses the font mapping preferences to display the application or web page.

On an actual mobile device, the native font of the device operating system is used to render the SWF content.

Note: *The Web options are available in CS5.5.*

1 After accessing Preferences, select Font Mapping from the list.

2 Select a language from the Language menu.

3 Select the default font for font faces using the options.

Change log and output preferences

The Log and Output preferences include several optional settings. By default, the snapshot pool size is 500 MB. When you quit Device Central, snapshots are removed from the log window.

1 For Max. Pool Size, enter a value.

The minimum is 5 MB. If 90% of the space is filled, a low disk space alert is displayed in the log window.

2 Click Clear Pool Now.

3 Enter a value for the Maximum Number Of Snapshots Per Session.

4 Select Automatically Clear Flash Output Window When Reloading SWF.

The images stored during a previous session are not affected.

Script editor

In the Script Editor section, you can change the settings for the script editor. You can change the font style, colors, and other aspects of the script editor appearance.

In the Code Behavior section, you can change the settings for the script editor behavior. You can change the Enable Code Completion, Balance While Typing, and Enable Dragging Of Selected Text settings.

More Help topics

"The Automated Testing panel" on page 22

Network preferences

In the Network section, you can view or change the proxy server settings of your system and the Internet. You can clear the cache and set the user agent information for communicating with the Internet. User agent is used only when you load a web page from the Internet.

Note: *Device Central supports only system-wide proxy settings. The user agent information is used when the device profile user agent information isn't specified.*

1 Access Preferences > Network. Click Open Network Preferences, and select your network preferences.

2 To clear previous cache, select Online Cache or Local Cache, and click Clear Now.

3 Change the user agent information if you don't want the default user agent information.

More Help topics

"Test content in Adobe Device Central" on page 33

Chapter 3: Managing device profiles

Adobe® Device Central CS5 provides access to a large online library of mobile devices, including separate profiles for each device. The profiles contain detailed information about the device that is helpful when creating mobile content.

Working with device profiles

About device profiles

In Device Central, you have access to a large online library of mobile devices. From the Device Library, search and download the devices of your preference to the Test Devices panel. In the Default Project, the Test Devices panel contains only preinstalled generic Flash® Lite® devices, until you download devices from the Device Library.

Each device profile contains technical details about the device, and information about the media and content types it supports. Filter your devices based on the filters in the Library Filter panel. You can view individual or multiple device profiles at the same time. View multiple profiles in a table to compare several target devices. For example, if you are developing rich media content, the comparison can help you determine the best addressable screen size and common FSCommands.

More Help topics

"Export and import device profiles" on page 13

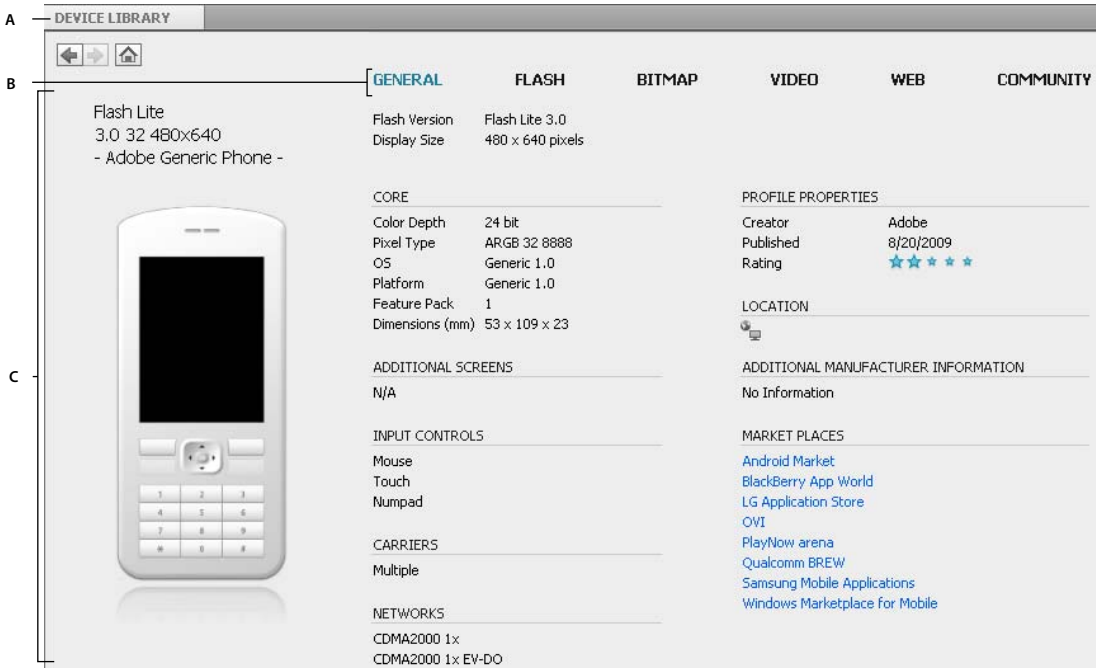
"Search for device profiles" on page 13

"Compare device profiles" on page 14

"Workspace overview" on page 4

View device profiles

1. Select Browse workspace. Select devices from the Test Devices panel or from the Device Library panel to view the device profiles.
2. In the Device Library panel, select a device or devices, and click View Details.



Viewing a device profile
***A.** Device Library **B.** Media types **C.** Details about selected device*

Export and import device profiles

1 Select the device profiles from the Test Devices panel.

***Note:** You can export only those device profiles that are loaded on your local hard drive. Download the device profiles from the Device Library to the Test Devices panel, to export them.*

2 Select File > Export > Device Profile Package.

3 Type a name for the Package Title, and add comments to help identify the package.

4 Click Export, and specify a name and location for the exported package.

You can also import device profiles with the File > Import Device Profile Package option.

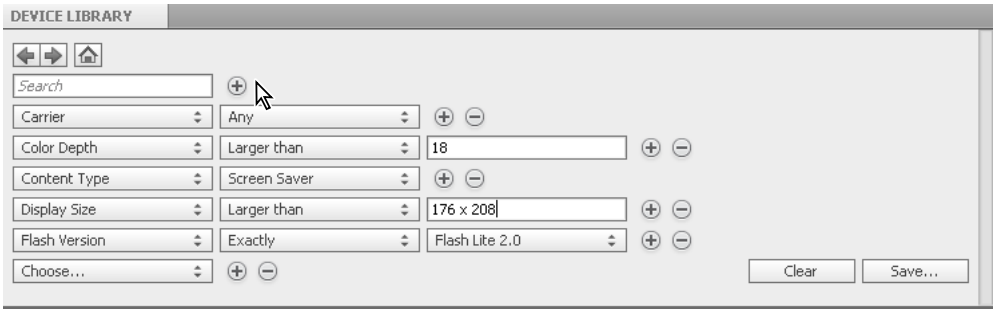
Search for device profiles

The Device Central search feature enables a quick search for devices in the Device Library panel. You can search by criteria such as the device name, manufacturer's name, screen size, and so on.

The search feature is dynamic—the list of matching devices is automatically updated as you enter the criteria, which makes the search more specialized.

1 Select Browse > Device > Search Device Library.

2 In the Search text field, enter your search criteria.



Use search criteria to find a specific device or group of devices.

3 Click the Plus icon ⊕ to add search criteria. Click the Minus icon ⊖ to remove criteria.

Note: *The search criteria you define remain until you perform a new search. Click the Browse workspace to see the criteria that generated the current list of devices.*

You can save your search criteria as a filter or add the detected devices in the Test Devices panel.

Compare device profiles

Compare device profiles, to see which profile is best suited for your project. You can compare multiple device profiles, or a device profile with its online update.

Compare devices

1 Select Browse > Device Library.

2 Select the devices you want to compare, and click View Details.

3 Select an option from the Show All Parameters drop-down list.

You can expand and collapse the information panels according to your requirement.

Compare a device with its online version

If an online update is available for your local device, the Outdate icon is displayed next to the device in the Test Devices panel. A tool tip is displayed when you hover your mouse over the icon. In the Device Library panel, the icon next to the device indicates that the device is on your local hard drive.

Note: *You can compare an outdated device profile on your local hard drive with its online device version.*

1 Select the Browse view.

2 Select an outdated device profile from the Test Devices panel.

3 Select Device > Compare With Online Version.

Download online version of a device

To download the latest version of a device profile, select an outdated device profile from the Test Devices panel. Select Devices > Download Device Profile.

Create a custom device profile

You can create and store device profiles that are not included in the online Device Library. Add and edit device attributes with basic validation to see the behavior of content under different conditions.

1 Select a device profile from the Test Devices panel or the Device Library panel.

2 Select Devices > Create Editable Copy.

3 Enter a unique name for the device in the Device Name. You can add or change the default information in the Create Editable Copy dialog box.

4 Edit the information parameters for the selected device profile.

You can use the Private Profiles filter tool to view the custom-created profiles.

Share a device profile

You can share your custom device profiles with other Device Central users. Device Central shows the profiles that are shared on the online Device Library.

Note: *You must have a valid Adobe ID to share your device profile with other members of Device Central.*

1 Select a custom device profile from the Test Devices panel. Custom devices are indicated with the Custom icon next to the device profiles.

2 Select Devices > Share Device Profile. Enter your Adobe ID credentials, if requested.

The profile is uploaded to the online Device Library and shared with other users of the community. To view the custom profiles shared with other members, use the Shared filter tool.

Withdraw a shared device profile

You can withdraw a shared device profile.

Note: *You can withdraw only those device profiles that you created and shared. The device profile is removed from the Shared Filter and not from the Test Devices panel.*

1 Select a shared device profile.

2 Select Devices > Withdraw Device Profile.

Post comments and rating

You can post comments and rate device profiles in the online Device Library for the benefit of other Device Central users.

1 Select the Browse workspace and select a device profile to post comments and ratings.

2 Select Community from the information header list.

3 Click the Write A Comment icon .

4 Enter a relevant title in the Comment Title field.

5 Enter your comment in the Comment Body field.

6 Select Rate This Profile and select the number of stars you want to award to the profile.

The comment and rating are published, with your name, in the online Device Library.

About Device Library

The Device Library panel lists all the device profiles that are available. The panel also shows all the device references that you have added to the Test Devices panel. You can search for relevant devices and create custom filters to filter devices relevant to your project.

