Build your WEB 2.0 and Mobile directly from Plex
CA Plex
HTML
Javascript
Ajax
cm webclient
Web & Mobile applications

# Web Client Mobile Workshop

## Contents

# Introduction

The cm WebClient i+ Mobile product is designed to generate a first class native mobile device interface for all Sencha Touch supported mobile platforms, including Apple, Android, BlackBerry 6, and others. Through the use of PhoneGap, the application can also be deployed as a native app using XCode for Apple or Eclipse for Android. This will give the developer the ability to publish WebClient mobile apps on the Apple iTunes Store or Android Marketplace, and to make use of advanced phone hardware by the use of JavaScript API's.

For this workshop, you are working with a WebClient Alpha product. The beta is scheduled for June 2011.

## Software Prerequisites

### 3rd Party Software that must be installed separately

- Chrome or Safari (WebKit) Browser for desktop testing
- CA Plex v6.1
- SQL Server 2008
- Java JDK version SE 6 Update 25 or higher
- Tomcat 6.0

### Software included in workshop download

- WebClient 1.6.3
- Sencha Touch JavaScript component library
- Android SDK with Android device emulator
- PhoneGap, used to deploy a native application

### Optional Software

- Apple iOS SDK (requires Apple Mac computer)

## Installation

### Recommended Hardware

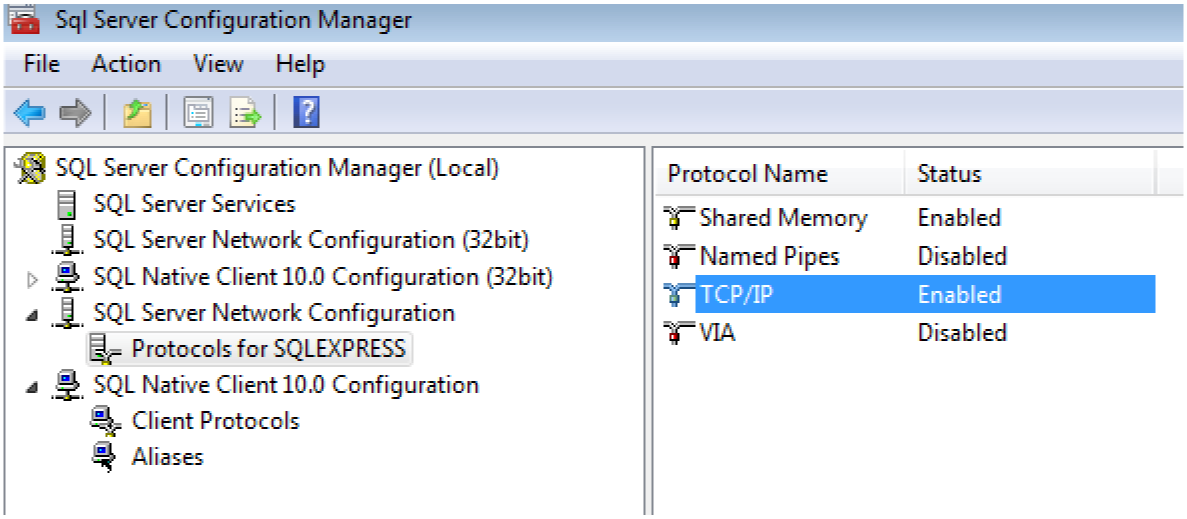
- Dual core processor
- 2GB Ram or more
- 5 GB free disk space

### Installation Steps

- Install CA Plex 6.1. Please contact CM First if you would like an evaluation copy.
- Install either Google Chrome or Apple Safari current version browser
- Install SQL Server Express 2008 from Microsoft: http://www.microsoft.com/express/Database/
    - Important – Install with Mixed Mode Authentication

- ○ Important – Remember the sa password you created
- ○ Important – Ensure that you can access the SQL Server instance from CA Plex from a non-integrated mode ODBC connection. You may have to adjust your local firewall setting or SQL Server port settings.

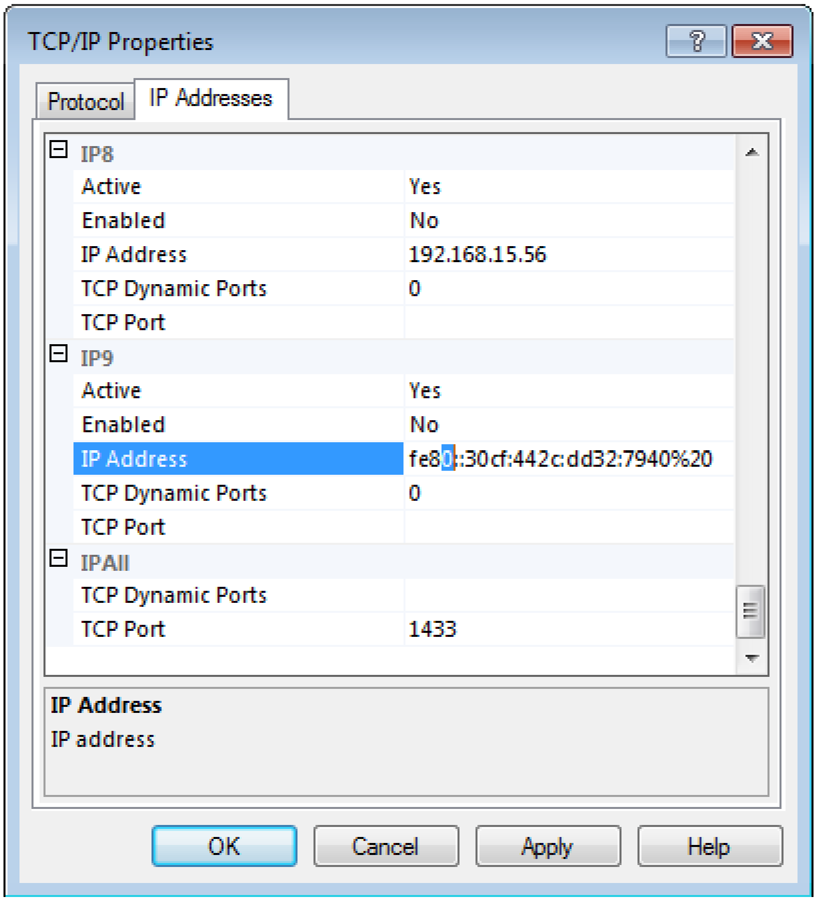
Enable TCP/IP Protocol by opening the SQL Server Configuration Manager. Ensure that TCP/IP is enabled under every configuration tree.



- SQL Server Configuration Manager (Local)
  - SQL Server Services
  - SQL Server Network Configuration (32bit)
  - SQL Native Client 10.0 Configuration (32bit)
  - SQL Server Network Configuration
    - Protocols for SQLEXPRESS
  - SQL Native Client 10.0 Configuration
    - Client Protocols
    - Aliases

| Protocol Name | Status |
|---|---|
| Shared Memory | Enabled |
| Named Pipes | Disabled |
| TCP/IP | Enabled |
| VIA | Disabled |

Right click on the protocol and select properties. Ensure that the IPALL setting has a blank value in TCP Dynamic Ports and 1433 in the TCP Setting

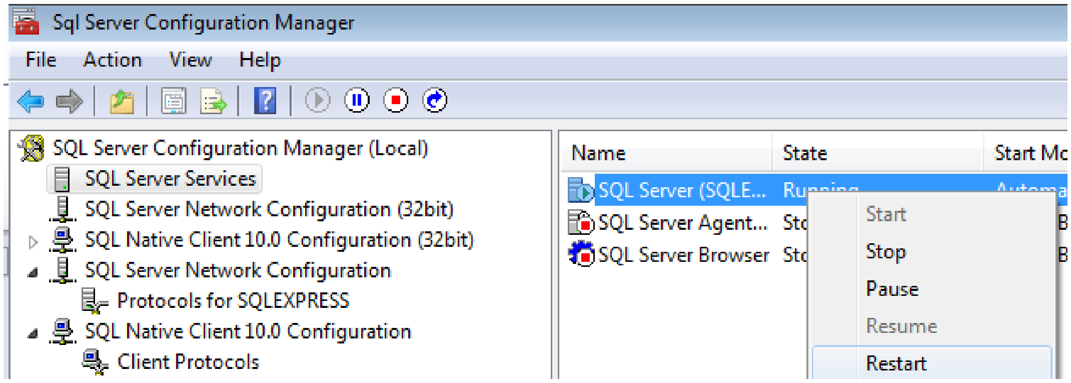


| | |
|---|---|
| **IP8** | |
| Active | Yes |
| Enabled | No |
| IP Address | 192.168.15.56 |
| TCP Dynamic Ports | 0 |
| TCP Port | |
| **IP9** | |
| Active | Yes |
| Enabled | No |
| IP Address | fe80::30cf:442c:dd32:7940%20 |
| TCP Dynamic Ports | 0 |
| TCP Port | |
| **IPAll** | |
| TCP Dynamic Ports | |
| TCP Port | 1433 |

