How to Deploy an ArcGIS for Windows Mobile Project w/ ArcGIS for Desktop

ArcGIS for Windows Mobile extends the reach of ArcGIS to the field and compliments ArcGIS for Desktop with task-centric field applications. These field applications can be run on vehicle-mounted Windows, touch devices and handheld Windows Mobile devices that operate in a "*disconnected*" mode.

This document will outline the steps needed to setup and deploy a Mobile Project using ArcGIS for Desktop and ArcGIS for Windows Mobile.

What is a Mobile Project?

A Mobile Project is composed of two primary types of map layers:

1. Operational Layers.
2. Basemap Layers.

Operational Layers contain the transactional content of your Mobile Project. These are the layers in your field map that you need to update frequently – Update and/or collect features for in the field.

Basemap Layers provide reference information used for visualization and/or map navigation purposes (*aerial imagery, streets, land parcel boundaries, and so on*). These layers are often maintained by other departments within the enterprise or are acquired or purchased from an external source. There is no need to synchronize Basemap Layers, so they can be provisioned on mobile devices independent of a specific Mobile Project.

Let us examine the steps needed to define our MXD and then create a cached Operational Layer for our Mobile Project.

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Note:
When a storage card is used for storing an ArcGIS Mobile 10 project file and
cache folder for use on a mobile device, a particular folder structure needs to
be created on the storage card for ArcGIS Mobile to read the mobile
project .amp file and cache the folder properly.

On the storage card, create the following folder structure:
My Documents\ArcGIS Mobile\<name of the project>\

Copy the mobile project .amp file, the mobile cache folder, and other
associated project files to this location.
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Building & Deploying the Mobile Project Package

Using ArcGIS for Desktop, you can design and author a MXD for use in a Mobile Project.

- ✓ **Follow the simple steps outlined *here* for building a MXD optimized for mobile use.**

Once you have your MXD ready, you will use the '*Create Mobile Map'* geoprocessing tool to create a ready-to-go

Mobile Project Package for use with the ArcGIS for Windows Mobile applications.
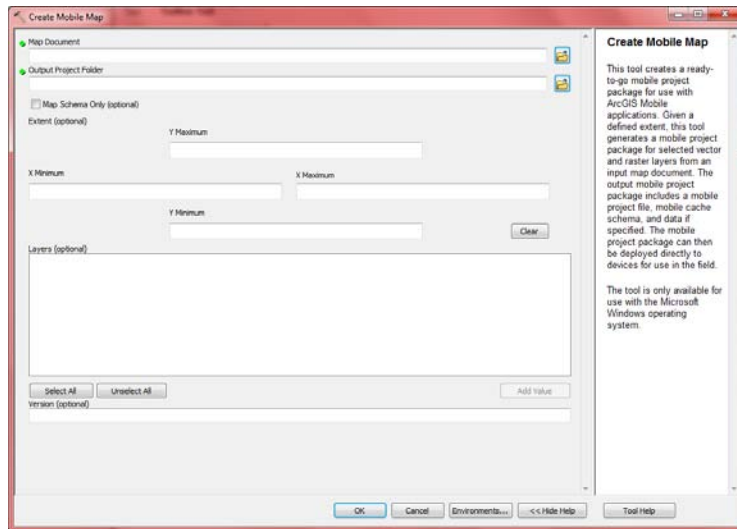
Given a defined extent, this tool generates a Mobile Project Package for selected vector and raster layers from an

input map document (MXD). The output Mobile Project Package includes the following:

1. A Mobile Project File (*.amp*).
2. The Mobile Cache Schema.
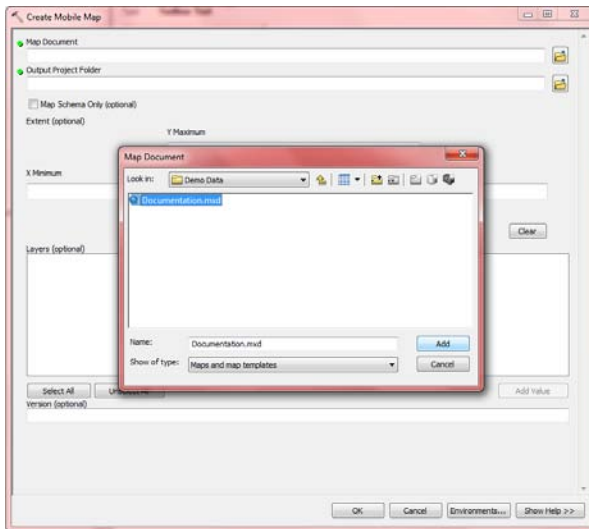3. The data (*if specified*).