Connect to online Device Library

By default, Device Central connects to the online Device Library every time you launch it. To disconnect from the online Device Library, select Devices > Disconnect Online Library. To connect to the online Device Library, select Devices > Connect Online Library.

To view the entire list of devices on the online Device Library, click the Home icon .

More Help topics

"Automatically connect to online library on launch" on page 9

Download profiles from online Device Library

To use the latest device profiles, add profiles from the online Device Library to the Test Devices panel.

***Note:** To add online device profiles to the Test Devices panel, you must be connected to the online Device Library. In the Device Library panel, online devices have the icon , and local device profiles have the icon next to the devices.*

To add device profiles from the online Device Library to the Test Devices panel, do one of the following:

- Select the devices and drag them to the Test Devices panel.
- Select the device profile and select Devices > Add To Test Devices.

Creating custom filters

You can create custom filters to make your search relevant to your project.

1 Click Browse > Devices > Search Devices Library.

2 Select your search criteria.

3 Give a relevant name to the filter.

The new filter appears in the Library Filter panel.

Managing device groups

Select an individual device

When you select a device in the Device Library, or the Test Devices panel, Device Central displays detailed information about the device. Device Central also determines which sizes to propose for document creation on the Create workspace. Send a file for testing from an application, such as Adobe Flash® or Adobe Photoshop®, or open a file in a mobile format from Device Central. In the Emulate workspace, double-click a device in the Test Devices panel to load the device information and start the content playback.

Note: *The supported mobile formats are: SWF, FLV, JPG, JPEG, PNG, GIF, WBM, MOV, 3GP, 3G2, M4V, MP4, MPG, MPEG, AVI, HTM, HTML, XHTML, CHTML, URL, and WEBLOC.*

You can navigate between applications and Device Central without losing your device selection. Device Central preselects the device of the most recently created file when you export your file for testing. Consider that in Flash, you bypass document creation in Device Central and send a document for testing. Device Central uses stand-alone Flash Player as the default content type and uses the device that was selected in the last emulation session.

More Help topics

"About content types" on page 37

Create a device group

Device Central lets you group device profiles into device groups. These device groups can help you manage the devices. For example, you can create a group based on the devices for a particular project, such as a Flash Lite player and content type combination. Device groups appear in the Test Devices panel.

The content type selected for emulation or document creation filters the devices in the Test Devices panel. Devices that don't support the selected content type are dimmed. In the Browse workspace, all the devices in the Test Devices and Device Library panels are enabled to view profile information.

❖ To create a device group, do one of the following:

- Click the Add icon in the lower-right corner of the Test Devices panel, and select Add New Group.
- In the Test Devices panel, right-click and select Add New Group.

A New group appears. Enter a name for the new device group. If a "New Group" exists, Device Central adds a number to the name (New Group (2), New Group (3), and so on).

Note: *After creating a device group, you can drag the group in or out of other groups in the Test Devices panel.*

Wrap devices into a group

1. Select the devices you want to wrap.
2. Click the Add icon , and select Wrap Into New Group. (Afterwards, the indicator arrow is indented beneath the group icon.)

A new group is created and the selected devices are added to the new group.

Add a device or device group

If you copy a device to a location that already contains the device, Device Central creates a duplicate. The name of the duplicate device has a number in parentheses is added to it.

❖ Do one of the following:

- Drag device or device group from the Device Library panel to the Test Devices panel.
- Right-click a device, and choose Copy. Right-click a device group, and select Paste.

Note: *To copy devices between groups, press Ctrl (Windows) or Option (Mac OS) while dragging. A plus sign (+) next to the pointer indicates copying.*

Export device references

You can export custom device groups, and single or multiple device references to other members of your team. You can save time and ensure that everyone is creating and testing content using the same devices.

Note: *The selected device or device group is exported as references to profiles instead of the device profile.xml files.*

1. In the Test Devices panel, select a device or a device group to export.
2. Select File > Export > Device References.
3. In the Export Device References dialog box, edit the default name (Device Central uses the extension .advs), and browse to a destination location.

Import device references

Importing a device or a device group is useful if you are sharing information with others. If someone has already created a device or a device group, you can import it instead of re-creating the same group on your computer.

Note: *Device Central doesn't import the actual device profiles. Device Central imports only the information about which devices are included in the project group. If you don't have all the device profiles in your Device Library, Device Central displays those profiles as missing. Double-click the missing devices to download them from the online Device Library.*

To import a device reference:

1. Select File > Import > Device References.
2. Navigate to the .advs file, and select the file.

Chapter 4: Mobile projects

In Adobe® Device Central CS5, the application window represents a project file. Mobile projects enable you to manage all the assets of a mobile application from one central location. Projects can be helpful with complex applications that include multiple files, deploy on multiple device types, and require different groups of files for different device types.

Note: *This document doesn't detail all the methods for performing each action. For example, it doesn't describe the procedure for using the File menu to open a project.*

About mobile projects

Device Central defines each mobile project in an XML project document. The saved project document has the suffix `.adcp`.

Device Central projects have the following elements:

Test Devices List of devices, optionally structured into hierarchical device groups.

Files List of content files, such as FLA, PNG, or SWF files, optionally structured into hierarchical groups.

Automated Testing To perform tasks such as record, play, pause, and share test sequences.

Tasks To perform tasks that operate on selected members of the files.

Device Central has the following types of projects:

Default Project Default Project is the initial project of Device Central. To reopen the Default Project, select File > Open Recent > Default Project. Default Project is a fixed entry in the Open Recent menu and appears as the topmost entry in the initial launch of the Device Central application. The Default Project is auto-saved without any extension.

Custom Project In Device Central, you can create custom projects, which are auto-saved with the relevant project extension. To create a custom project, select File > New Project. Enter a relevant project name and save it.

Note: *Device Central mobile projects are different from Adobe Flash® projects or Mobile Application Builder projects.*

Project workflow

Mobile projects are flexible and can accommodate different workflows to meet varying needs.

1. Create device-specific source files in their authoring applications, using the Device Central Create workspace. For example, use the File > New Document In, to create FLA files in Flash.
2. In your authoring tool, convert source format files to distribution format files. For example, compile FLA files to SWF files, save PSD files in PNG format, and save AI files in SVG format.
3. Test individual distribution format files in the Device Central Emulate workspace and correct them as needed.
4. Add the source *and* distribution files to your project. When you double-click a source file in the Automated Testing panel, Device Central opens the corresponding editor.

   Note: *Adobe Captivate users must publish final mobile SWF content in Adobe Captivate. However, you can test Adobe Captivate content in Device Central using temporary SWF files.*
5. In Device Central, create a set of groups, as follows:
   - Create common groups for files that are used in many or all target device types.

- Create device-specific groups for files that are only used in specific devices. The structure can depend on your development standards and distribution methods.

6 Add the files to the groups as needed.

7 Add devices from the Device Library to the Test Devices panel. You can add individual devices or multiple devices and create project-specific device groups.

8 Create device-type-specific tasks for publishing your application.

9 Publish the application to test devices.

10 Run the application on the test devices and make any needed corrections to the application files and tasks.

11 Repeat steps 9 and 10 as needed.

12 Run your tasks to deploy your application, or send it to a client for review.

Managing files

You can manage files by:

- Adding and deleting links to files in the Files list.
- Adding the file that is currently active in the Device Emulate workspace to the Files list.
- Creating groups and adding or removing files in the groups. Groups are useful for organizing related resources, such as the files that are optimized for a particular device type. You can also wrap files or groups into another group.

  1 Right-click (Windows®), or Control-click (Mac OS®) the icon  in the Files list.

  2 In the Choose File dialog, locate and select the correct file.

In most cases, the file management procedures follow standard computer user interface conventions. For example, to add a file to the Files list, click  . Here are some tips on using the interface:

- Right-click or Ctrl-click a Files list entry to display a context menu. This menu includes typical context items, plus an entry for repairing broken file links and showing the source files in Windows Explorer or Finder.
- Double-click an entry in the Files list to open the file in its native application. Double-clicking the entry for windy.fla, for example, opens the file in Flash. Double-clicking a SWF file, however, opens the file in the Device Central Emulate Flash workspace.

The Tasks panel

Tasks form the core of a project. A quick task performs an action on selected files in the Files list. Tasks often provide export services, which send or copy sets of files to specific destinations. Device Central provides the following types of tasks, all of which provide export services:

Task type	Use
Send To Bluetooth Device	Sends project files to an accessible Bluetooth mobile device. You typically use this task type to test your content on the device.
Copy File	Copies project files to a group or volume on your system. Use this type of task if you want to test the content on a non-Bluetooth device, or to distribute project files to different locations. To copy files, connect and mount the device to your computer so that the device shows up as a new volume on your computer. You can then copy the files directly to the device.
Send To FTP Server	Sends files to an FTP server. You can use this type of task to deliver files to a storage server, or to the FTP server of a customer or content aggregator. This type of task is useful in facilitating team collaboration, client review, and distribution.

Task execution types

The Project window can run tasks in the following ways, or execution types:

Quick tasks Simple tasks that you don't repeat on the same set of files or devices, and don't save for later use. Quick tasks always run on the current file selection.

Saved tasks More complex or frequently used tasks, such as tasks that you run repeatedly during development to test files on devices. Saved tasks always run on a predefined and saved set of files.

You don't have to specify the files or destination again. The task uses the latest files, even if the files changed after you defined the task (for example, editing in Flash). Click the icons at the bottom of the Tasks panel to run, edit, create, or delete saved tasks.

Note: *Saved tasks don't save FTP server passwords. However, the task does retain and use the password while the Project window remains open.*

Adobe has made available an SDK that allows developers to create additional types of tasks.

More Help topics

The Adobe Developer Connection Product SDK

Running a quick task

1 Select a file in the Files panel.

2 Click the New Task icon in the Tasks panel, and select an option from the list. Depending on the task type selected, a relevant dialog opens.

3 Change the file destination and the source files as required, before you run the task.

General considerations

Some of the general considerations while working with saved tasks:

- When you create or edit a saved task, the New Task and Edit Task dialogs provide an Add button. When you click Add, the application displays a list of the project resources. You can select multiple items from the list. You can also use the Browse System button at the bottom of the Select File dialog to display the file selection.
- The New Task and Edit Task dialogs have a Show This Dialog Before Running Task option.