**IP Address**

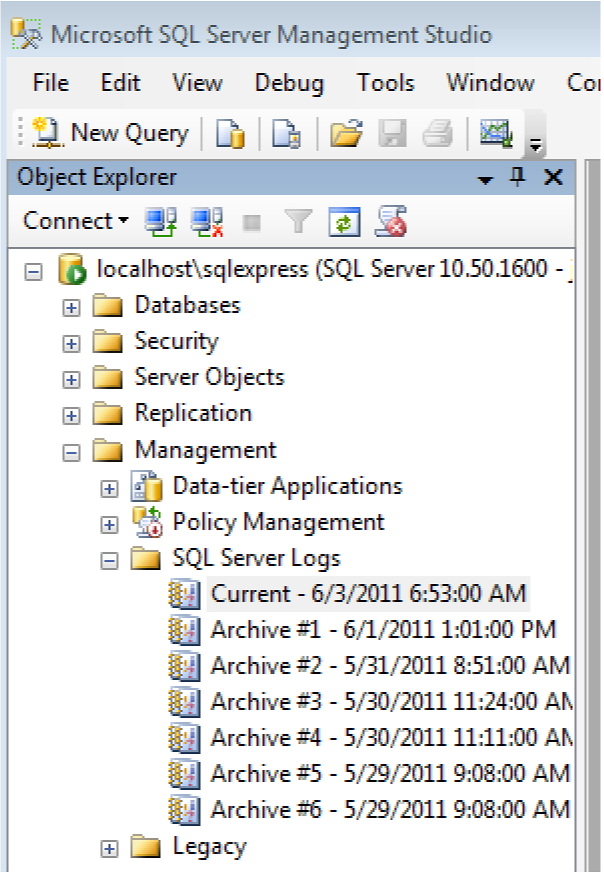
IP address

Restart the SQL Server Service

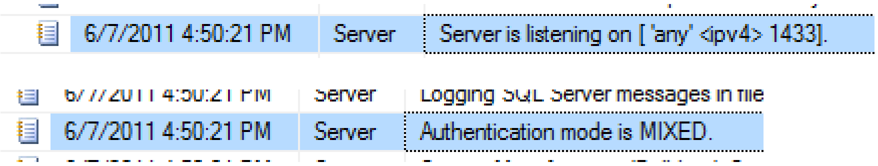

Sql Server Configuration Manager
File
Action
View
Help
SQL Server Configuration Manager (Local)
SQL Server Services
SQL Server Network Configuration (32bit)
SQL Native Client 10.0 Configuration (32bit)
SQL Server Network Configuration
Protocols for SQLEXPRESS
SQL Native Client 10.0 Configuration
Client Protocols
Start
Stop
Pause
Resume
Restart

| Name | State | Start Mo |
|---|---|---|
| SQL Server (SQLE... | Running | Automa |
| SQL Server Agent... | Sto | |
| SQL Server Browser | Sto | |

Open up SQL Server Management Studio. Under your SQL Server instance, go to Management / SQL Server Logs.

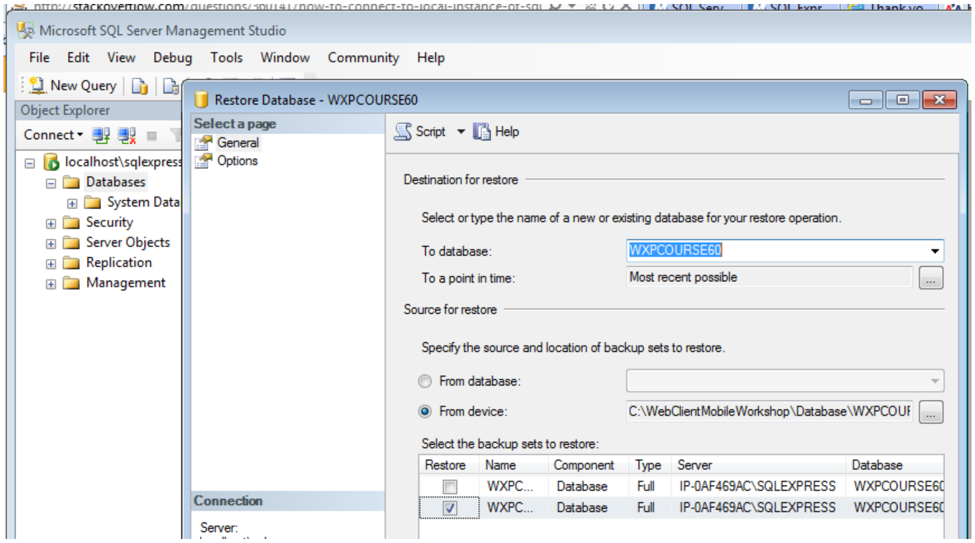

Microsoft SQL Server Management Studio
File
Edit
View
Debug
Tools
Window
Co
New Query
Object Explorer
Connect
localhost\sqlexpress (SQL Server 10.50.1600 -
Databases
Security
Server Objects
Replication
Management
Data-tier Applications
Policy Management
SQL Server Logs
Current - 6/3/2011 6:53:00 AM
Archive #1 - 6/1/2011 1:01:00 PM
Archive #2 - 5/31/2011 8:51:00 AM
Archive #3 - 5/30/2011 11:24:00 AM
Archive #4 - 5/30/2011 11:11:00 AM
Archive #5 - 5/29/2011 9:08:00 AM
Archive #6 - 5/29/2011 9:08:00 AM
Legacy

In the current log, verify that there are lines for Mixed Mode authentication, and that SQL Server is listening on the expected port. If you don't see this, review the above instructions and configure appropriately.



```
6/7/2011 4:50:21 PM   Server   Server is listening on [ 'any' <ipv4> 1433].

6/7/2011 4:50:21 PM   Server   Logging SQL Server messages in file
6/7/2011 4:50:21 PM   Server   Authentication mode is MIXED.
```

- Install the Java JDK Java SE 6 Update 25: http://www.oracle.com/technetwork/java/javase/downloads/index.html
- Install Tomcat v6 application server: http://tomcat.apache.org/download-60.cgi
    - Be sure to stop the main web site service – otherwise it will conflict with the instance we will be running in Eclipse.
- Extract the WebClientMobileWorkshop.zip to c:\WebClientMobileWorkshop
- Restore database WXPCOURSE60 from the Database subdirectory to your SQL Server environment. Create an ODBC connection to the database called WXPCOURSE60.



Destination for restore

Select or type the name of a new or existing database for your restore operation.

To database: WXPCOURSE60

To a point in time: Most recent possible

Source for restore

Specify the source and location of backup sets to restore.

○ From database:

● From device: C:\WebClientMobileWorkshop\Database\WXPCOUF

Select the backup sets to restore:

| Restore | Name | Component | Type | Server | Database |
|---|---|---|---|---|---|
| ☐ | WXPC... | Database | Full | IP-0AF469AC\SQLEXPRESS | WXPCOURSE6( |
| ☑ | WXPC... | Database | Full | IP-0AF469AC\SQLEXPRESS | WXPCOURSE6( |

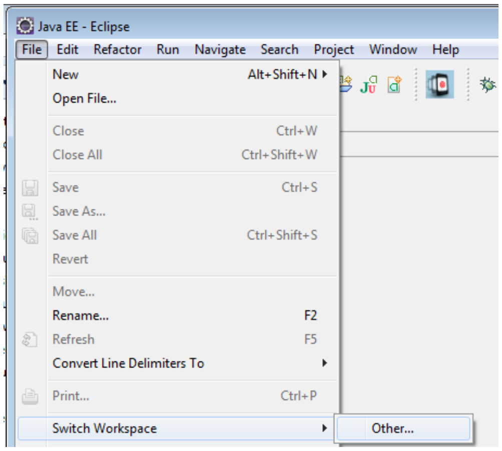
- Verify you can open the CA Plex model  WXPCOURSE61.mdl located in C:\WebClientMobileWorkshop\wxpcourse60
- Verify you can open Eclipse.exe from C:\WebClientMobileWorkshop\eclipse. It is convenient to add a shortcut to eclipse from your start menu or desktop.