Using the Geoprocessing Tool

From inside of **ArcCatalog or ArcMap**, find the *System Toolboxes>Mobile Tools* and follow the steps outlined below:
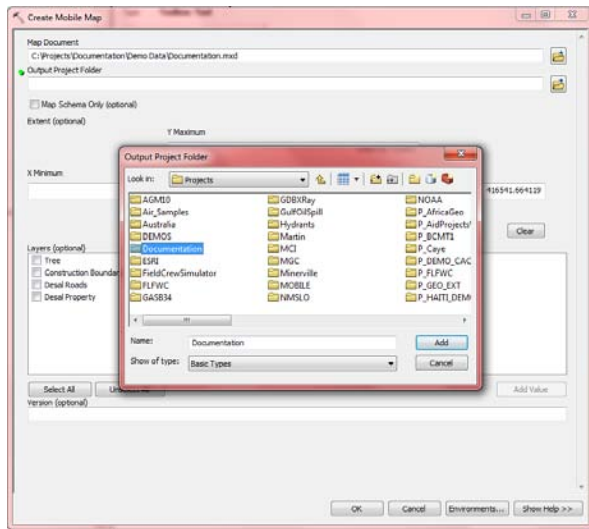
1. Double-Click the '*Create Mobile Map'* Tool.
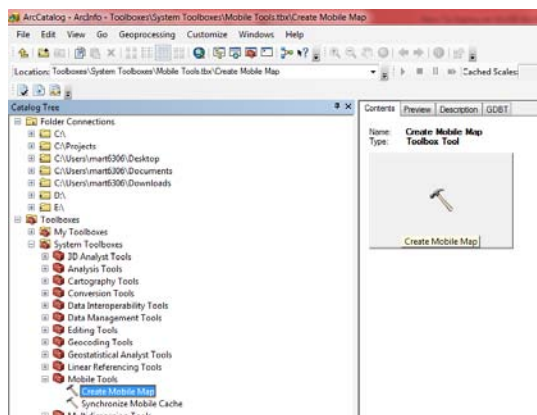
2. Select the map document to use to create a Mobile Project and Mobile Cache.
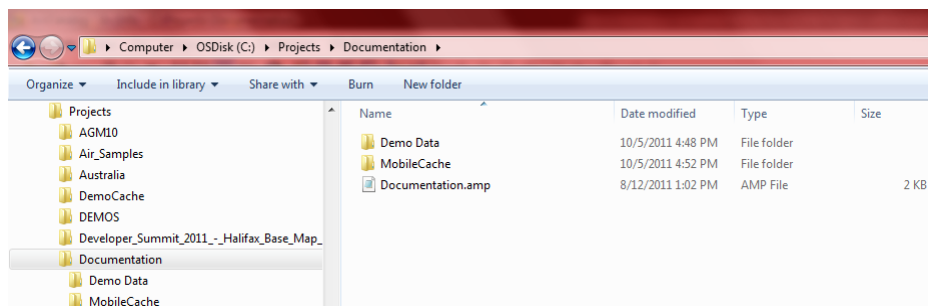

3. Select a directory for the output Mobile Project and Mobile Cache.

4. Click 'OK' to execute the task.
   ✓ Here is what the output folder structure looks like.

5. The mobile project package can then be deployed directly to devices for use in the field using '***Copy & Paste***' via *ActiveSync* if running Windows XP or when Windows Mobile Device Center is running Vista, Windows 7, or some other mobile device management tool.

6. Be sure to copy the contents of the entire 'project' folder (*e.g. C:\Projects\Documentation*) to the mobile device. **The ArcGIS for Windows Mobile field applications require that all project content be stored in a specific folder location:**

   ✓ If you are using the mobile project on a Windows Tablet device, the location is at the root level directory for your mobile projects. The default location is:

   "C:\Users\<USER NAME>\AppData\Local\ESRI\ArcGIS Mobile", but you can have more than one location for projects on your mobile device. (*Refer to the Settings Page in the ArcGIS for Windows Mobile application to set additional Project storage locations*).