  If this option is selected and you run the saved task, the Run Task Dialog displays with source and destination fields. You can use this dialog to change the source and destination specifications before the task runs. When you click Save And Run, Device Central updates the task definition and runs the task.

If Show This Dialog Before Running Task isn't selected, the task runs immediately after you click the New Task icon .

Bluetooth considerations

- When you create a task that sends to a Bluetooth device, the Test Devices list of the Run Task dialog is initially empty. In the Browse workspace, click the Search button to populate the list with the available Bluetooth devices, and select the required device or devices.
- You can select multiple Bluetooth devices as targets for a single task. Select the option for each target device to include in the task. Run the task to send the project files to each selected device.
- You can refresh the list of available devices using the Search button. Refreshing the list clears any device selections.
- When you run an existing Send To Bluetooth task, one or more target devices specified for the task can be unavailable. In this case, the program displays an error message. Reopen the Run Task dialog, and click the Search button to check whether the device remains within range. Reselect the device, or select an alternate device, and click Save And Run to run the task.

  To prevent this problem, click the Search button to refresh the list of devices before you run any Bluetooth task.

The Automated Testing panel

The Automated Testing panel allows you to playback test scripts to automate testing. Test scripts can be recorded in Device Central or written in JavaScript using the Script Editor. Test scripts can be applied to single or multiple devices, allowing you to perform batch testing of your content. A Log window is displayed at the end of each automated test session, that is, after all scripts and devices have been tested. The log file displays snapshots and output from your application.

More Help topics

Adobe Device Central Scripted Testing API Reference

Record a test script

You can record almost any action you normally perform in Device Central. For example, you can navigate through your content using the keypad and change emulation conditions using the testing panels. You can use the Take Snapshot command (Ctrl+R/Command+R) and include the instructions in your scripts. The test script actions are saved to a script file that can be played back later.

Note: *When recording a script, selecting different devices or content types can cause the script to stop recording.*

1. Open a SWF file in Device Central.

   Note: *Make sure that no scripts are selected in the Automated Testing panel.*

2. Click Record.

   Recording begins immediately.

3. Use the Emulate workspace to perform the actions you want to record.
4. Click Stop to finish recording.
5. Select the script from the Automated testing panel and rename it.

Playback test scripts

1 Open a SWF file in Device Central.

2 In the Automated Testing panel, select the script to run or select a group to run multiple test scripts.

Note: *Device Central plays back the scripts in the order they are listed in the group. Each script is played once on each selected device.*

3 In the Test Devices panel, select one or more devices to run the test.

Note: *While the script is running, you can skip a device or cancel the automated test. When the test is completed, the Log window displays the results of the test. If no device is selected and you click Play, the test runs on the currently emulated device.*

Overwrite an existing test script

1 In the Automated Testing panel, select the script to overwrite.

2 Click Record.

3 Click OK in the dialog box to confirm that you want to overwrite the script.

Create a group or a subgroup

1 In the Automated Testing panel, click New Group.

2 Enter a name for the new group.

3 Drag-and-drop the new group to the desired position in the list, including within another group.

About the Log window

The Log window displays the output created during an automated test, along with any snapshots taken during the test. The Log window also displays snapshots that have been created manually. If the Log window doesn't appear automatically at the end of each scripted test session, click Snapshots. Alternatively, you can use Command+L (Mac OS) or Ctrl+L (Windows). Output is displayed for each device, with the latest test or snapshot displayed at the top of the window.

The Log window is cleared automatically when you exit Device Central. To retain a snapshot between sessions, use the Log Window Export Snapshot Log as HTML option.

More Help topics

"Create snapshots of device screen content" on page 35

About the Script Editor

When you record a test script, Device Central creates a script. You can open the script and edit it manually, or you can write a script from scratch without using the recording feature.

The Script Editor displays the script, and it reflects any changes made in the Automated Testing panel. The Actions section of the Script Editor enables you to check scripts for syntax errors, and navigate through a script's functions. The View Options section of the Script Editor allows you to colorize the code, display line numbers, and turn on word wrap.

About test scripts

When you create a script, two empty functions are provided by default: the `init()` function and the `idle()` function. The `init()` function is called once when the script is loaded. The `idle()` function is called as often as possible while the script is running. An additional function, `executeUpdate()`, is generated for you when you record a script. The `executeUpdate()` function is called each time there is an update to the device screen.

Using the `ExecuteJSCommand` command of the `fscommand()` function, you can access the Device Central JavaScript DOM directly from SWF files. For example, the following commands call the `emulator.snapshot()` function and provide access to global script variables, respectively:

```
fscommand("ExecuteJSCommand" "emulator.snapshot();");
fscommand("ExecuteJSCommand", "global_variable = 0;");
```

The elements of the JavaScript API are documented in the *Adobe Device Central Scripted Testing API Reference*.

Create a test script to edit manually

1 In the Automated Testing panel, click the New icon and select New Script.

2 Enter a name for the new script.

Edit a test script

1 In the Automated Testing panel, click the Edit Script icon .

2 Edit the script based on the information in the *Adobe Device Central Scripted Testing API Reference*.

Chapter 5: Create and preview mobile content with other Adobe software

You can use Adobe® Device Central CS5 to create and preview mobile content developed with Adobe® products.

Testing and creating Adobe content with Adobe Device Central

Device Central is an emulator on which you can preview Adobe files meant for display on mobile devices. The Adobe products integrated with Device Central include Adobe Flash®, Adobe Photoshop®, Adobe Illustrator®, Adobe® Premiere® Pro, Adobe After Effects®, Adobe Dreamweaver®, Adobe Captivate®, Adobe Fireworks®, Adobe® InDesign®, and Adobe® Bridge.

Previewing and testing content

Developers and designers can preview how their content looks and behaves in various mobile devices and desktop devices emulated in Device Central. Here are some examples:

- Mock-ups of mobile user interfaces created in Photoshop, or mobile wallpapers created in Illustrator
- Video files created in After Effects or Adobe Premiere Pro
- Mobile versions of web pages created in Dreamweaver
- Mobile versions of projects created in Adobe Captivate
- Design workflow prototypes created in Fireworks

Previewing and testing from one central location

If you use Adobe Bridge, you can preview and test files from different Creative Suite® components in one central location. For example, from Adobe Bridge, you can see how an FLV file, an Illustrator file, and a Photoshop image appear on various mobile devices. You don't have to open Flash, Illustrator, or Photoshop to preview that content in Device Central.

Previewing content from Adobe Bridge is also useful if you are reusing existing content. For example, you can test old wallpaper files on the newest mobile devices. Update the profile list in Device Central and test the files directly from Adobe Bridge.

Note: *Using Device Central with Adobe Bridge isn't supported in Photoshop® Elements 6 for Macintosh®.*

Creating content using Device Central as the starting point

When creating a new mobile document from Flash, Photoshop, Illustrator, After Effects, Adobe Captivate, or Adobe Fireworks, start the creation process from Device Central. Device Central enables you to select a target device from the beginning and understand the addressable size and the display size.

Note: *The content type, paired with the display size of a specific device, determines the addressable area on the screen. The addressable area is the maximum width and height, in pixels, of the content. For some content types, display size is different from addressable size. Content type describes the form in which the content is applied on a device, such as screen saver or wallpaper.*

More Help topics

"About Adobe Device Central" on page 4

Access Adobe applications from Adobe Device Central

1 Start Device Central.

2 Select File > New Document In > Flash, Illustrator, Photoshop, After Effects, Captivate, or Fireworks.

In Device Central, the New Document panel appears with the correct options to create a new mobile document in the selected application. In After Effects, the New Composition panel is displayed.

3 Make any necessary changes, such as selecting a new player version, Adobe® ActionScript® version, or content type.

4 Do one of the following:

- Select Custom Size For All Selected Devices, and add a width and height (in pixels).
- Select devices from the Test Devices panel.

5 If you selected multiple devices, Device Central proposes one or several document sizes, depending on the addressable screen sizes of the devices. You can either:

- Select one of the proposed size presets (and create one document after the other). Each document targets a specific group of devices.
- Create a custom-size document. In this case, determine a good common denominator size.

6 Click Create.

The selected application opens with a new mobile document ready to edit.

Create mobile content with Adobe Device Central and Flash

1 Start Device Central.

2 Select File > New Document In > Flash.

3 In Device Central, select a Player version, ActionScript version, and content type from the respective pop-up menus.

The Test Devices list on the left is updated. Devices that don't support the selected player version, ActionScript version, and content type are dimmed.

4 In the Test Devices list, select target devices or device group.

Device Central lists proposed document sizes, based on the device or devices you selected (if the devices have different display sizes). Based on the design or content you are developing, create a separate mobile document for each display size. Otherwise, you can try to find an appropriate size suitable for all devices. When choosing the latter approach, use the smallest or largest suggested document size as a common denominator. You can even specify a custom size at the bottom of the tab.

5 Click Create.

Flash creates a document with preset publish settings from Device Central, including the correct size for the devices specified.

6 Add content to the new Flash document.

7 To test the document in Flash, select Control > Test Movie > In Device Central.

The document is displayed in the Device Central Emulate Flash workspace. To test the Flash document on another device, double-click the name of the other device in the Test Devices panel.

For tutorials about creating content using Flash and Device Central, see www.adobe.com/go/lrvid5503_ws_en.

Create mobile content with Adobe Device Central and Photoshop

1 Start Photoshop.

2 Select File > New.

3 Click Device Central to close the dialog box in Photoshop and open Device Central.

4 Select a content type.

The Test Devices list on the left is updated and shows the devices that support the content type selected.

5 In the Test Devices list, select target devices or device group.

Device Central lists proposed document sizes based on the device or devices you selected (if the devices have different display sizes). Based on the design or content you are developing, create a separate mobile document for each display size. Otherwise, you can try to find an appropriate size suitable for all devices. When choosing the second approach, use the smallest or largest suggested document size as a common denominator. You can even specify a custom size at the bottom of the tab.

6 Click Create.

A blank PSD file with the specified size opens in Photoshop. The new file has the following parameters set by default:

- Color Mode: RGB/8bit
- Resolution: 72 ppi
- Color Profile: SRGB IEC61966-2.1

7 Fill in the blank PSD file with content.

8 When you finish, select File > Save For Web & Devices.

9 In the Save For Web & Devices dialog box, select the desired format and change other export settings as desired.

10 Click Device Central.

In the Device Central Emulate Image workspace, a temporary file with the export settings specified is displayed. To continue testing, double-click the name of the other device in the Test Devices panel.