# Exercise 1 – Orientation and Hello World

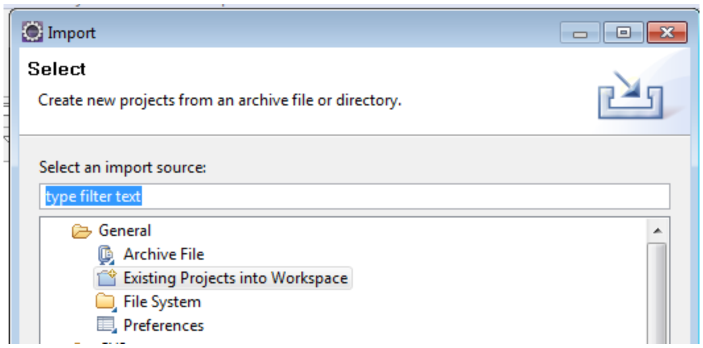
## Configure Eclipse

Open Eclipse, you should see a welcome screen

Next, switch your workspace to C:\WebClientMobileWorkshop\wxpcourse60 using the File / Switch Workspace menu option



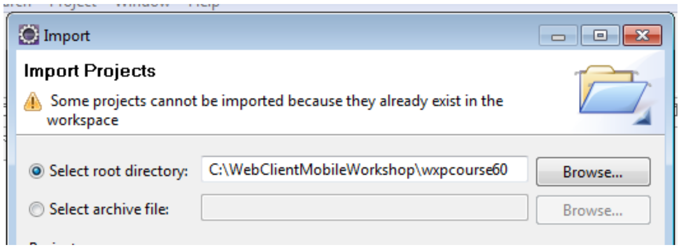
Import the projects located in the workspace



**Select**

Create new projects from an archive file or directory.

Select an import source: type filter text



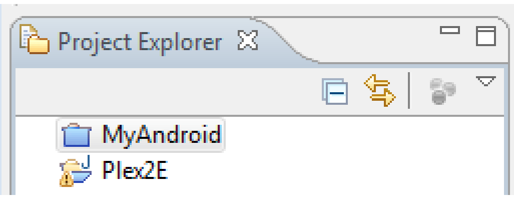
**Import Projects**

⚠ Some projects cannot be imported because they already exist in the workspace

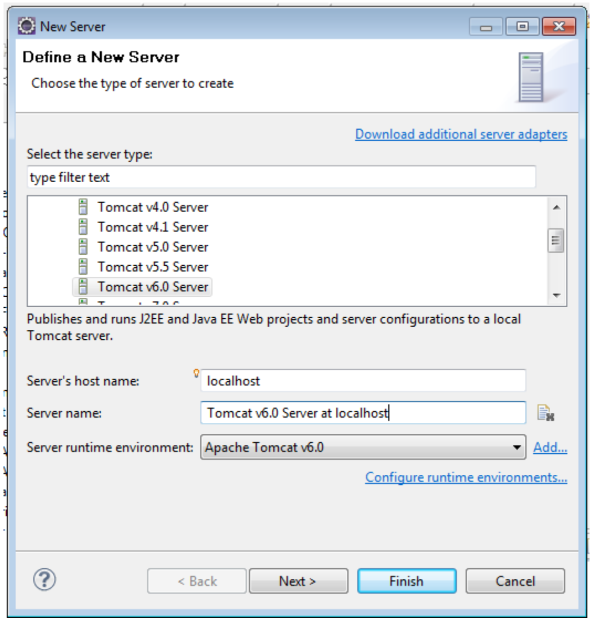
● Select root directory: C:\WebClientMobileWorkshop\wxpcourse60 Browse...

○ Select archive file: Browse...

Click on MyAndroid project and close it. We will configure this later.



Go to the Servers tab and add an Apache Tomcat 6.0 Server.


New Server

Define a New Server

Choose the type of server to create

Select the server type:

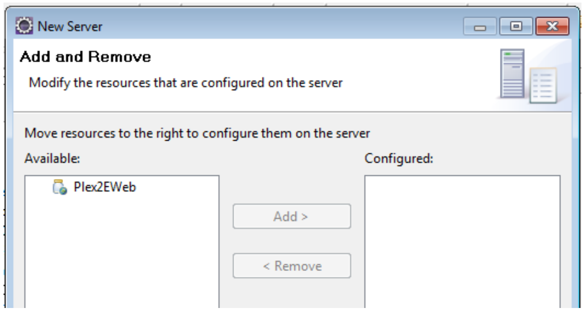
Publishes and runs J2EE and Java EE Web projects and server configurations to a local Tomcat server.

Server's host name: localhost

Server name: Tomcat v6.0 Server at localhost

Server runtime environment: Apache Tomcat v6.0

Hit next and add the Plex2EWeb project to the server

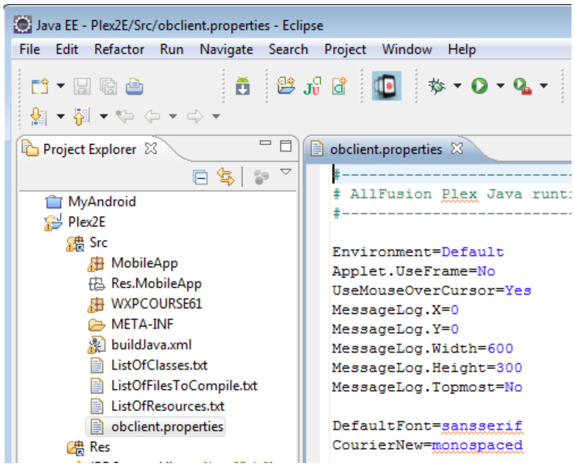

New Server

Add and Remove

Modify the resources that are configured on the server

Move resources to the right to configure them on the server

Navigate to the Plex2E project and verify / change the SQL Server connection entries in obclient.properties

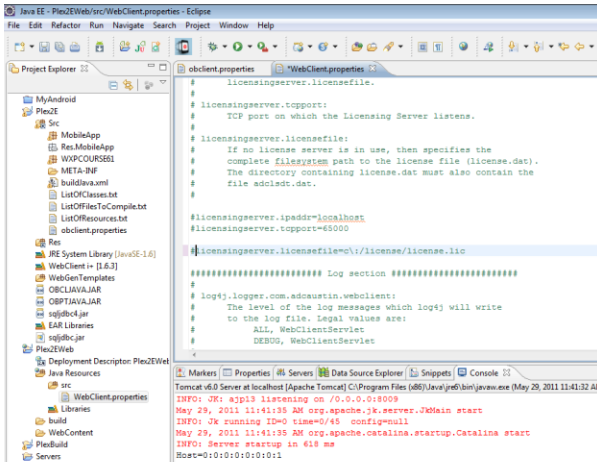


```
#-------------------------
# AllFusion Plex Java runt
#-------------------------

Environment=Default
Applet.UseFrame=No
UseMouseOverCursor=Yes
MessageLog.X=0
MessageLog.Y=0
MessageLog.Width=600
MessageLog.Height=300
MessageLog.Topmost=No

DefaultFont=sansserif
CourierNew=monospaced
```

The entries should look similar to this, but the Port, User, and Password will possibly be different

```
Environment.Default.Driver=com.microsoft.sqlserver.jdbc.SQLServerDriver
Environment.Default.DataSource=jdbc:sqlserver://localhost:1433;instanceName=SQLEXPRESS;integratedSecurity=false;databaseName=WXPCOURSE60
Environment.Default.User=sa
Environment.Default.Password=sa
```

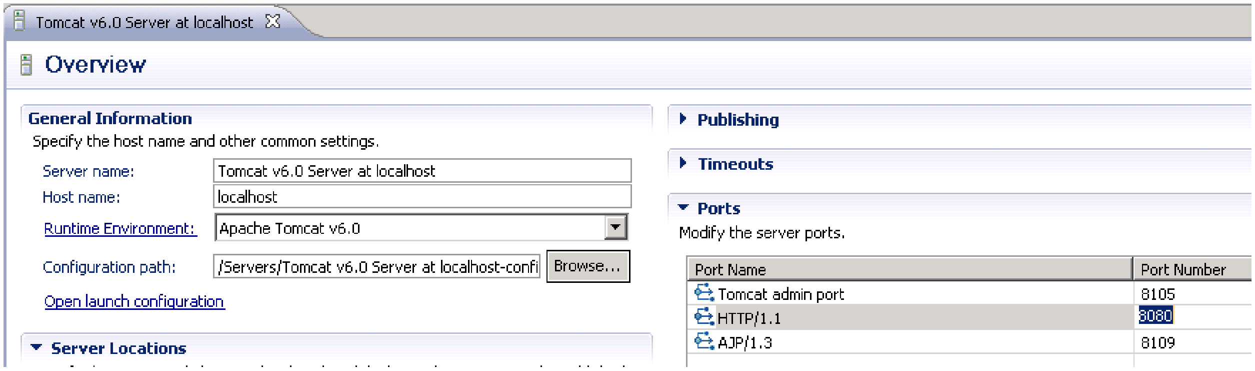
Navigate to the Plex2EWeb project and comment out the licensing server entry in WebClient.properties



```
#       licensingserver.licensefile.
#
# licensingserver.tcpport:
#       TCP port on which the Licensing Server listens.
#
# licensingserver.licensefile:
#       If no license server is in use, then specifies the
#       complete filesystem path to the license file (license.dat).
#       The directory containing license.dat must also contain the
#       file adclsdt.dat.
#

#licensingserver.ipaddr=localhost
#licensingserver.tcpport=65000

#licensingserver.licensefile=c\:/license/license.lic

######################### Log section #########################
#
# log4j.logger.com.adcaustin.webclient:
#       The level of the log messages which log4j will write
#       to the log file. Legal values are:
#             ALL, WebClientServlet
#             DEBUG, WebClientServlet
```

```
Tomcat v6.0 Server at localhost [Apache Tomcat] C:\Program Files (x86)\Java\jre6\bin\javaw.exe (May 29, 2011 11:41:32 AM
INFO: JK: ajp13 listening on /0.0.0.0:8009
May 29, 2011 11:41:35 AM org.apache.jk.server.JkMain start
INFO: Jk running ID=0 time=0/45  config=null
May 29, 2011 11:41:35 AM org.apache.catalina.startup.Catalina start
INFO: Server startup in 618 ms
Host=0:0:0:0:0:0:0:1
```

Double Click on the Tomcat server and ensure the HTTP port is set to 8080.