   ✓ If you are using the mobile project on a Windows Mobile device, the folder location is ***"My Documents\ArcGIS Mobile\"*** (either in the main memory or your storage card).

❖ The '*Mobile Cache Schema'* and '*Data'* that are generated by this tool can also be used as an Operational or Basemap Layer in a Custom Mobile Application developed with the ArcGIS Runtime SDK for Windows Mobile.

Using the Mobile Project Center

You can also use the '*Mobile Cache Schema'* and '*Data'* as an Operational or Basemap Layer in a Mobile Project via the ready-to-deploy ArcGIS for Windows Mobile applications. To do this, you will need to use the ***Mobile Project Center***.

Here are the simple steps that you can follow to add a Mobile Cache to your mobile project:
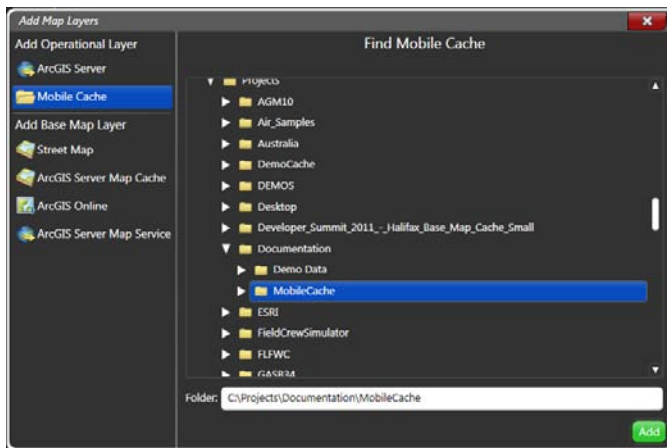
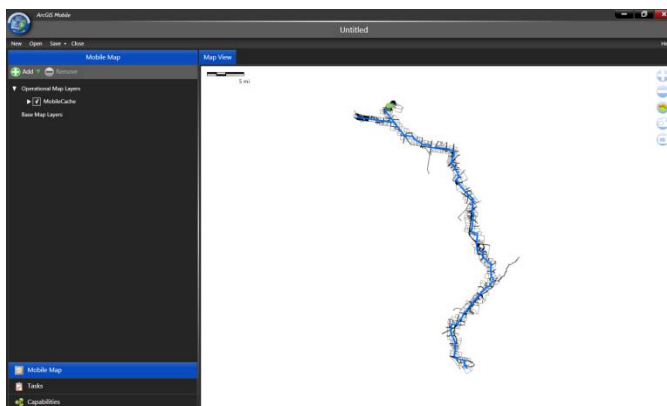1. Start the Mobile Project Center and Create a New Project.
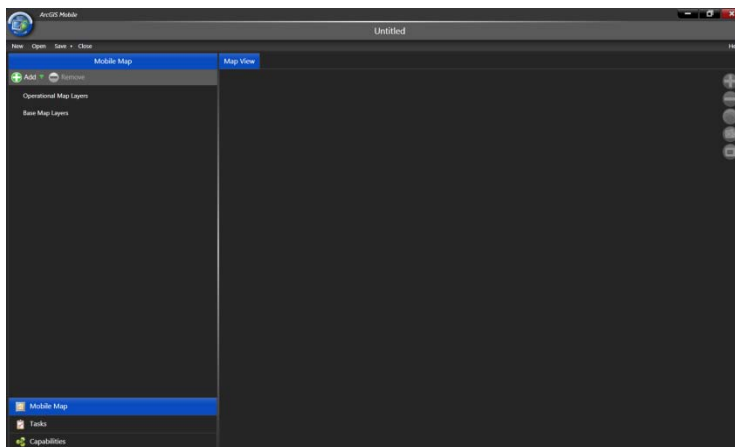
2. Click Add to open the Add Layer dialog box and select *Mobile Cache*.
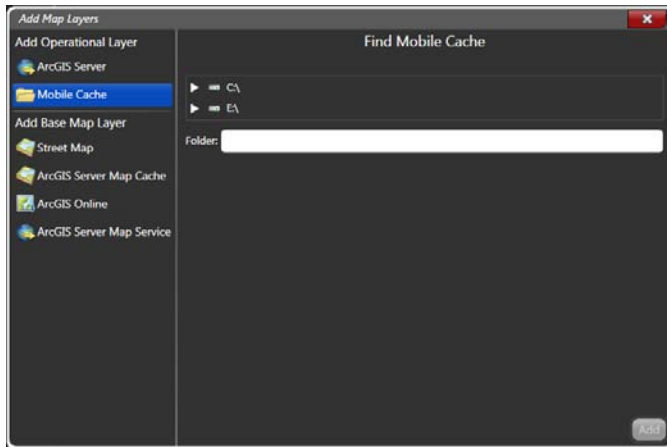
3. Navigate to the folder where your Mobile Cache is stored. You will know when the folder location is correct, as the Add button will be enabled (Turns **Green**).
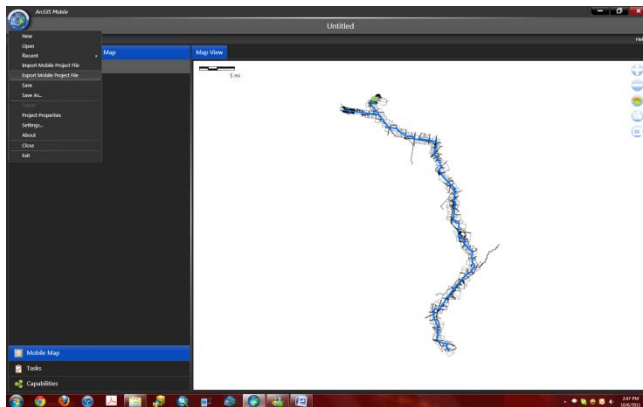