11 To edit a file after previewing it in Device Central, return to Photoshop.

12 In the Photoshop Save For Web & Devices dialog box, make changes, such as selecting a different format or quality for export.

13 To test the file again with the new export settings, click Device Central.

14 On attaining the desired results, click Save in the Photoshop Save For Web & Devices dialog box.

Note: *To open Device Central from Photoshop (instead of creating and testing a file), select File > Device Central.*

Create mobile content with Adobe Device Central and Illustrator

1. Start Illustrator.
2. Select File > New.
3. In New Document Profile, select Mobile And Devices.
4. Click Device Central to close the dialog box in Illustrator and open Device Central.
5. Select a content type.

   The devices list on the Test Devices panel is updated and shows the devices that support the content type selected.
6. In Test Devices panel, select devices or a device group.

   Based on the devices selected and content type, Device Central suggests artboard sizes to create. To create one document at a time, select a suggested document size. Otherwise, you can select Custom Size For All Selected Devices, and enter custom values for Width and Height.
7. Click Create.

   A blank AI file of the specified size opens in Illustrator. The new file has the following parameters set by default:

   - Color Mode: RGB
   - Raster Resolution: 72 ppi
8. Fill in the blank AI file with content.
9. When you finish, select File > Save For Web & Devices.
10. In the Save For Web & Devices dialog, select the desired format, and change other export settings as desired.
11. Click Device Central.

    A temporary file with the export settings specified is displayed in the Device Central Emulate Image workspace. To continue testing, double-click the name of a different device in the Test Devices panel.
12. To edit a file after previewing it in Device Central, return to Illustrator.
13. In the Illustrator Save For Web & Devices dialog box, make changes, such as selecting a different format or quality for export.
14. To test the file again with the new export settings, click Device Central.
15. On attaining the desired results, click Save in the Illustrator Save For Web & Devices dialog box.

Note: *To open Device Central from Illustrator (instead of creating and testing a file), select File > Device Central.*

Create mobile content with Adobe Device Central and Adobe Captivate

With Adobe Captivate, you can create stand-alone player content for mobile devices.

1. In Device Central, select New Document In > Captivate.
2. Select the devices you want to target from the Test Devices panel.
3. Select a player version.

The devices available in the panels on the left are updated. Devices that don't support ActionScript 3.0 and later are dimmed in the Test Devices panel.

4 To allow space for the document and the playback controls in screen layouts, select Add Playback Controls And Full Screen.

This setting decreases the height of the Adobe Captivate document to the height of the playbar (20 pixels).

Device Central lists document sizes based on the device or devices you selected (if the devices have different display sizes). Depending on your design or content, you can create a separate mobile document for each display size or use a common size for all the devices. When using a common size, consider the smallest or largest suggested document size as a common denominator.

Note: *The mobile SWF file always uses Set To Fullscreen.*

5 To use a custom size (instead of the matching presets), select Custom Size For All Selected Devices.

6 Click Create.

Adobe Captivate starts up with a blank untitled project that matches the document width and height defined in Adobe Device Central. (If you choose playback controls, the size is decreased.)

7 When you finish, select File > Preview > Device Central.

A temporary file with the export settings specified is displayed in the Device Central Emulate Flash workspace. To continue testing, double-click the name of a different device in the Test Devices panel.

Note: *If you use Flash Lite 4.0 and above, you can preview Adobe Captivate files in Device Central.*

Create mobile content with Adobe Device Central and Adobe Fireworks

With Device Central, you can create image prototype design for mobile devices.

1 In Device Central, select File > New Document In > Fireworks.

2 In the Test Devices panel, select the devices or a device group for which you want to create the Fireworks document.

3 In the New Document tab, select the content type.

4 In the Matching Size Presets panel, select the group for which you want to create a Fireworks document.

Note: *If you want to create a Fireworks document whose size is slightly different from the specified mobile panel size, select Use Custom Size. Modify the values as required.*

5 Click Create.

A blank FW file of the specified size opens in Fireworks. The page name is assigned in the format <page number> <name and version of mobile device> <dimensions>. The new file has the following default parameters:

- Color Mode: RGB
- Raster Resolution: 72 ppi

6 Enter content in the blank FW file.

7 When you finish, select File > Send To Device Central.

In the Device Central Emulate Image workspace, you see a temporary file with the specified export settings. The background color of the page is used as the background color during preview. If the background is set to transparent, then the color of the page is used as the background color during preview. To continue testing, double-click the name of a different device in the Test Devices panel.

Preview a movie on a virtual mobile device using Adobe Premiere Pro

Use Device Central, to preview movies formatted for mobile devices in emulations of those devices. This option is available for most of the H.264 formats listed in the Adobe® Media Encoder.

Note: *On Windows® computers, make sure QuickTime is installed.*

1. Start Adobe Premiere Pro.
2. Open the file to preview.
3. Select the file in the Project area or Timeline.
4. Choose File > Export > Adobe Media Encoder.
5. In the Export Settings area of the Export Settings Window, select H.264 from the Format list.
6. Select a mobile preset (for example, 3GPP).

   Open In Device Central is checked by default.
7. Click OK.
8. Name and save the file.

   The file is rendered.
9. A temporary file is displayed in the Device Central Emulate Video workspace. To continue testing, double-click the name of a different device in the Test Devices panel.

Create After Effects compositions for playback on mobile devices

Screen dimensions and video frame rates vary from one mobile device to another. Device Central contains a database of device profiles that provide information about these characteristics. Using this information, you can create movies that play correctly and look as you intend on the mobile devices that you choose.

1. In Device Central, choose File > New Document In > After Effects.
2. Select devices.
3. In the New Composition tab, select Create Master Composition.
4. Click Create.

   If After Effects is already running, the new compositions are created in the existing project. If After Effects isn't already running, then After Effects starts, and the new compositions are created in a new project.

You do your design, animation, and other work in the Device Master composition. You use the device-specific compositions for previews and to render for final output.

The Device Master composition is nested and centered in each of the device-specific compositions. The frame rate, height, and width settings for the Device Master composition are each set to the maximum of the values for the device-specific compositions. You can resize or move the nested Device Master composition within each device-specific composition—for example, to tweak layout for different frame aspect ratios. A guide layer for each device in the Device Master composition facilitates your design work.

A Preview composition is also created. The Preview composition consists of a grid of device-specific compositions, so that you can preview your master composition in the context of several mobile devices simultaneously.

After you render and export the compositions, you can preview and test the resulting movies on the simulated devices within Device Central.

More Help topics

"Test content in Adobe Device Central" on page 33

Preview mobile content with Adobe Device Central and Dreamweaver

To preview pages created in Dreamweaver on various mobile devices, use Device Central with its built-in browser layout Apple WebKit. Different devices have different browsers installed, but the preview can provide a good impression of how content looks and behaves on a selected device.

1. Start Dreamweaver.
2. Open a file.
3. Do one of the following:
   - Select File > Preview In Browser > Device Central.
   - On the document window toolbar, click and hold Preview/Debug In Browser and select Preview In Device Central.

   The Device Central Emulate Web workspace emulates the file. To continue testing, double-click the name of a different device in the Test Devices panel.

Media query support (CS5.5)

You can preview pages with media queries created in Dreamweaver in Device Central. For information on creating and using media queries, see Dreamweaver Help.

To view media query associated with a page, right-click the page in the device profile, and select View Source.

Double-click a device profile in the Browse view. Click Web to view a list of CSS media query properties associated with the page.

Note: *When testing for devices that change page orientation based on how the device is held, you can preview a page using the rotate options.*

Access Adobe Device Central from Adobe Bridge

To access Device Central from Adobe Bridge, select an individual file. The supported formats are: SWF, JPG, JPEG, PNG, GIF, WBM, MOV, 3GP, M4V, MP4, MPG, MPEG, AVI, HTM, HTML, XHTML, CHTML, URL, and WEBLOC.

1 Start Adobe Bridge.

2 Do one of the following:

- Select a file and choose File > Test In Device Central.
- Right-click a file and select Test In Device Central.

The file is displayed in the Device Central Emulate workspace. To continue testing, double-click the name of a different device in the Test Devices panel.

Note: *To browse device profiles or to create mobile documents, select Tools > Device Central. Device Central opens displaying the Browse workspace.*

Chapter 6: Test content in Adobe Device Central

Adobe® Device Central CS5 provides many options for testing mobile and desktop content, enabling you to emulate a wide variety of mobile devices and scenarios. You can also use easy-to-record scripts to automate testing.

Testing with the Emulate workspace

Emulate workspace basics

Emulate workspace keyboard shortcuts

You can use the mouse to click the Emulate keypad directly, or you can use the following equivalent keyboard shortcuts:

- The arrow keys on the keyboard map to the corresponding navigation keys on the Emulate workspace navigation keypad.
- The Enter, or Return, key corresponds to the Emulate workspace Select key.
- The Page Up and Page Down keys correspond to the Emulate workspace Left and Right soft keys, respectively.
- The number keys on your keyboard map to the corresponding number keys on the Emulate workspace keypad.

Change to a different test device

In the Test Devices panel, double-click a new device. The Active Device icon appears next to the selected new device, which is loaded into the Emulate workspace. The Emulate workspace plays the content from the beginning.

Note: *You can emulate only one device at a time. However, you can still select other files in different workspaces without affecting the device selected for emulation. For example, you can select a different device in the Browse workspace and view its information. You can also select different devices to add to a group on the Test Devices panel, without causing the Emulate workspace to switch to emulating a different device.*

More Help topics

"Working with device profiles" on page 12

Use detached view

The Emulate workspace offers a detached view. Test devices using this view to simultaneously view the content at 100% and use the device keypad without scrolling. For example, with high-definition devices, such as clam-shell style mobile phones.

❖ Do one of the following:

- Click Detached View .
- Select View > Detached.

The detached view appears on the left side of the Emulate workspace. You can use the keypad on the detached view, or on the main view, on the right side of the Emulate workspace.

Rotate the display

You can use this feature to test behavior of the page on devices that change page orientation when the device is rotated.