General Information

Specify the host name and other common settings.

Server name: Tomcat v6.0 Server at localhost

Host name: localhost

Runtime Environment: Apache Tomcat v6.0

Configuration path: /Servers/Tomcat v6.0 Server at localhost-confi Browse...

Open launch configuration

Ports

Modify the server ports.

| Port Name | Port Number |
|---|---|
| Tomcat admin port | 8105 |
| HTTP/1.1 | 8080 |
| AJP/1.3 | 8109 |

Restart the Tomcat server.

Note – to run the application the Tomcat Server should be in status **Started, Synchronized**. If it does not say that, restart the server to republish. In the case of erratic behavior due to incomplete publishing, stop the Tomcat server, right click, and perform a clean operation. This will re-sync the environment to your application.

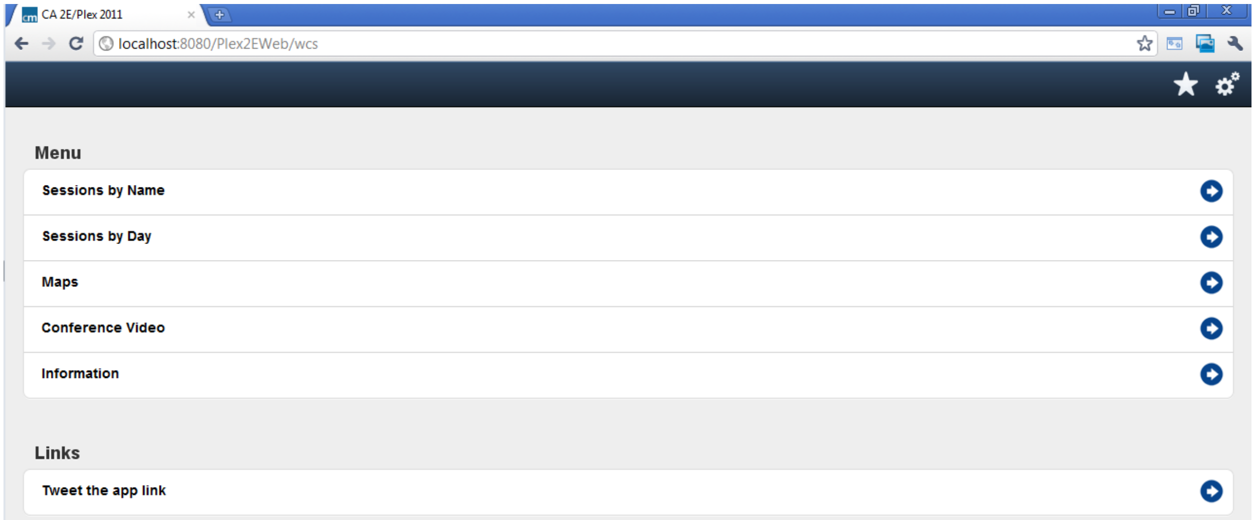
Note: if you get a port conflict message – ensure that other instances of Tomcat or other web servers are stopped. You can check Tomcat by the “Configure Tomcat” program shortcut.

## Run the default Application

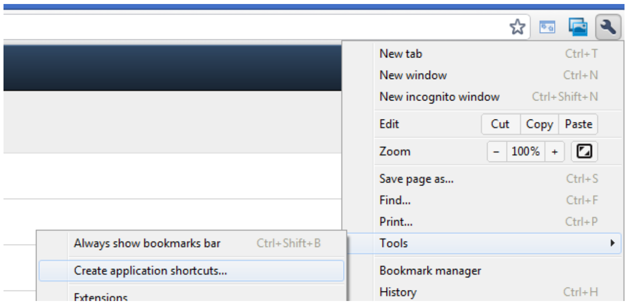
From a Google Chrome or Apple Safari Brower, open this URL:

http://localhost:8080/Plex2EWeb/wcs

Note that this page will not function in Internet Explorer



To create a shortcut to the urn, click on the wrench, go to tools and then “Create application shortcuts…”. From there you can create an icon to launch the app directly.



## Troubleshooting

If you don't get the above web page looks like this – verify:

- url is typed in correctly – url is case sensitive
- Tomcat is started – look at the servers tab in Eclipse and start the Tomcat service if necessary
- Check the most recent error log located at c:\logs\webclient*.log.
    - See the SQL Server connection from Eclipse section in the appendix. Verify you can access SQL Server from a java application. Check the entries in obrun.properties
    - Check the licensing entries in webclient.properties
- Contact CM First support at webclientiplus.com

## Inspect CA Plex Model

Open the CA Plex model  WXPCOURSE61.mdl located in director
C:\WebClientMobileWorkshop\wxpcourse60

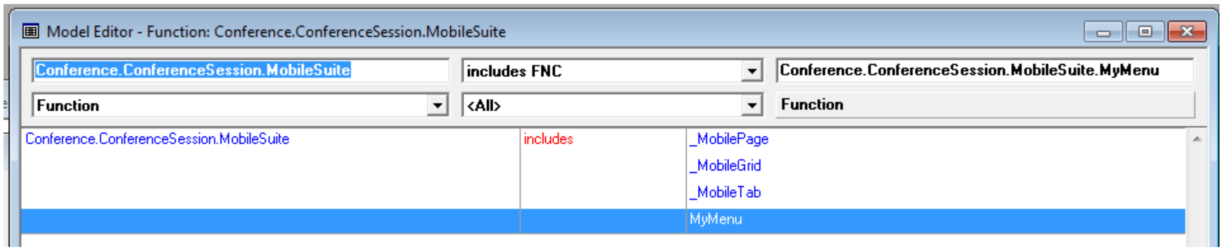
First, inspect Entity ConferenceSession and the MobileSuite function scoped to it. This will be the focus of our exercises – developing a conference agenda tool for our CA 2E/Plex conference.

Look at two abstract functions - _MobilePage and _MobileGrid. These are simple building blocks for a mobile application. Verify the inheritance is to standard CA patterns and to standard WebClient. You would create your own mobile standards layer in a similar fashion.

Also look at the control name properties for the buttons, grid, and search field. This technique will be used throughout the workshop to direct the look of the mobile presentation.

## Create a Hello World initial menu

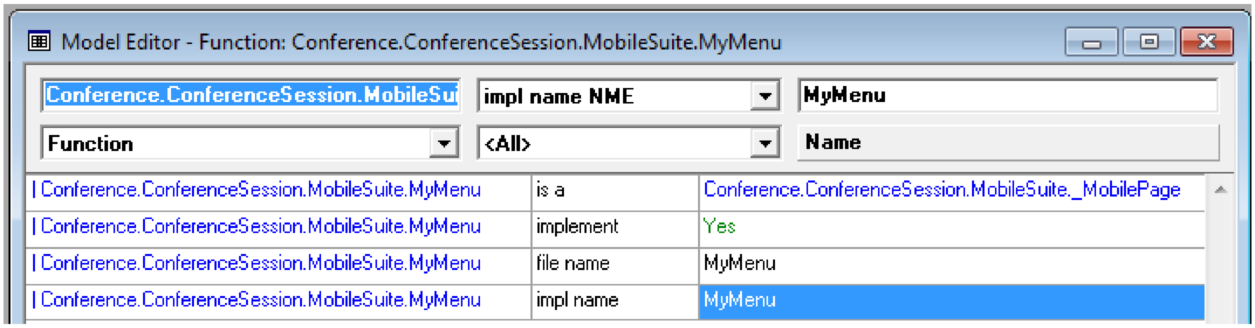
Create a new function called "MyMenu" that is scoped to ConferenceSession.MobileSuite



Model Editor - Function: Conference.ConferenceSession.MobileSuite

| | | |
|---|---|---|
| Conference.ConferenceSession.MobileSuite | includes FNC | Conference.ConferenceSession.MobileSuite.MyMenu |
| Function | <All> | Function |
| Conference.ConferenceSession.MobileSuite | includes | _MobilePage |
| | | _MobileGrid |
| | | _MobileTab |
| | | MyMenu |

Add the following triples



Model Editor - Function: Conference.ConferenceSession.MobileSuite.MyMenu

| Conference.ConferenceSession.MobileSui | impl name NME | MyMenu |
|---|---|---|
| Function | <All> | Name |
| \| Conference.ConferenceSession.MobileSuite.MyMenu | is a | Conference.ConferenceSession.MobileSuite._MobilePage |
| \| Conference.ConferenceSession.MobileSuite.MyMenu | implement | Yes |
| \| Conference.ConferenceSession.MobileSuite.MyMenu | file name | MyMenu |
| \| Conference.ConferenceSession.MobileSuite.MyMenu | impl name | MyMenu |

Go to the panel designer, and add a button called "Hello World"

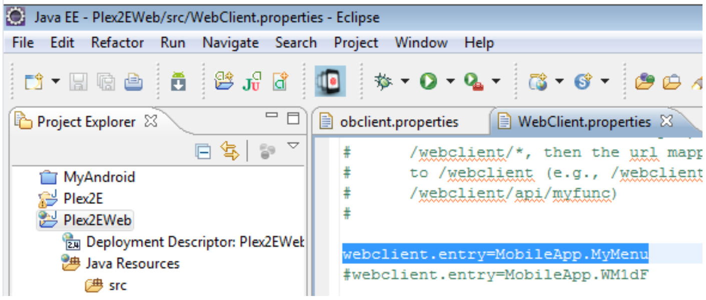
In the button control name property add the following text

HelloButton:MainArea:fieldSet=Menu

Generate the function. Note – you may have to reset the name allocator file in your generate and build options.

