Adobe LiveCycle Mobile 9.5

Adobe® LiveCycle® Mobile 9.5 enables you to use a mobile device to start and participate in business processes. It also enables iOS (Apple® iPhone® and iPad) users to browse, open, and email files that are stored on your organization’s WebDAV server.

This document describes how to implement a LiveCycle Mobile 9.5 solution in your organization.

For information on using the LiveCycle Mobile 9.5 applications, see:

- Adobe LiveCycle Mobile 9.5 Getting Started Guide for Android
- Adobe LiveCycle Mobile 9.5 Getting Started Guide for BlackBerry Smartphones
- Adobe LiveCycle Mobile 9.5 Getting Started Guide for iOS
- Adobe LiveCycle Mobile 9.5 Getting Started Guide for Windows Mobile

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System requirements

Mobile device requirements

<table>
<thead>
<tr>
<th>Mobile device</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Android™</td>
<td>Android 2.0 and higher. The Android device must have an SD card.</td>
</tr>
<tr>
<td>BlackBerry® smartphone</td>
<td>BlackBerry Device Software v4.2.1 and higher.</td>
</tr>
<tr>
<td>iPhone</td>
<td>iPhone 3G, iPhone 3GS, iPhone 4, and iPad running iOS 4.2 or higher.</td>
</tr>
<tr>
<td>Windows Mobile</td>
<td>Windows Mobile 6.1, with the following minimum hardware requirements:</td>
</tr>
<tr>
<td></td>
<td>● 128MB RAM</td>
</tr>
<tr>
<td></td>
<td>● 400MHz processor</td>
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</table>

LiveCycle requirements

In order to use LiveCycle Mobile 9.5, you must properly install and configure Adobe LiveCycle Enterprise Suite 2 (ES2) or LiveCycle Enterprise Suite 2.5 (ES2.5). The specific versions and modules required depend on the LiveCycle Mobile 9.5 functionality that you intend to use:

To enable the **Tasks** feature:

● LiveCycle ES2 or LiveCycle ES2.5, including:
  ● LiveCycle Process Management 9
  ● LiveCycle Forms 9 (used to display PDF files on the Task Details screen)

To enable the **Forms** feature:

● LiveCycle ES2.5, including:
  ● LiveCycle Process Management 9
  ● LiveCycle Forms 9
  ● LiveCycle Workbench 9.5 (used to create Guides)

To enable the **Documents** feature (iOS only):

● LiveCycle Content Services (or you can use Microsoft® SharePoint 2010)

For information on how to install and configure LiveCycle ES2, see the [LiveCycle ES2 Documentation page](https://livecycle.adobe.com/). You can also access the documentation for other product versions from that page.

WebDAV requirements

In order to enable iOS users to use the “Documents” feature, you must properly install and configure a WebDAV server such as Adobe LiveCycle Content Services 9 or Microsoft® SharePoint 2010. For information on how to install and configure LiveCycle Content Services 9, the [LiveCycle ES2 Documentation page](https://livecycle.adobe.com/).
A LiveCycle administrator must assign the LiveCycle Contentspace User role (or another role with the Contentspace Console Login permission) to all Content Services Mobile users. For information on assigning roles to users, see Creating and configuring roles in the LiveCycle ES2 Administration Help.

**Coexistence with earlier applications**

You can install Adobe LiveCycle Mobile 9.5 on a device that already has one of these client applications installed:

- Adobe LiveCycle Workspace ES2 Mobile Client for BlackBerry Smartphones
- Adobe LiveCycle Workspace ES2 Mobile Client for iPhone
- Adobe LiveCycle Content Services Mobile for iPhone

**Note:** Windows Mobile users must remove any previous installations of Adobe LiveCycle Workspace ES2 Mobile Client for Windows Mobile before installing Adobe LiveCycle Mobile 9.5.

**Language limitations on Windows Mobile devices**

On Windows Mobile devices, the language used to enter data on a form must match the language of the device’s OS. For example, a user can enter Japanese data on a Japanese OS, but not on an English, French, or German OS.