❖ Click the Rotate Clockwise button or the Rotate Counterclockwise button . Click the button repeatedly to rotate each additional 90°. You can also select the rotate options from View > Rotate 90°.

Zoom in or out

1 Click Zoom In or Zoom Out . Alternatively, you can also access all the zoom options from the View menu.

Or, right-click the Zoom menu icon to display all the Zoom options.

Note: *Click the button repeatedly to zoom in or out in the following increments: 25%, 33%, 50%, 66%, 100%, 200%, 300%, 400%.*

2 (CS5.5) To zoom to the exact dimensions of the device, select View > Magnification > Zoom To Real Device Size.

About visualization using video and snapshots

Device Central offers visualization tools that help you create both still and moving images of mobile content. These images (videos and snapshots) can be used to quickly, visually identify problems, or to show colleagues and clients how your mobile content looks like. You can use the Snapshots to visually compare content on multiple devices, as part of an automated test.

To create videos and snapshots of your content, do one of the following:

- Click Video or Camera at the bottom of the Emulate workspace.
- With the Emulate workspace open, select Test > Take Snapshot, or Test > Start Recording Video Presentation.

Note: *If you are recording a script for automated testing that includes snapshots, using keyboard shortcuts is often the most practical way to do it.*

About recording video

You can create a video recording (QuickTime .mov) of a bitmap, video, or Flash Lite application, showing its different parts and how the user would navigate through them. This allows anyone with a computer to view a demonstration of the application running on a desktop, without needing to have any of the Adobe Creative Suite® applications installed. You can use this functionality to make presentations to clients as well as to record test sequences.

Note: *You must have the QuickTime player installed on your computer to record and playback video.*

Record video

1 In the bottom control bar of the Emulate workspace, click Start Recording Video Presentation . The icon changes to show that recording has begun . Or, select Test > Start Recording Video Presentation.

2 Interact with your content to emulate the behavior you want to record.

3 To stop recording, click Stop Recording Video Presentation . Or, select Test > Stop Recording Video Presentation. The Save Movie dialog appears.

4 Enter a name and path for your file and click Save. By default, the file is saved to the folder that contains the content being emulated.

About snapshots

You can take snapshots of the device screen in Device Central. Snapshots can be viewed in the Log window. They can be used as a visual debugging tool to compare how mobile content appears on a selection of devices. They can also be used as a visualization tool to help you communicate concepts for mobile content to clients. When using them for debugging, you can also include snapshot taking as part of automated testing. The snapshot log created can also be exported as HTML so that you can post it for review on a website.

More Help topics

"About the Log window" on page 23

Create snapshots of device screen content

❖ In the bottom control bar of the Emulate workspace, click the Take Snapshot icon  . Alternatively, choose Test > Take Snapshot.

View snapshots in the log

Every new snapshot-taking session creates a row in the snapshot log. To begin a snapshot-taking session, do one of the following:

- Double-click a device in the Test Devices panel.
- Open a new test file.
- Change the content type to what you want to test.
- Load a new test script.

To view the snapshots in the log, do one of the following:

❖ In the bottom control bar of the Emulate workspace, click the Show Snapshots icon  . Alternatively, choose Window > Log.

Export snapshot log as HTML

You can use exported snapshots to let persons who don't have Device Central review your mobile content concepts. Export the snapshot log as HTML to create a folder with the snapshot in that format, which you can deploy on a website. The folder includes an index.html page, CSS files, and snapshot images.

1 In the Log window, click the Export Snapshot Log as HTML icon  .

2 Specify a name and destination location for a folder that contains the exported index.html, CSS, and images. Then click Save.

Include snapshots in test scripts

Test scripts can take snapshots when they run.

- When you record a script, you can tell the script to take individual snapshots as you use the Emulate workspace. Device Central doesn't actually generate snapshots when you are recording. Instead, when you play the script, the script takes snapshots at the specified points.
- You can edit the script to take snapshots. For example, you can take a snapshot at the beginning of the session or at explicit time intervals. To accomplish this task, add `emulate.snapshot()` functions to the script. For an example, see the One Snapshot Per Second sample script that is provided with Device Central.

When you record a script, click Command + R (Mac OS) or Ctrl + R (Windows) to tell Device Central to take a snapshot. You can also use the Snapshot at the bottom of the Emulate workspace. However, if you are recording using the phone keypad, the keyboard shortcut is more convenient, and doesn't require extra mouse movements.

You can run the script on a single device or on multiple devices. When the script has run, the log window automatically opens and shows all the snapshots that were taken.

The testing panels

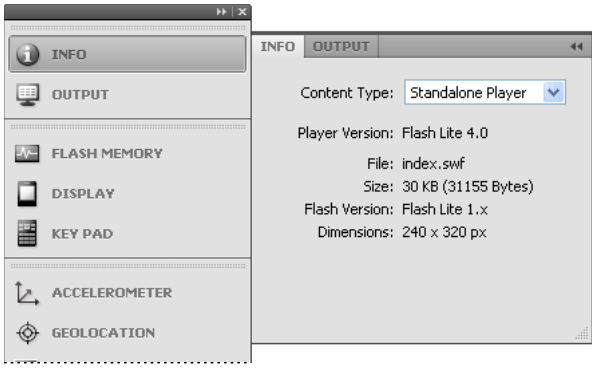
As you test content in the Emulate workspace, you see collapsible panels on the Emulate workspace. The Emulate workspace panels change according to the type of media being tested.

Testing panel basics

About the testing panels

Some collapsible panels for testing and performance tuning appear on the Emulate workspace. Each panel has options for different media types. The panels that appear depend on what media type you are testing:

- Info (Flash, bitmap, video, and web)
- Output (Flash and web)
- Flash Memory (Flash and web)
- Display (Flash, bitmap, video, and web)
- Key Pad (Flash, bitmap, video, and web)
- Scaling (bitmap and video)
- Alignment (bitmap and video)
- Sound (video)
- Accelerometer (Flash)
- Geolocation (Flash)
- Multitouch (Flash)
- Web Rendering (web and Flash embedded in HTML)
- Device Status (Flash)
- Device Performance (Flash)
- Network Status (Flash)
- Network Performance (Flash and web)
- Persistent Storage (Flash)
- Security (Flash Lite 3.0 and above, and web)



Use the panels to change settings while testing emulated content.

About content types

Each device supports one or more content types that the device manufacturer determines. Examples of content types are stand-alone player, wallpaper, browser, and screen saver. In Device Central, the device profile in the Device Library panel shows the content types and the relevant settings that are supported for a device. If you are testing any type of content, use the Info panel to see important details of your file. When planning the content delivery, consider the content types that a device supports.

When you preview and test rich media content in Device Central, the Emulate workspace uses the information provided in the Create workspace to determine the content type.

Note: *Files sent from an application other than Flash and files opened directly from Device Central (even SWF files) don't have information on the content types. The files don't have information on the devices from which they were originally created either.*

The Flash and bitmap options have multiple content types, but web and video each have only one content type. For Flash and bitmap content types, the Emulate workspace:

- Defines the features that are supported on a device.
- Defines the addressable size, which can be different from the display size.

  Note: *The content type, paired with the display size of a specific device, determines the addressable area on the screen. The addressable area is the maximum screen width and height, in pixels, for the content.*

In Device Central, you can select a content type on the Create workspace. Devices that don't support the selected content type (or Player version) are dimmed in the Test Devices panel.

About content types in Flash Lite Each Flash Lite installation supports different content types. For example, some devices use Flash Lite to enable screen savers or animated ring tones. Other devices use Flash Lite to render content that is embedded in mobile web pages. Not all content types support all Flash Lite features.

Each Flash Lite content type, paired with a specific device, defines a specific set of Flash features that are available to your application. For example, a Flash Lite application that is running as a screen saver isn't typically allowed to make network connections or download data.

If you change the content type during emulation, the Emulate workspace reloads the player and plays the application from the beginning.

If content type information isn't available, the Emulate workspace uses the default Standalone Player setting.

About content types in Photoshop, Illustrator, After Effects, Adobe Premiere Pro, and Adobe Fireworks
Device Central supports the fullscreen (full pixel size of screen), wallpaper, and screen saver content types for bitmap. The default content type for bitmap media is full screen.

Note: *The wallpaper and screen saver content types, sometimes, provide a smaller screen size than the fullscreen content type. If you use Photoshop or Illustrator to create mock-ups, prototypes, or assets that are added to applications like Flash, start with a fullscreen document.*

More Help topics

www.adobe.com/go/mobile_supported_devices

The Info panel (Flash, bitmap, video, and web)

When you are testing your content, use the Info panel to view the details of the file and to test different content types that a device supports.

1. To open the Emulate workspace, select File > Open File, navigate to a file, and double-click the file.
2. Click Info.
3. You can view the details of the file and also change the content type to test.

The Output panel (Flash and web)

The Output panel in Device Central and the Output window in Flash track the same messages in parallel. In Flash, the Output window is used in the test mode and shows information that is helpful when troubleshooting a SWF file. In Device Central, the Output panel automatically opens when an error occurs in the SWF file that you are testing. The Output panel in Device Central can show the following types of messages:

- Network Traffic
- Trace
- Information
- Warning
- Errors

You can select or deselect the display of each type of message, except errors. Error messages can't be suppressed.

The displayed network traffic includes the contents of the sent and received headers and data.

Note: *Detailed information about trace, information, warning, and error messages can be found in the Flash Help system.*

1. Open a SWF file in Device Central.
2. Select Window > Output.
3. Do any of the following:
   - To show or hide a particular type of message, click the Pop-up icon at the upper right of the Output panel. Select or deselect the following:
     - Trace
     - Information
     - Warnings
     - (CS5.5) Outgoing HTTP Headers
     - (CS5.5) Incoming HTTP Headers
     - (CS5.5) Outgoing HTTP Data
     - (CS5.5) Incoming HTTP Data

Note: *By default, trace messages appear in the Output panels of Device Central and Flash. If you don't want Device Central to send trace information to Flash, deselect the Trace option. For example, if the data transfer between Device Central and Flash causes performance issues.*

- To change how the long lines of text are displayed, click the Pop-up icon, and select or deselect Word Wrap. (If Word Wrap is selected, long lines of text in the Output panel wrap automatically.)
- To clear the content, click the Pop-up icon, and select Clear.
- To copy text, select the text in the Output panel, click the Pop-up icon, and select Copy.