Go to eclipse and verify it automatically builds a mobile web page. If it does not build automatically, highlight the project and hit refresh to build the web pages.

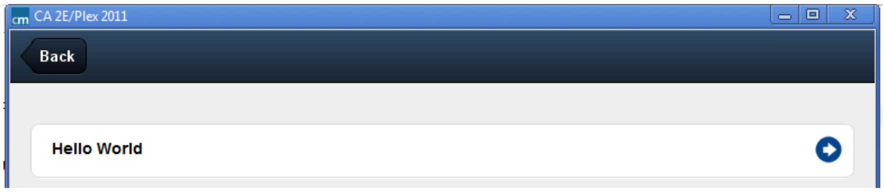
Change the WebClient.properties file entry function to MyMenu



Java EE - Plex2EWeb/src/WebClient.properties - Eclipse
File Edit Refactor Run Navigate Search Project Window Help
Project Explorer
MyAndroid
Plex2E
Plex2EWeb
Deployment Descriptor: Plex2EWet
Java Resources
src
obclient.properties
WebClient.properties

```
#       /webclient/*, then the url mapp
#       to /webclient (e.g., /webclient
#       /webclient/api/myfunc)
#

webclient.entry=MobileApp.MyMenu
#webclient.entry=MobileApp.WM1dF
```

Restart Tomcat and verify the following result



Congratulations – you have built your first mobile-optimized application!

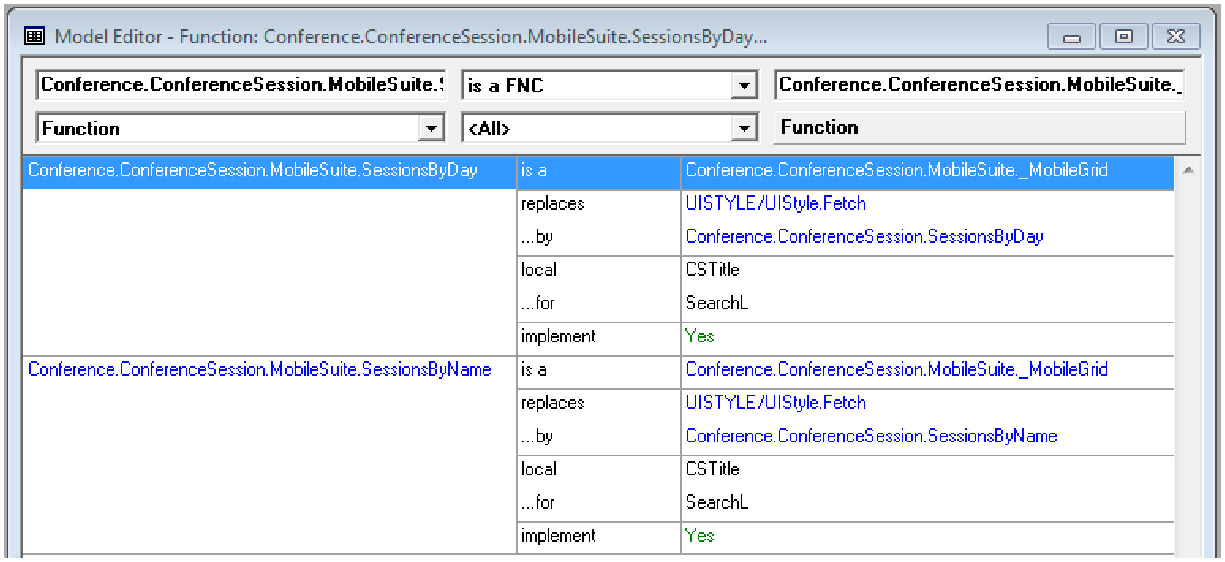
## Exercise 2 – Create a menu and a session grid

Next we will create two searchable grids over our session table.

First create two functions scoped to MobileSuite

- SessionsByDay
- SessionsByName

Enter the following triples to inherit from our pattern functions

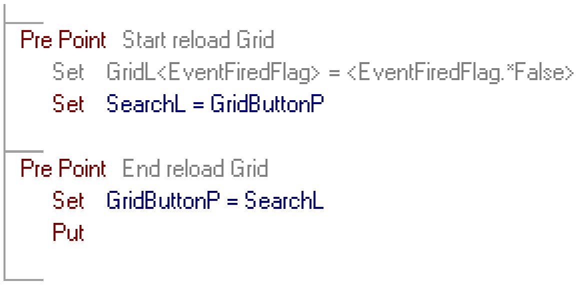


Model Editor - Function: Conference.ConferenceSession.MobileSuite.SessionsByDay...

| | | |
|---|---|---|
| Conference.ConferenceSession.MobileSuite.! | is a FNC | Conference.ConferenceSession.MobileSuite._ |
| Function | <All> | Function |

| | | |
|---|---|---|
| Conference.ConferenceSession.MobileSuite.SessionsByDay | is a | Conference.ConferenceSession.MobileSuite._MobileGrid |
| | replaces | UISTYLE/UIStyle.Fetch |
| | ...by | Conference.ConferenceSession.SessionsByDay |
| | local | CSTitle |
| | ...for | SearchL |
| | implement | Yes |
| Conference.ConferenceSession.MobileSuite.SessionsByName | is a | Conference.ConferenceSession.MobileSuite._MobileGrid |
| | replaces | UISTYLE/UIStyle.Fetch |
| | ...by | Conference.ConferenceSession.SessionsByName |
| | local | CSTitle |
| | ...for | SearchL |
| | implement | Yes |

In the action diagram, put in the following code to enable searching



```
Pre Point  Start reload Grid
    Set   GridL<EventFiredFlag> = <EventFiredFlag.*False>
    Set   SearchL = GridButtonP

Pre Point  End reload Grid
    Set   GridButtonP = SearchL
    Put
```

Next, go into the Panel Designer and hide all fields on GridP except CSTitle for the Sessions by Name function and all fields except CSTime and CSTitle on the Sessions by Date function

Now go into your menu function Panel Designer

- Remove the Hello World Button

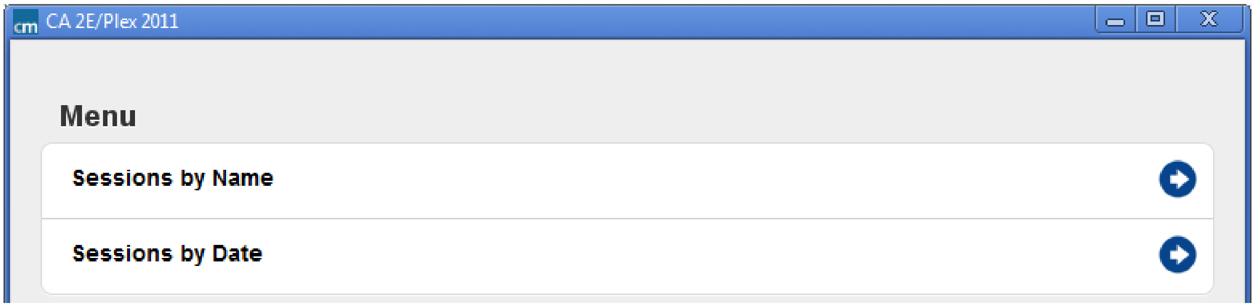
- Add two buttons called Sessions by Name and Sessions by Date
- Create / map two events to these buttons

Go to the Action Diagrammer and add calls to your new grid functions

```
Event   Event: SessionsByDate
   Call   Conference.ConferenceSession.MobileSuite.SessionsByDay

Event   Event: SessionsByName
   Call   Conference.ConferenceSession.MobileSuite.SessionsByName
```