**Configuring account auto-discovery for Android devices**

Mobile users must configure the connection to their LiveCycle user account(s), including the LiveCycle server name and port. If your users are using Android devices, you can enable auto-configuration so that users simply have to enter their email address and password. LiveCycle Mobile 9.5 for Android can discover the DNS information for the domain and get the server information for the user’s account. To enable auto-configuration in LiveCycle Mobile 9.5 for Android, you need to configure a DNS Service (SRV) record.

**Configuring a DNS Service (SRV) record**

An SRV record is a type of data in the Domain Name System (DNS) that specifies connection details for certain services. Using SRV records for service endpoint configuration can simplify the often error-prone process of users entering host names, port numbers, and so on.

An SRV record takes the following form:

```
_service._proto.name TTL class SRV priority weight port target
```

LiveCycle uses the service, proto, port, and target fields, so a typical DNS SRV record for LiveCycle Mobile 9.5 for Android is:

```
_livecycle._tcp.yourco.com 86400 IN SRV 0 5 443 livecycle.yourco.com
```

The above statement means: "bob@yourco.com should connect to LiveCycle with SSL to port 443 on the server livecycle.yourco.com".

LiveCycle Mobile 9.5 interprets the port field of the SRV record to determine whether SSL should be used for the connection. The common SSL port fields that the client detects include: 443, 8443, and 9443. If you use an uncommon SSL port number, it is possible to override this calculation during account setup in the client.
Security through obscurity

Often, it is undesirable to place SRV records on your root domain because this could potentially allow attackers to learn more information about your network topology. If you consider this a problem, you can, for example, indicate in your SRV record that the SRV record should only be returned when queried on a subdomain. For example:

```
_livecycle._tcp.somesubdomain.yourco.com 86400 IN SRV 0 5 443
livecycle.yourco.com
```

The above statement means: "bob@somesubdomain.yourco.com should connect to LiveCycle with SSL to port 443 on the server livecycle.yourco.com"

Note that LiveCycle Mobile 9.5 for Android uses the email address format purely as an identifier to easily gather the user’s ID (in the example above, "bob") and the domain name to query for the SRV record (somesubdomain.yourco.com). You could inform your users to use an email address that is not the same as the one they use to receive corporate email. You could also place the SRV record on an unrelated domain (for example, bob@yourco-net-cfg.org).

DNS SRV records do not compromise the security of your system, but do have the potential to expose a host name that you would rather not have exposed.

Elements of DNS SRV that are not used by LiveCycle Mobile 9.5

DNS SRV supports high availability, using the priority and weight fields. This feature is useful for services such as SIP and XMPP, which rely heavily upon DNS SRV at runtime to resolve connection details, but it is not useful for auto-configuration tasks. For this reason, LiveCycle Mobile 9.5 uses the first SRV record for its combination of service and proto that it finds.

For more information on DNS SRV, see the SRV Record page on Wikipedia®.

Setting up a reverse proxy for LiveCycle Mobile 9.5

If your organization requires a reverse proxy in front of the server running LiveCycle Mobile 9.5 (for example, to hide LiveCycle server details from clients), the following URLs must be forwarded from the proxy to the host running LiveCycle. Note that the URLs should begin with https if you want to use SSL connectivity:

- `http://<server>:{port}/rest/services/lc-pm-mobile.listTasks`
- `http://<server>:{port}/rest/services/lc-pm-mobile.listProcesses`
- `http://<server>:{port}/rest/services/lc-pm-mobile.getTaskDetail`
- `http://<server>:{port}/rest/services/lc-pm-mobile.getTaskCount`
- `http://<server>:{port}/rest/services/lc-pm-mobile.completeTask`
- `http://<server>:{port}/rest/services/lc-pm-mobile.getFlattenedPDF`
- `http://<server>:{port}/rest/services/lc-pm-mobile.getImage`
- `http://<server>:{port}/rest/services/lc-pm-mobile.dismissDeadlinedTask`
- `http://<server>:{port}/contentspace/webdav/`
Each URL accepts a number of URL parameters, either via HTTP GET or HTTP PUT. For example:

http://<server>:<port>/rest/services/lc-pm-mobile.listTasks?start=0&count=15&includeSharedTasks=true

The example above is a valid URL for accessing a task lists, as is the equivalent using HTTP POST.