The Display panel (Flash, bitmap, video, and web)

The Display panel enables you to simulate display conditions that can occur on a mobile device. These include conditions that phone parameters determine, such as the backlight and time-out. These also include environmental conditions like sunlight on the mobile screen.

Display options that are valid for a device until you change them. The Emulate workspace doesn't retain the Backlight, Timeout, and Reflections display settings for individual devices. However, the Gamma and Contrast settings are saved for each individual device. If the device doesn't enable fullscreen mode, the Emulate workspace turns off the Set To Fullscreen option and disables it. The option remains off until you, or the content, explicitly changes the value. The Emulate workspace handles device-dependent Screen Mode similarly, but the content can’t set the mode.

Change display options

1. In the Emulate workspace, select File > Open File, navigate to a file, and double-click the file.
2. Click Display.
3. Change the following options as necessary:

Backlight The Backlight slider enables you to decrease the brightness of the backlight as it would normally do when going into sleep mode. Some mobile device users also purposely lower their backlight brightness to save battery power. When designing mobile content, check if the content is visible with low backlight. (If you change the backlight settings, the settings stay in place as you open different devices for testing on the Emulate workspace.)

Note: *If the Timeout function is enabled, the Backlight slider is disabled. To enable the Backlight slider, turn off the Timeout option.*

Timeout Enables you to automatically test the timeout function. By default, this option is deselected. Selecting this option enables the Backlight Timeout function. In the text fields, set the time, in seconds, for the backlight to time out. The default setting is 4 seconds. Like on the actual device, after the backlight goes out because of inactivity, it turns on again as soon as activity resumes. To ignore any timeout settings while you test, deselect the option again.

Reflections Enables you to simulate different environmental conditions in which to test the visual appearance of your content.

Gamma Enables you to change the display gamma to test the visual appearance of the contents with different gamma conditions. Defaults to 0 with a range of 100 to -100.

Contrast Enables you to change the display contrast to test the visual appearance of the contents under different contrast conditions. Defaults to 0 with a range of 100 to -100.

Screen Mode (Flash Only) Enables you to change the display to Portrait, Landscape, Portrait +/- 90°, or Landscape +/- 90°, where + is clockwise and - is counterclockwise. Available only if the device being emulated supports multiple screen modes.

Set To Fullscreen (Flash Only) Enables you to specify whether to set the display to Fullscreen. The default setting depends on the device profile. Available only if the device being emulated supports fullscreen mode. The `fullScreen` FSCommand2 command can set this option.

The Web Rendering panel (web and Flash embedded in HTML)

To display the Web Rendering panel, emulate an HTML file in Device Central. In the Web Rendering panel, you can enter any website address into the URL field to browse the Internet and preview a real, online website.

Use the Apple WebKit browser layout for rendering

To test Dreamweaver content, use the Web Rendering panel to see how an HTML file appears on a device that supports the Apple WebKit browser layout.

1. In the Emulate workspace, select File > Open File, navigate to an HTML file, and double-click it.
2. Click Web Rendering.
3. The Web Rendering panel provides you with the following options:
   - In URL, the current location of the page is displayed. You can enter a different URL for testing purposes.
   - To navigate browsed pages, use the navigation buttons.
   - To refresh the page being previewed, click the Reload This Page button.
   - (CS5.5) To view the source code, or edit the custom style sheet, click the Options button to the right of the panel. Select View Source, or Edit Custom CSS. Alternatively, you can right-click the page in the device profile, and select View Source.
   - (CS5.5) To preview the page using different magnification values, use the Zoom options. Click Reset zoom to reset the display to 100% magnification. If you want only the magnification of the text changed, select Text Only.
   - (CS5.5)To test the behavior of a page on browsers that do not support JavaScript or Style Sheets, disable the corresponding options.
   - Change the User Agent information, if necessary. A web server evaluates the changed information. Updating the information doesn't affect local files on the system.

     Note: *HTML interpretation can vary among browsers, but the Apple WebKit option can help indicate whether your content design works on a device screen.*

More Help topics

"Preview mobile content with Adobe Device Central and Dreamweaver" on page 31

The Scaling panel (bitmap and video)

The Scaling panel is displayed only when you emulate an image or video file in Device Central. When it displays an image file or movie, the Emulate workspace scales or crops the content to fit on the device, according to the information in the device profile. You can use the options on the Scaling panel to test different scaling behaviors.

Change or scale image or video file

1. To open the Emulate workspace, do one of the following:
   - From Device Central, select File > Open File, navigate to an image file, and double-click the file.
   - In Photoshop or Illustrator, open a file. Select Save For Web And Devices, and click Device Central.

- In Adobe Premiere Pro, open a file. Select File > Export > Adobe Media Encoder. Select H.264 from the Format list, and check Open In Device Central.
- In Adobe Fireworks, open a file. Select File > Preview In Device Central.

2 Click Scaling.

3 To test different scaling behaviors, change the following options as necessary:

Use Original Size Emulates the image in original size.

Stretch To Screen Resizes the content disproportionately to fit the addressable screen size.

Fit Proportionally Resizes the content proportionally to fit the addressable screen. Select one of the buttons: Fit Width And Height, Fit Width, or Fit Height.

Scale To Move the Scale To slider bar to the left (to scale down) or to the right (to scale up).

Fullscreen Mode (For video content only) Emulates switching the device to Fullscreen mode. For video playback, many mobile devices offer a full-screen setting to enable devices with portrait orientation to better display video files with a landscape orientation. Selecting the Fullscreen Mode option rotates the video 90° clockwise or counter-clockwise. (Direction information comes from the device profile and can differ between devices.) To rotate the device, click the Rotate buttons at the bottom of the Emulate workspace.

Note: *In Device Central, the Fullscreen option is available only for devices that support full-screen mode.*

The Alignment panel (bitmap and video)

The Alignment panel is displayed only when you emulate an image or video file in Device Central. Alignment sets the position of an image or video file when it appears on a mobile device. Alignment can be important for an image or video file that doesn't fill the addressable screen size.

Change image or video alignment

1 To open the Emulate workspace, do one of the following:

- From Device Central, select File > Open File, navigate to an image file, and double-click the file.
- In Photoshop or Illustrator, open a file. Select Save For Web And Devices, and click Device Central.
- In Adobe Premiere Pro, open a file. Select File > Export > Adobe Media Encoder. Select H.264 from the Format list, and check Open In Device Central.
- In Adobe Fireworks, open a file. Select File > Preview In Device Central.

2 Click Alignment.

3 Click a horizontal and a vertical alignment button.

Note: *Scaling and alignment changes are saved until a device is reloaded. Whenever you double-click to reload a device, the device returns to the default alignment and scaling settings defined in the profile.*

The Key Pad panel (Flash, bitmap, web, and video)

Use the Key Pad panel to simulate the effects of pressing number keys, arrow keys, and soft keys. Working of the keys in this panel is similar to that of the Emulate workspace and the Detached view. However, sometimes the keypad's appearance differs as it is generic and not device specific.

The Key Pad testing areas are functionally identical. Multiple versions of testing are provided to ensure that you can see both the keys and the behavior of the content.

The Key Pad panel has a pop-up menu that enables you to select different keypad input controls.

Numeric Keypad Use the Numeric Keypad to simulate the performance of the keypad entries for mobile devices.

QWERTY Keyboard Use the QWERTY Keyboard to simulate the performance of a keyboard for desktop applications.

Remote Control Use the Remote Control keypad to simulate the remote control key performance for Flash Lite for the digital home devices and smartphone devices.

Game Controller Use the Game Controller to simulate the performance of the control keys of gaming devices.

The Flash Memory panel (Flash, web)

Use the Flash Memory panel to monitor the application's memory use. You can also adjust various performance parameters in your SWF file and SWF files embedded in HTML, to achieve maximum performance. Static and Dynamic Heap values default to the respective sizes included in the device profiles. For example, some devices don't have dynamic heap at all.

A graph reflects static and dynamic heap sizes with differently colored curves. The rightmost point in the curve reflects the current memory usage (also expressed in KB below the curve). A process bar indicates the currently used memory from the available memory of the device.

You can use the Flash Memory panel to make testing of rich media content more effective. For example, assume that you have a SWF file that is too large to test on a specific device. Expand the static or dynamic memory, to view the file. Return to Flash and optimize the file to reduce the size. Test the file again in Device Central, reducing the static or dynamic memory to see if the file appears accurately. As you test the file, you can watch the graph on the Flash Memory panel to visually identify the large parts of the file. You can also use the Flash Memory panel to lower the Dynamic Heap number to simulate other activities that are taking place on a mobile device.

Note: *The Flash Memory consumption of HTML or images isn't shown. The Memory panel displays only the memory used by SWF files embedded in an HTML file. Flash Player 10.1 and Flash Lite 4.0 use only dynamic memory, and Flash doesn't use static memory on these devices.*

Change the static or dynamic heap size

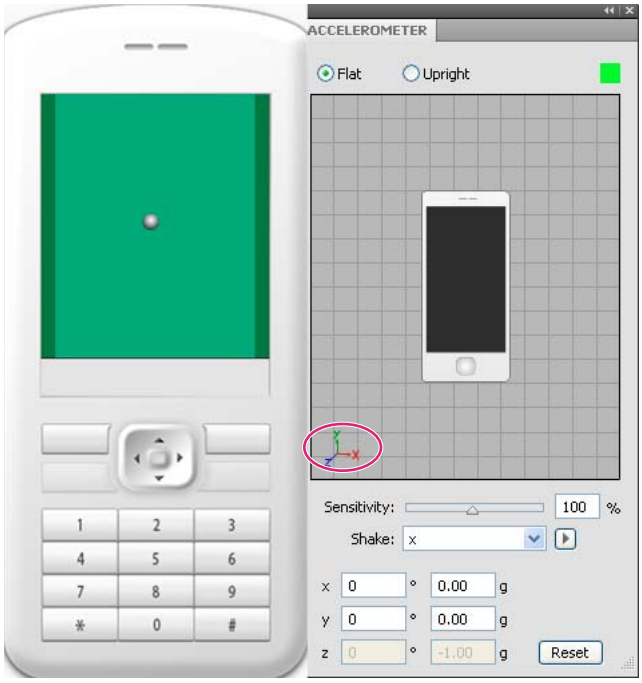
When you change heap values, the changes are application-wide and are not saved on a per-device basis. Resetting to default sizes sets all heap sizes back to their respective defaults, as specified in the profiles.