Generate the menu and 2 grid functions

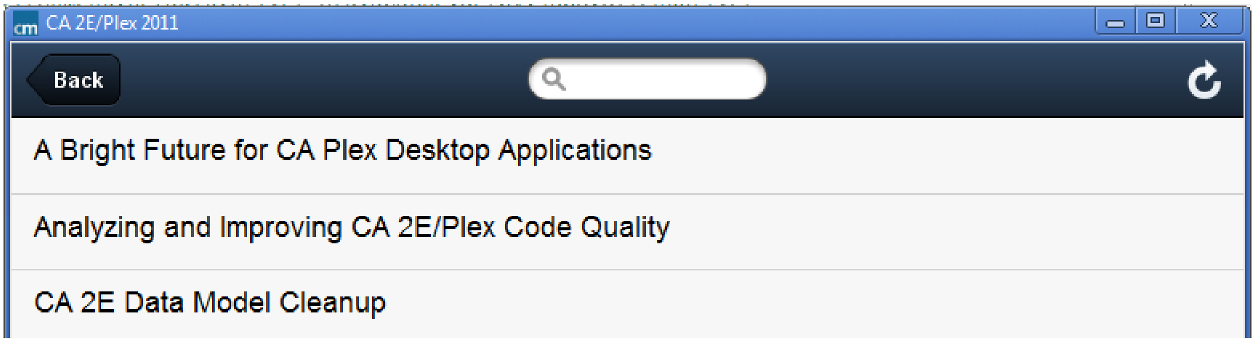
Run your application shortcut. You will end with screens that look like this:



Menu

Sessions by Name

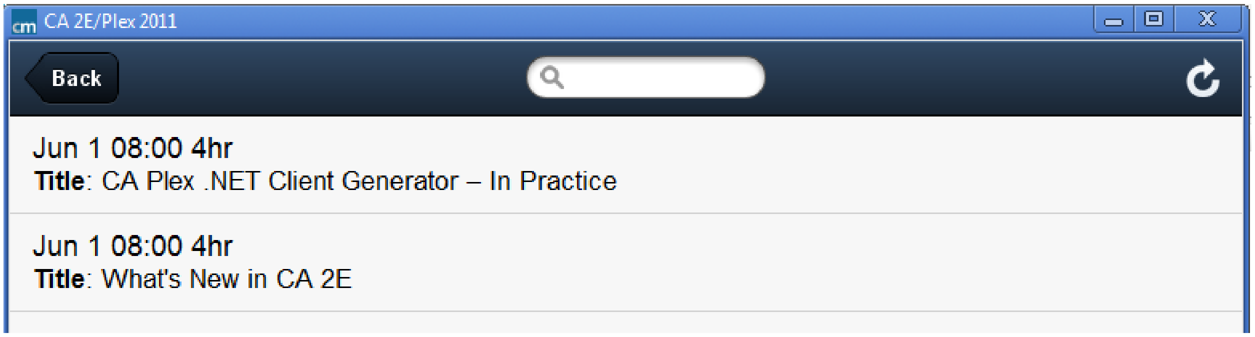
Sessions by Date



A Bright Future for CA Plex Desktop Applications

Analyzing and Improving CA 2E/Plex Code Quality

CA 2E Data Model Cleanup



Jun 1 08:00 4hr
**Title**: CA Plex .NET Client Generator – In Practice

Jun 1 08:00 4hr
**Title**: What's New in CA 2E

Next, lets experiment with grouping.

You can create groups by setting control name directives. The group column is the first visible field on the grid.

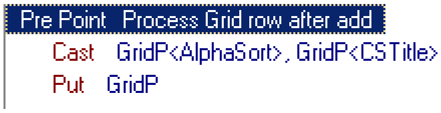
In the case of Session By Name, please do the following

Change the GridP control name property as follows

Grid1P:FullscreenArea:grouped=true:indexBar=true

Add a field AlphaSort as the first field in the grid. Make sure it is visible

Add the following action diagram code to populate AlphaSort with the first character of the title

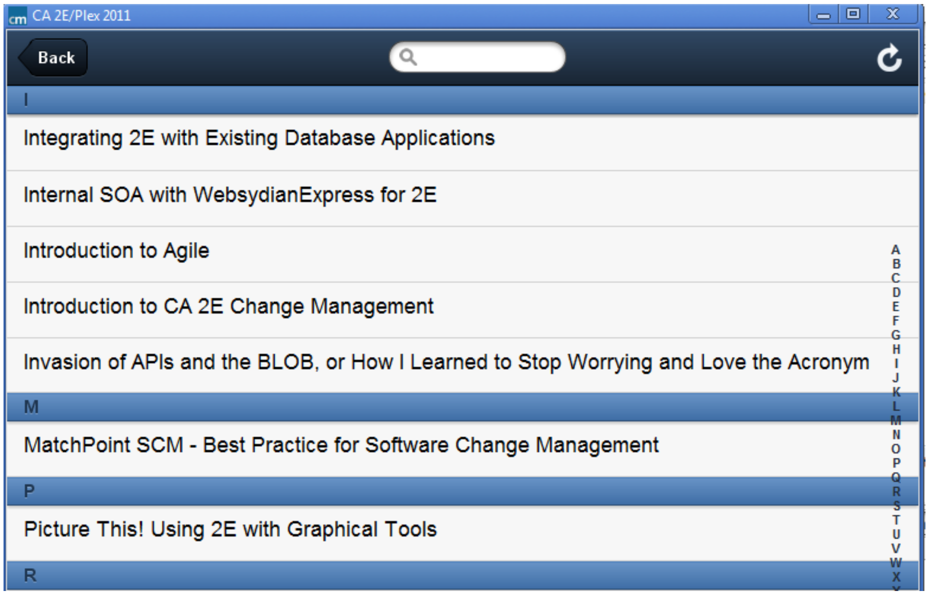


```
Pre Point  Process Grid row after add
    Cast   GridP<AlphaSort>, GridP<CSTitle>
    Put   GridP
```

In the case of Session by Date, change the control name to this:

Grid1P:FullscreenArea:grouped=true:indexBar=false

Generate and you will end up with grouped grids. In the case of Session By Name, you will also see an index bar to the right that lets you quickly select the first letter of the session you want to see.



I

Integrating 2E with Existing Database Applications

Internal SOA with WebsydianExpress for 2E

Introduction to Agile

Introduction to CA 2E Change Management

Invasion of APIs and the BLOB, or How I Learned to Stop Worrying and Love the Acronym