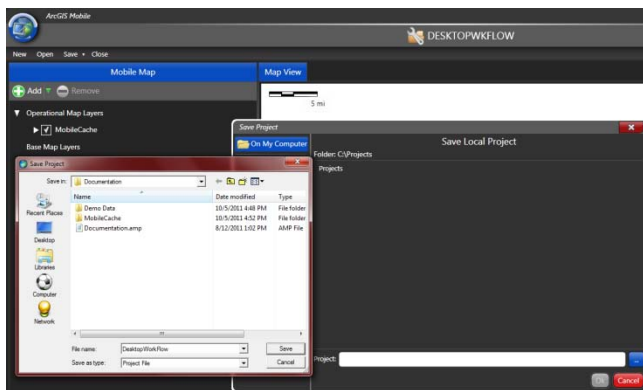4. Click Add to add the Mobile Cache to your Project.

5. Make any necessary adjustments and Save your Mobile Project.

6. Before closing your Mobile Project, click the MPC Menu button and select 'Export Mobile Project File'.

7. Navigate to the 'Project' folder where your Mobile Cache is stored, enter a Project File name (*e.g. 'DesktopWorkFlow')* and **Save** a new Project File (**.amp*).

8. Click 'OK' to execute the task.

    ✓ Here is what the output folder structure looks like.
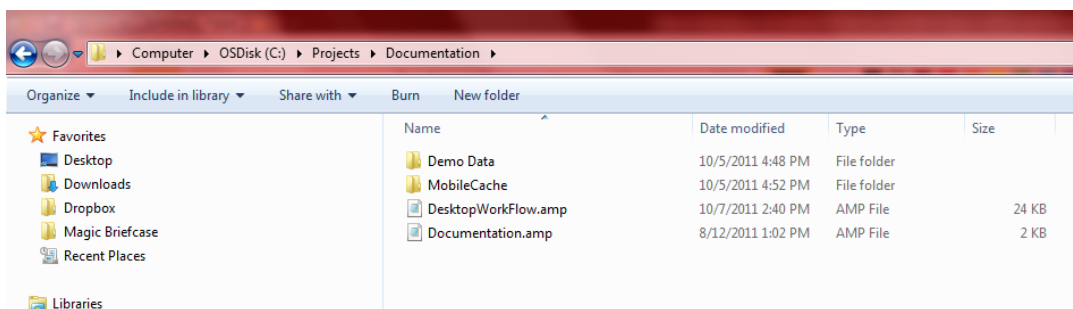
9. The mobile project package can then be deployed directly to devices for use in the field using 'Copy & Paste' via ActiveSync if running Windows XP or if Windows Mobile Device Center is running Vista, Windows 7, or some other Mobile devices management tool.