1. To open the Emulate workspace, do one of the following:
   - From Device Central, select File > Open File, navigate to a SWF file, and double-click the file.
   - In Flash, open a file, and select Control > Test Movie.
2. Click Flash Memory.
3. If testing your file requires a change in the actual heap size available on the device, click Edit.
4. Change the amount in the Static Heap or Dynamic Heap boxes.

   The new amounts appear on the panel in red, indicating that they are customized and no longer the default amounts for the selected device. To return to the default, accurate heap sizes for the selected device, click Reset. Both heap sizes are reset to the default values. To reset a single heap size, click Edit > Reset, beside the respective heap size field.

The Accelerometer panel (Flash)

Certain media applications use the Accelerometer class to get information from a native device accelerometer sensor. Select the Accelerometer panel to simulate such rich media applications. For example, you can test a flight simulator game that uses the orientation of the host device to steer an aircraft in 3D space.



Use the Accelerometer panel to simulate accelerometer class applications

The Accelerometer panel is enabled for SWF files with ActionScript 2.0 (Flash Lite 4) and ActionScript 3.0 (Flash Lite 4 and Flash Player 10.1) devices only.

1 To open the Emulate workspace, do one of the following:

- From Device Central, select File > Open File, navigate to a SWF file, and double-click the file.
- In Flash, open a file and select Control > Test Movie.

2 Click Accelerometer.

3 To test different rotation effects, select from the following options:

Flat Select the Flat option to view the movement of the accelerometer sensors in the horizontal direction. In the Accelerometer panel, select the Three-Dimensional icon and rotate the icon around the x-axis and y-axis. You can view the effect in the Emulate workspace.

Upright Select the Upright option to view the movement of the accelerometer sensors in the vertical direction. In the Accelerometer panel, select the Three-Dimensional icon and rotate the icon around the x-axis and y-axis. You can view the effect in the Emulate workspace. If you hover around the edges of the device model, the cursor changes to the rotate mode. If you hover at the center of the device model, you can rotate the device around the x-axis.

4 To test different sensitivity and shaking sensors of the device, select from the following options:

Sensitivity Select the Sensitivity slider to set the sensitivity percentage of the device. Alternatively, you can enter the value in the Sensitivity field.

Shake Select the Shake direction of the device to test the effect of shaking the sensors of the device in different directions. You can use the gravity axis points to shake the device in the forward-backward, left-right, and upward-downward direction. The sensitivity and shake sensors are useful in devices that support shake-detection applications. Select an axis point and click Play.

Alternatively, you can use the free form shake option. Press SHIFT+ left-click and hover on the device model.

Display redraw regions

Redraw regions allow you to see areas of your movie that are rendered and processed by the Flash Player.

❖ Right-click the file being previewed, and select Show Redraw Regions.

The Geolocation panel (Flash)

The Geolocation panel enables you to test media applications that use the Geolocation class. When you change the values in the panel, the updates for the Geolocation are received in ActionScript.

1 To open the Emulate workspace, do one of the following:

- From Device Central, select File > Open File, navigate to a FLA file, and double-click the file.
- In Flash, open a file and select Control > Test Movie.

2 Click Geolocation.

3 Change the following options, as necessary:

Latitude Latitude value for north or south of the equator angular distance.

Longitude Longitude value for east or west of the prime meridian angular distance.

Altitude Altitude value for the distance measured above sea level.

H-Accuracy Horizontal accuracy of the position.

V-Accuracy Vertical accuracy of the position.

Heading Direction of movement with reference to true north.

Velocity Speed of the movement.

Send To Device Click to send the Geolocation parameters to the Flash Player for emulation.

Load GPX Enables you to import a GPX (GPS Exchange Format) file to emulate GPS (Global Positioning System).

The Geolocation panel enables you to emulate trackpoints, routepoints, or wavepoints included in a GPX file and to navigate to specific points. You can specify the number of "Points Per Minute" for emulation. As an alternative, use Scale Time To to set the duration for the playback of a GPX file. This feature is useful for the emulation of long GPX files.

The Multitouch panel (Flash)

The Multitouch panel enables you to test media applications that use multiouch- class applications. You can select multitouch devices from Device Central and test the multitouch sensors of an application in the Emulate workspace.

Note: *You can test applications with Flash Lite 4.0 and above in the Multitouch panel.*

1 To open the Emulate workspace, do one of the following:

- From Device Central, select File > Open File, navigate to a SWF file, and double-click the file.
- In Flash, open a file, and select Control > Test Movie.

2 Click Multitouch.

3 Change the required options.

You can control the individual touch points with the mouse. If you click and hold the mouse, the touch points are set and can be moved for testing.

Note: *You can emulate up to two touch points. When you click the third time, the new touch point replaces the first touch point.*

Emulating gestures

Gestures combine multiple touch events into a single event. For example, the rotate gesture helps you rotate objects onscreen by moving your two fingers in a circular motion on a touchpad or device.

Gestures are supported on devices supporting multi-touch screens running Flash Player 10.1 and later, Flash Lite 4, or Adobe AIR 2 and later. They are also supported on iPhone applications created using Flash.

To emulate gestures supported by ActionScript 3.0 GestureEvent class in Device Central, press additional keys when using a mouse for interaction.

For a video demonstration on using gestures in applications, see the Adobe TV video tutorial.

Emulate rotate and pan gestures

1 Open the SWF file that supports gestures.

2 Press the Alt key.

3 Click on the movie clip to create the first touchpoint.

4 Keeping the Alt key pressed, click at a different location to create the second touchpoint.

5 Do one of the following:

- Drag the second touchpoint around the first touchpoint.
- To move both the touchpoints simultaneously, press the Shift and Alt keys and drag.

Emulate other common gestures

Gesture	Keyboard and mouse action
Swipe	Press Alt, click, and move the mouse while keeping the mouse pressed.
Zoom	Press Alt, click, click again, and move the mouse while keeping the mouse pressed.
Two finger tap	Alt+ctrl+click
Press and tap	Alt+click+ctrl+click

Device Central also supports native gestures if they are supported by your computer's hardware. In this case you don't need emulation. The Flash and AIR sections of a device profile list the available gestures supported by a real device.

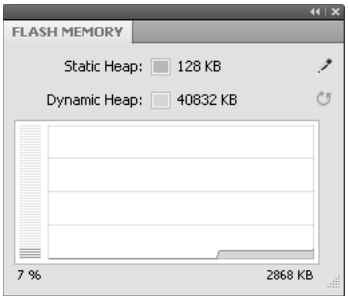
The Device Performance panel (Flash)

To tune your content file for maximum performance, adjust any combination of speed, rendering quality, and memory use, before you run the emulation.

1 Select a device that you have calibrated.

2 If memory is a factor, open the Flash Memory panel, click Edit, and change the value for Static Heap, Dynamic Heap, or both.

You can enter values higher or lower than the default. You can set the static heap value, which is guaranteed, to a value higher than the default. This setting allows you to downsize the application step-by-step, until it meets the device constraints. You can reduce the dynamic heap size to emulate cases where other processes on the device could consume the dynamic memory.



Change static and dynamic heap size from the Memory panel.

3 Select Simulate Performance.

4 If execution speed is a factor, adjust the speed. On the Device Performance panel, move the Speed slider to the right or left, to increase or decrease the execution speed. The default application execution speed is 100%, which is relative to the performance category as defined in the database.

Note: *The slider position is saved on a per-device basis.*

5 If rendering quality is a factor, adjust the rendering quality. The default is Medium. Increasing the quality results in better visual appearance, but usually at the cost of a slower refresh rate (performance).

If the application uses enough memory to exceed either heap size you specified on the memory panel, the player stops. However, the frame at which the player stopped remains displayed to show you where the high memory usage occurred. The Output panel displays an Out Of Memory error.

6 To show performance on the selected mobile device (not your computer), click Emulate Performance.

Note: *The category listed on the Device Performance panel is derived from the calibration process and is the way that Adobe groups devices based on performance. Comparing the categories of different mobile devices shows which are higher performing devices.*

About device calibration

During the initial device emulation (that is, when Simulate Performance isn't checked), the Emulate workspace runs with full desktop or laptop speed. To accurately emulate device performance, calibrate each device on the Emulate workspace.

To calibrate the device, the Emulate workspace runs a test application and compares the test result with the result stored in the database. To obtain the stored results, run the same test application on the actual device. Device Central derives an index number based on the comparison. The index number enables Device Central to know how much to slow down the computer to emulate the device. It also gives Device Central a way to group devices into Performance Index categories. The categories let you compare device performance (that is, a high index number indicates a high-performing device). Player version, display size, heap size, monitor size, and the computer's memory consumption all affect the calibration result.

Most of the Device Performance options, except for Rendering and Calibrate, remain disabled for any device that isn't calibrated. After you perform the first calibration for a device, all performance options are enabled for that device.

To achieve accurate emulation results, perform device calibration frequently because other processes running on your computer affect performance.

Calibrate a device

1 To open the Emulate workspace, do one of the following:

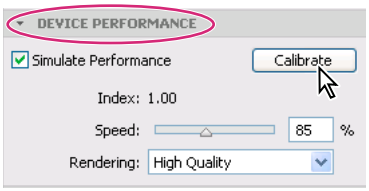
- From Device Central, select File > Open File, navigate to a SWF file, and double-click the file.
- In Flash, open a file, and select Control > Test Movie.

2 Click Device Performance.

3 Click Calibrate.

A progress bar appears as the calibration proceeds.

4 To enable all options, select Simulate Performance.



Calibrate a device from the Performance panel.

The Device Status panel (Flash)

The Device Status panel enables you to test how your content behaves under various conditions, such as specific devices, language, time zone, date and time, and volume.

About language settings in Device Central

Changing the Language setting displays the emulated content using the fonts that are associated with the device in your preferences (In Windows, Edit > Preferences; in Mac OS, Device Central > Preferences). The Emulate workspace displays fonts that are similar to fonts on the actual device. If you have the actual device font, change your font mapping to that font, to emulate the content as accurately as possible.

When you change the Language setting on the Device Status panel, ensure that a matching font is installed on your computer and mapped to the language in Preferences. For example, you change the Device Central language setting to Japanese. However, you don't have any Japanese fonts installed or mapped in Preferences. The Emulate workspace doesn't display text in Japanese.