M

MatchPoint SCM - Best Practice for Software Change Management

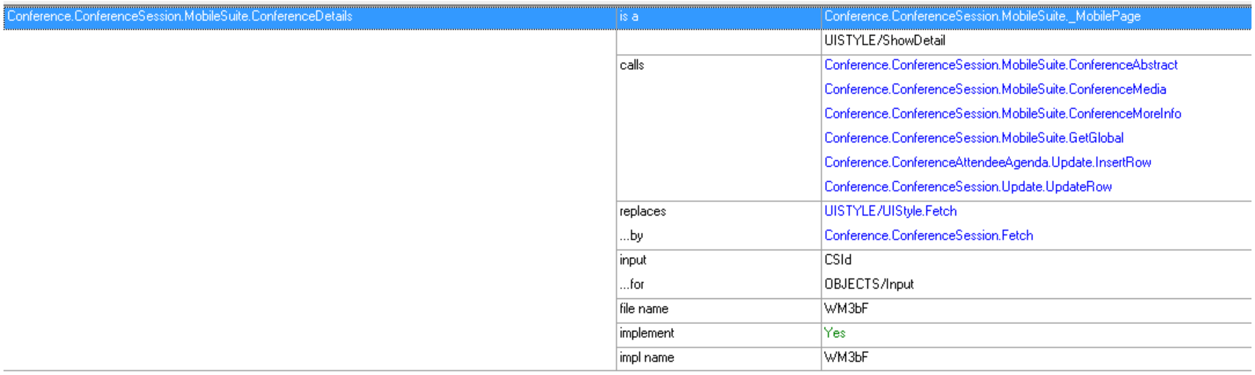
P

Picture This! Using 2E with Graphical Tools

R

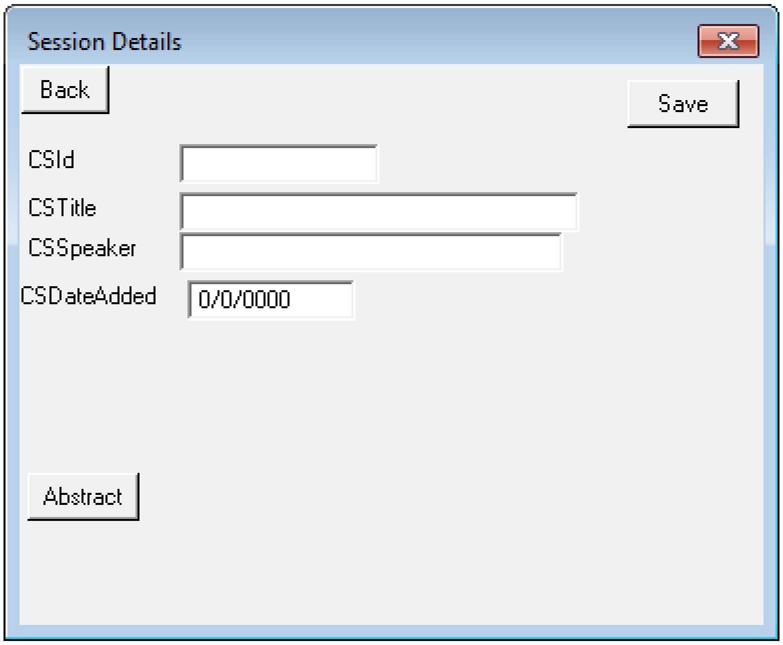
## Exercise 3 – Create detail pages

First, lets create a new page function



| | | |
|---|---|---|
| Conference.ConferenceSession.MobileSuite.ConferenceDetails | is a | Conference.ConferenceSession.MobileSuite._MobilePage |
| | | UISTYLE/ShowDetail |
| | calls | Conference.ConferenceSession.MobileSuite.ConferenceAbstract |
| | | Conference.ConferenceSession.MobileSuite.ConferenceMedia |
| | | Conference.ConferenceSession.MobileSuite.ConferenceMoreInfo |
| | | Conference.ConferenceSession.MobileSuite.GetGlobal |
| | | Conference.ConferenceAttendeeAgenda.Update.InsertRow |
| | | Conference.ConferenceSession.Update.UpdateRow |
| | replaces | UISTYLE/UIStyle.Fetch |
| | ...by | Conference.ConferenceSession.Fetch |
| | input | CSId |
| | ...for | OBJECTS/Input |
| | file name | WM3bF |
| | implement | Yes |
| | impl name | WM3bF |

Next, create a panel design that looks something like this. Hide all fields except what you see here.



Next, edit the control name properties as follows. Important note – field control names go in the Edit component level, not the field level.

Save Button: SaveButton:ToolbarArea:iconCls=action:align=left:toolbarNum=1

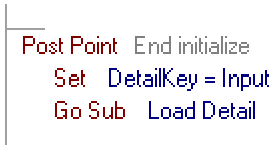
Text fields, use the following pattern changing id: Id:MainArea:label=ID

Date field: DateAdded:MainArea:label=Date:template=DatePicker

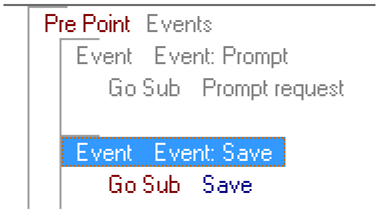
Note- You can also attach a fieldSet at the end: fieldSet=Basic Info, fieldSet=Advanced Info

AbstractButton: AbstractButton:MainArea:fieldSet=More

Go to the action diagram and add basic statements

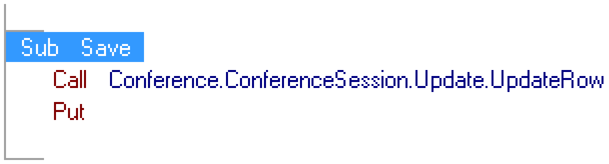


```
Post Point   End initialize
    Set    DetailKey = Input
    Go Sub    Load Detail
```

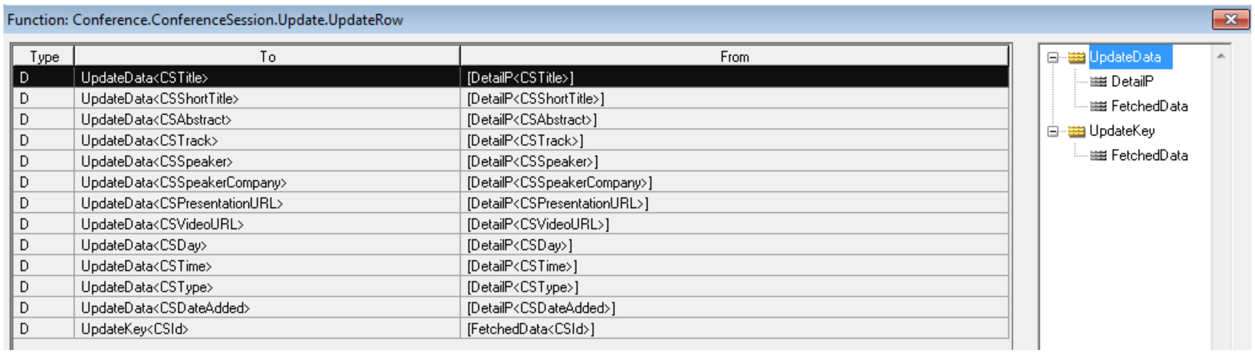


```
Pre Point   Events
    Event    Event: Prompt
        Go Sub    Prompt request

    Event    Event: Save
        Go Sub    Save
```

Note – be sure to put a Get statement in before the “Call” below.



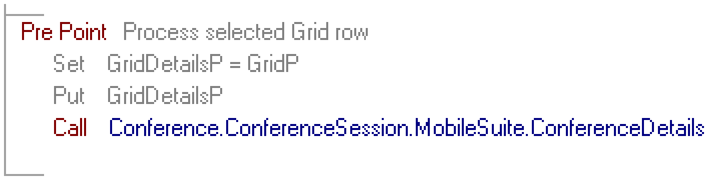
```
Sub   Save
    Call    Conference.ConferenceSession.Update.UpdateRow
    Put
```



Function: Conference.ConferenceSession.Update.UpdateRow

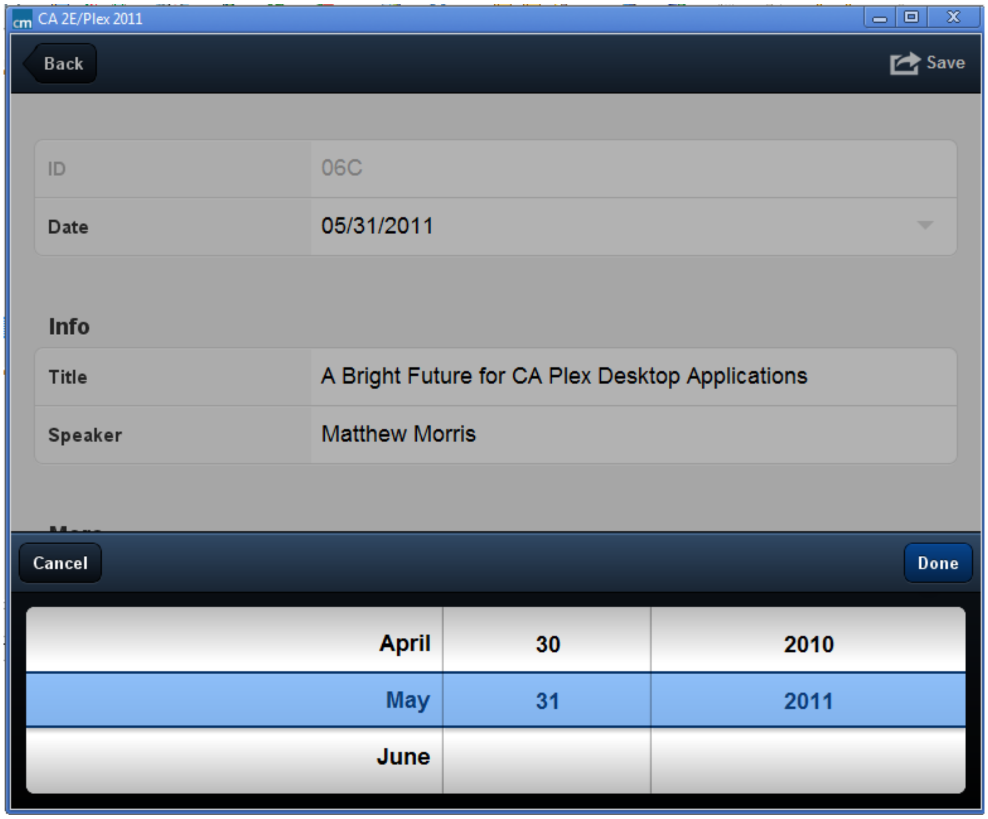
| Type | To | From |
|---|---|---|
| D | UpdateData<CSTitle> | [DetailP<CSTitle>] |
| D | UpdateData<CSShortTitle> | [DetailP<CSShortTitle>] |
| D | UpdateData<CSAbstract> | [DetailP<CSAbstract>] |
| D | UpdateData<CSTrack> | [DetailP<CSTrack>] |
| D | UpdateData<CSSpeaker> | [DetailP<CSSpeaker>] |
| D | UpdateData<CSSpeakerCompany> | [DetailP<CSSpeakerCompany>] |
| D | UpdateData<CSPresentationURL> | [DetailP<CSPresentationURL>] |
| D | UpdateData<CSVideoURL> | [DetailP<CSVideoURL>] |
| D | UpdateData<CSDay> | [DetailP<CSDay>] |
| D | UpdateData<CSTime> | [DetailP<CSTime>] |
| D | UpdateData<CSType> | [DetailP<CSType>] |
| D | UpdateData<CSDateAdded> | [DetailP<CSDateAdded>] |
| D | UpdateKey<CSId> | [FetchedData<CSId>] |