For more information on reverse proxy, see the Reverse proxy page on Wikipedia.

**Security considerations**

LiveCycle Mobile 9.5 is a native application. It makes connections only to the server locations listed above. It is recommended that you use SSL to secure those HTTP connections.

Users should always use SSL when connecting to the LiveCycle Server. Otherwise, the user name and password are only encoded with base64 encoding, which is not a secure way to transmit that type of information.

**Designing forms**

LiveCycle Mobile 9.5 supports the use of Guides to collect data from users. For information on creating guides for use with LiveCycle Mobile, open the LiveCycle Workbench 9.5 Help and go to Creating Guides > Guides on mobile devices.

**Best practices**

Here are some best practices to keep in mind when creating Guides for use with LiveCycle Mobile 9.5:

- Add/Remove/Copy functionality is not available on Windows Mobile devices. On a Windows Mobile device, the user will be able to interact with the first instance, but will not be able to add others.

- The dropdown list for date fields on BlackBerry smartphones lists only ten years. If the year the user needs is not on the list, they should pick the closest year and it will load another ten years. Repeat until the desired year is displayed.

- Some FML models cause runtime exceptions in a mobile environment even though they work in the default runtime:
  - Do not use empty array or integer literals of type double[] or float [] in your FML model.
  - Do not use the chr() function.

- The Mobile Preview feature in LiveCycle Workbench is a simulation, and fidelity will not be 100%. Preview uses the same HTML and CSS as the actual device, but the browser used at for preview may have a different level of support for these standards.

**Adding pictures to forms**

When creating a guide in Guide Builder, you can add a text field and set the control type to display as an Image Field.

When users fill the form, they can use the device's camera to take a picture that gets embedded in the form. This functionality is slightly different from the behavior of a guide in a web browser, where the user can select an existing picture from their hard drive.
**Note:** This feature is not yet available on iPad or on devices running BlackBerry Device Software v4.2.1.

When a user takes a picture using an Android device, GPS positioning data is embedded as EXIF metadata within the image. If GPS Satellite is enabled on the device, LiveCycle Mobile 9.5 attempts to use that as a provider to obtain positioning information. This allows for very accurate positioning when there is a line of sight to GPS satellites (for example, when you are outdoors or in a vehicle). If you take a picture with GPS Satellite enabled but you are indoors or underground, the GPS information is unlikely to be captured unless you disable GPS Satellite (Settings > Location & Security) which causes the application to use WiFi or Geographic Messaging Service (GMS) to locate the user.

**Migrating an existing guide**

To migrate an existing Guide to one that can be used with LiveCycle Mobile 9.5:

1. Open the existing guide in the Guide Design perspective in LiveCycle Workbench 9.5.
2. Select the Guide Runs On Mobile Devices option and note any resulting errors and warnings.
3. Ensure that the Guide follows the limitations described in the “Guide compatibility with mobile devices” section in the *LiveCycle Workbench 9.5 Help*.

**Note:** XFA forms/Guides cannot be migrated.

**Creating processes**

For information on creating LiveCycle processes for use with mobile devices, open the *LiveCycle Workbench 9.5 Help* and go to Creating and managing processes > Creating processes using the New Process wizard > Configuring the Mobile start point.

**Administrative settings**

In order for a user to see a form on their mobile device the user must have invoke permission on the mobile process that corresponds to the form:

1. Open LiveCycle Administration Console and go the Service Management page. For details on using LiveCycle Administration Console, see the *LiveCycle ES2 Administration Help*.
2. Click the name of your mobile process.
3. On the Security tab, ensure that the Require Callers To Authenticate option is set to Yes.
4. Click Add Principal and select the users and groups who you want to allow to use the process.