Note: *The Device Central Language setting is comparable to the Flash Locale setting. The setting applies to values returned from the host environment, such as Flash Player or the device operating system.*

Advanced users familiar with XML can extend the list of languages provided through the Language combo box. To do this task, edit the devicelanguages.lng file in the Devices folder where Device Central is installed. In Windows® XP, the default location is C:\Documents and Settings\username\Local Settings\Application Data\Adobe\Adobe Device Central CS5. In Windows Vista®, the default location is C:\Users\username\AppData\Local\Adobe\Adobe Device Central CS5. In Mac OS, the default location is: user folder/Library/Application Support/Adobe/Adobe Device Central CS5/Devices.

More Help topics

"Change the application language" on page 9

Change the language, time zone, date, or time

For rich media applications, the Emulate workspace provides a Device Status panel. The data on the Device Status panel can be accessed through FSCommands in rich media content. The Emulate workspace keeps Device Status settings with the application; they aren't saved with the device.

Setting the time zone issues a `GetTimezoneOffset()` FSCommand. For example, you can test a script that performs a specific action when you switch time zones. The time zone options provided follow the same pattern as the Time Zone settings on the Windows system control panel.

Setting the date or time issues a `getDate()` or `getTime()` FSCommand. These commands provide the date and time information in the device's operating system to the rich media application.

On the Device Status panel, choose a different language, time zone, date, or time.

Change the volume or battery level

You can change the volume or battery level to simulate actual conditions on a device. For example, you can simulate the behavior of the device when the battery level is 10%. This feature is helpful to test whether a low battery indicator appears when the battery reaches a certain level.

1. To open the Emulate workspace, do one of the following:
   - From Device Central, select File > Open, navigate to a FLA file, and double-click the file.
   - In Flash, open a file, and select Control > Test Movie.
2. Click Device Status.
3. Move the Volume or Battery level slider bar to increase or decrease the level.
4. Select Charger, to simulate an external power source.

The Network Status panel (Flash)

In Flash Lite, you can add commands and properties to obtain connectivity and network status information. The Device Central Network Status panel has several options that correspond to network properties with values that you get using `fscommand2()` commands.

- Name: `GetNetworkName` (type any custom network name for the emulator to return for testing)
- Generation: `GetNetworkGeneration`
- Connection: `GetNetworkConnectStatus`
- Status: `GetNetworkStatus`
- Signal: `GetSignalLevel`

Note: *For details about these commands, see the Flash Lite documentation.*

Change network information

The Network Status panel doesn't simulate actual network conditions, as many variables are involved. However, the panel can test certain conditions. For example, it can test ActionScript code in a content file designed to display an alert, if no network is available.

1. To open the Emulate workspace, do one of the following:
   - From Device Central, select File > Open File, navigate to a FLA file, and double-click the file.
   - In Flash, open a file, and select Control > Test Movie.
2. Click Network Status.

3 Change the settings as necessary.

The Network Performance panel (Flash and web)

The Network Performance panel tests the behavior of Flash and web content when it's requested and served over the mobile network, as follows:

- You run your SWF file or HTML file on the simulator.
- Device Central communicates with the server directly over the intranet or Internet.
- Device Central simulates the mobile network and device behavior as you run the application.

Mobile application performance depends on network speed and responsiveness. Therefore, it is important to test applications with realistic network behavior. This issue is important with content such as photos, which can require transmitting large amounts of data. If a file is large and the network is slow, the user must wait for a long time before the image loads and appears on the screen.

Simulate network behavior to test the application responsiveness in the Network Performance panel. You can quickly test multiple mobile devices with various network types under differing transmission conditions.

Note: *Test on a real device and under real network conditions before you deploy the application.*

The Network Performance panel controls the following network characteristics:

- Download speed
- Upload speed
- Latency (time between a request and a response)
- Network availability

Note: *The Output panel can display network traffic, including incoming and outgoing headers and data. To show the information, select Filter > Network Traffic in the Output panel. For more information, see* *"The Output panel (Flash and web)" on page 38.*

Test the effect of network performance

1 Start the test SWF file or HTML file. For example, in Flash, select Control > Test Movie, or double-click a SWF file in the Custom Project window Files list.

2 Configure Device Central with the required device emulator and emulator behavior.

3 In the Network Performance panel, specify the network behavior:

- Network Availability
- Upload and Download speeds
- Latency

4 Follow your test procedure to use the mobile application.

- The Network Performance panel displays the bytes uploaded and downloaded since the application started or you reset the counter.
- The emulated device shows how the user views the behavior.

Change the Download, Upload, and Latency settings to test another configuration. Before you repeat the test or start a new one, you can click the Reset button to clear the traffic count values.

Network Available option

The Network Available option turns network access on/off. Deselect this option if the test doesn't require the network and you don't want to influence the content transfer. For example, turn this option off if your SWF file includes FSCommand functions that ask the device for the network name or signal strength. (You use the Network Status panel for these tests, which don't depend on network performance.) If the network is available and the device downloads content slowly, the FSCommand test also slows down, although it doesn't use the network.

You also use the Network Available option to test application behavior when the network becomes unavailable or is intermittently available.

Note: *The Connection control of the Network Status panel doesn't affect network availability. If the Connection control is set to Not Connected, tests still send and receive data from the network. Only the Network Available option can disable network traffic. The Network Status panel controls set the emulator responses to FSCommand functions that get network status information only.*

Download and upload speeds

The Download option lets you select from a list of ten speeds typical of different network types and capabilities. The speeds range from 9.6 Kb/s, for a limited-speed 2G GSM network, to 6.0 mb/s for a high-capacity WiMAX network. The default speed is unlimited; the test runs at the speed of your computer.

The upload list contains five options: Unlimited, and four values that are fractions of the download selection. For this reason, always select the download speed first. The default upload speed is one half the download speed, or unlimited if the download speed is unlimited.

Latency

The Latency control sets the time between when the SWF file requests a response from the server and the device loads the first data. You can set a latency from 0 to 10000 milliseconds (10 seconds).

The latency setting affects each request-response interaction. If an application makes multiple requests (for example, to fill several display boxes), the download is delayed each time by the specified latency.

Traffic count

The traffic counters show the amount of uploaded and downloaded data.

- The upper counter, indicated by a Down Arrow, shows the number of bytes downloaded.
- The lower counter, indicated by an Up Arrow, shows the number of bytes uploaded.
- The Reset button resets both counters simultaneously to zero. Use this button when you start a new test with the same SWF file as the previous test.

The Persistent Storage panel (Flash)

The Flash Lite version of the ActionScript SharedObject class offers persistent data storage on the device. It allows SWF files to save data to the device when it is closed and load that data from the device when it is played again. For more information, see the Flash Lite 2.x documentation.

You can use the Device Central Persistent Storage panel to determine how full storage is on a device. The Used/Free indicator is a per-device value, so if multiple SWF files write to the persistent storage, the value is the sum of all their data.

Change persistent storage amount

1 To open the Emulate workspace, do one of the following:

- From Device Central, select File > Open File, navigate to a SWF file, and double-click the file.
- In Flash, open a file and select Control > Test Movie.

2 Click Persistent Storage.

3 To clear the storage for the device you are emulating, click Empty.

The Emulate workspace removes all persistent objects for all content that ran on that device, and runs your content again.

Note: *The Flash Lite version of the ActionScript SharedObject class doesn't support sharing data between different SWF files; it even considers a modified version of the same file as a different file. As a result, when testing the same file over and over again, the persistent storage can grow large quickly.*

The Security panel (Flash Lite 3.x and above and web)

In Flash Lite 2.x, local SWF files can interact with other SWF files and load data from remote or local sources. This interaction creates security vulnerability. This vulnerability is because a local SWF file can access private data stored in known locations on the phone. The SWF file can send the data back to the content author via an HTTP connection.

Flash Lite 3.0 and above introduced a new security model based on the Flash Player 8 security model. All SWF files are placed in a "sandbox" when they are loaded into the Flash Lite player. SWF files are assigned to different sandboxes depending on the option selected. The option is selected in the Flash Lite Publish Settings dialog's Local Playback Security list when the SWF file was published.

- Access Local Files Only > Default (Local Untrusted) Sandbox

  SWF files placed in the default sandbox can access external assets as specified at the time they were published. The SWF files can have access to either the file system or to the network, but not both.

- Access Network Only > Local Trusted Sandbox

  SWF files placed in the local trusted sandbox can freely access assets anywhere on the device's file system or on the network.

For more information, see the documentation for Flash Lite 3.x and above and the documentation for Flash Player 8 and above.

Note: *This security scheme affects almost all ActionScript that involves data loading or cross-scripting, including common functions like* `getURL`, `loadMovie`, `loadMovieNum`, `loadVars`, `loadSound`, `XMLSocket.send`, *and* `XMLSocket.load`. *For a comprehensive list of all functionality that affects security, see Flash Player 8 Security-Related APIs (PDF) on the Flash Player Developer Center website.*

You can test the effect of the security setting specified when a SWF file was published based on the behavior of the SWF content.

1 Open a SWF file in Device Central.

2 Select a device that runs a Flash Lite 3.x player or above. To determine the Flash support for devices, group devices in the Test Devices panel by Player Version.

3 In the Security panel, choose Default Sandbox to test the behavior of local untrusted SWF files.

4 Choose Local Trusted Sandbox to test the behavior of local trusted SWF files. Check the Apply To All Loaded Movies option, to apply this setting to all movies (SWF files) currently loaded in Device Central.

Debug an ActionScript 3.0 file

You can use Device Central to debug an ActionScript 3.0 code for the SWF files created for devices supporting Flash Player 10.1 and Flash Lite 4. Use Adobe Flash Professional CS5 to add ActionScript 3.0 code and set breakpoints for the code. Simulate content in Device Central to view the debug notifications. The debugging message enables you to optimize your content for the targeted devices.

1. In Flash, open a SWF file supporting the player version (Flash Player 10.1 or Flash Lite 4.0) and publish the file.
2. Set breakpoints.
3. Select Debug > Debug Movie In Device Central.

   The SWF file is emulated in Device Central, and the Output panel displays the debugging notifications.

   Note: *Terminating a debug session in Flash rewinds the file in the Device Central Emulate workspace.*