10. Be sure to copy the contents of the entire 'project' folder (*e.g. C:\Projects\Documentation*) to the Mobile Device. **The ArcGIS for Windows Mobile field applications require that all project content be stored in a specific folder location:**

   ✓ If you are using the mobile project on a Windows Tablet device, the location is at the root level directory for your mobile projects. The default location is:
   "C:\Users\<USER NAME>\AppData\Local\ESRI\ArcGIS Mobile", but you can have more than one location for projects on your mobile device. (*Refer to the Settings Page in the ArcGIS for Windows Mobile application to set additional Project storage locations*).

   ✓ If you are using the mobile project on a Windows Mobile device, the folder location is ***"My Documents\ArcGIS Mobile\"*** (either in the main memory or your storage card).

You are now ready to start collecting data in the field on your mobile device. These 'field edits' will be stored inside the Mobile Cache until you return to the office, where they can be checked-in.

Checking In Data from the Field

Once you have completed collecting data in the field, the 'field edits' are checked-in via the '*Synchronize Mobile Cache'* geoprocessing tool in ArcCatalog or ArcMap.

The updates or 'field edits' in a mobile cache are posted to its data source using its originating map document (MXD). This tool can also be used to pull changes in the geodatabase to mobile cache.

NOTE - Before you begin, you will need to copy the 'field edits' Mobile Cache from your mobile device to a staging folder on your server or workstation (*e.g. C:\Projects\Documentation\MobileCache*).
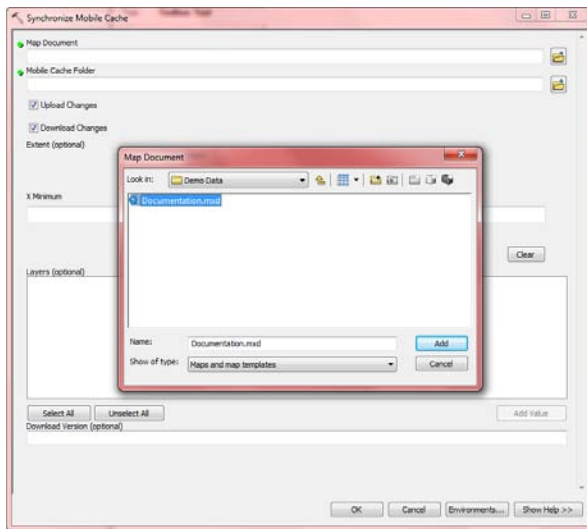
Using the Geoprocessing Tool

Within **ArcCatalog or ArcMap**, select *System Toolboxes>Mobile Tools* and follow the steps outlined below:

1. Double-Click the '*Synchronize Mobile Cache'* Tool.
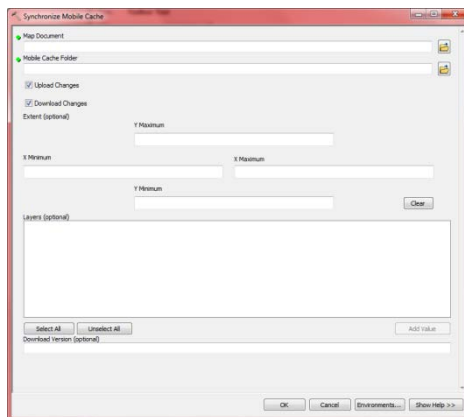
2. Select the originating map document (MXD) used to create the Mobile Cache.

3. Select the directory for the 'field edits' Mobile Cache you copied from your mobile device.

4. Click 'OK' to execute the task.

   ✓ Here is what the output results looks like.

5. The updates in the Mobile Cache have now been applied to the Geodatabase. You can open the MXD to view them.

Additional Resources

- Video: How to Create & Use A Tile Cache w/ ArcGIS for Windows Mobile
- PDF: How to Create & Use A Tile Cache w/ ArcGIS for Windows Mobile
- Video: Deploying An ArcGIS for Windows Mobile w/ ArcGIS for Desktop
- Video: Creating A Custom 'amp' File To Work w/ A Mobile Map Cache