Go to the _MobileGrid function and add/change a line to call the detail function



```
Pre Point   Process selected Grid row
    Set    GridDetailsP = GridP
    Put    GridDetailsP
    Call    Conference.ConferenceSession.MobileSuite.ConferenceDetails
```

Generate and run



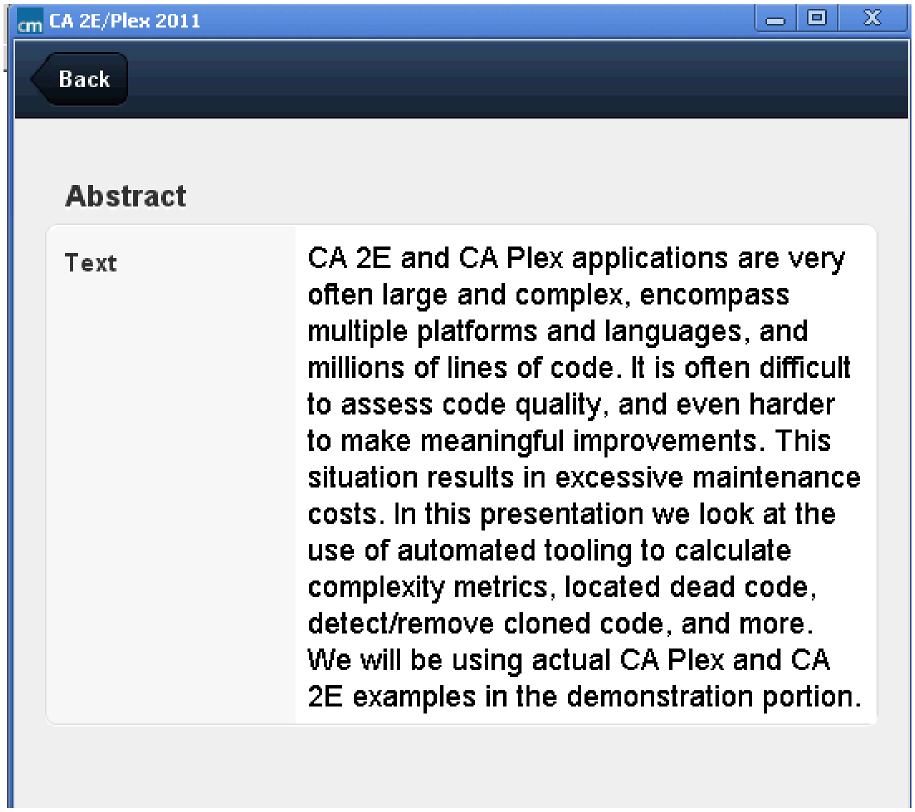
| | |
|---|---|
| ID | 06C |
| Date | 05/31/2011 |

Info

| | |
|---|---|
| Title | A Bright Future for CA Plex Desktop Applications |
| Speaker | Matthew Morris |

| | | |
|---|---|---|
| April | 30 | 2010 |
| May | 31 | 2011 |
| June | | |

Extra Credit – Implement an Abstract viewing function and tie it to the Abstract disclosure button. Use the multiline property on the edit control.



Abstract

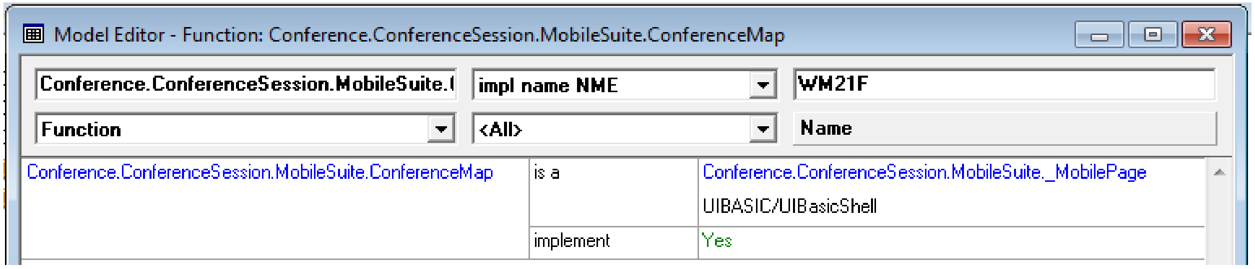
Text

CA 2E and CA Plex applications are very often large and complex, encompass multiple platforms and languages, and millions of lines of code. It is often difficult to assess code quality, and even harder to make meaningful improvements. This situation results in excessive maintenance costs. In this presentation we look at the use of automated tooling to calculate complexity metrics, located dead code, detect/remove cloned code, and more. We will be using actual CA Plex and CA 2E examples in the demonstration portion.

## Exercise 4 – Maps and location services

In this exercise we are going to create a simple map with geo markers.

First, create a function ConferenceMap to contain the map.

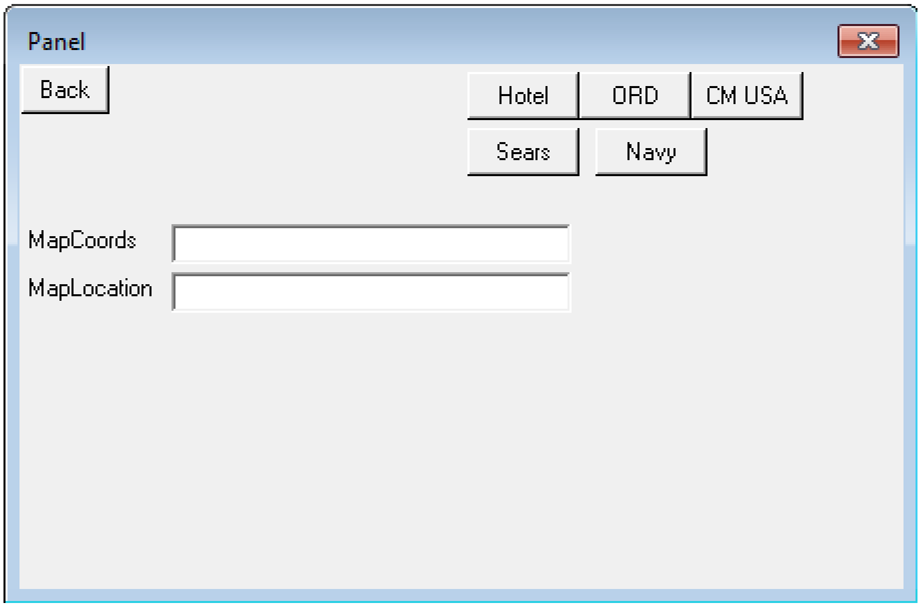


Model Editor - Function: Conference.ConferenceSession.MobileSuite.ConferenceMap

| | | |
|---|---|---|
| Conference.ConferenceSession.MobileSuite.( | impl name NME | WM21F |
| Function | <All> | Name |

| | | |
|---|---|---|
| Conference.ConferenceSession.MobileSuite.ConferenceMap | is a | Conference.ConferenceSession.MobileSuite._MobilePage<br>UIBASIC/UIBasicShell |
| | implement | Yes |

Second, modify the panel design to look something like this.



You will place two fields on the design to contain longitude and latitude coordinates in the form xx.xxxxxx, yy.yyyyyy. You can use any text field or the suggested fields.

In the control name of fields use these strings:

- MapCoords:FullscreenArea:template=WebMap
- MapLocation:FullscreenArea:template=WebLocation

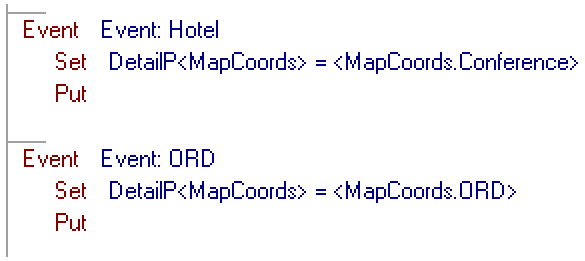
You should also create some buttons to change the location of the map viewport. You can use your own coordinates or here are some coordinates from the local area:

- Hotel: 42.030044, -88.032722
- CM First Austin: 30.353611,-97.748829
- 0'Hare International (ORD): 41.9816486, -87.9066714
- Sears Tower: 41.879595,-87.63588
- Navy Pier: 41.890266,-87.610345

Your button control names will look something like this:

- HotelBtn:ToolbarArea:toolbarNum=1:ui=round:align=right

Your code will look something like this.



```
Event   Event: Hotel
    Set   DetailP<MapCoords> = <MapCoords.Conference>
    Put

Event   Event: ORD
    Set   DetailP<MapCoords> = <MapCoords.ORD>
    Put
```

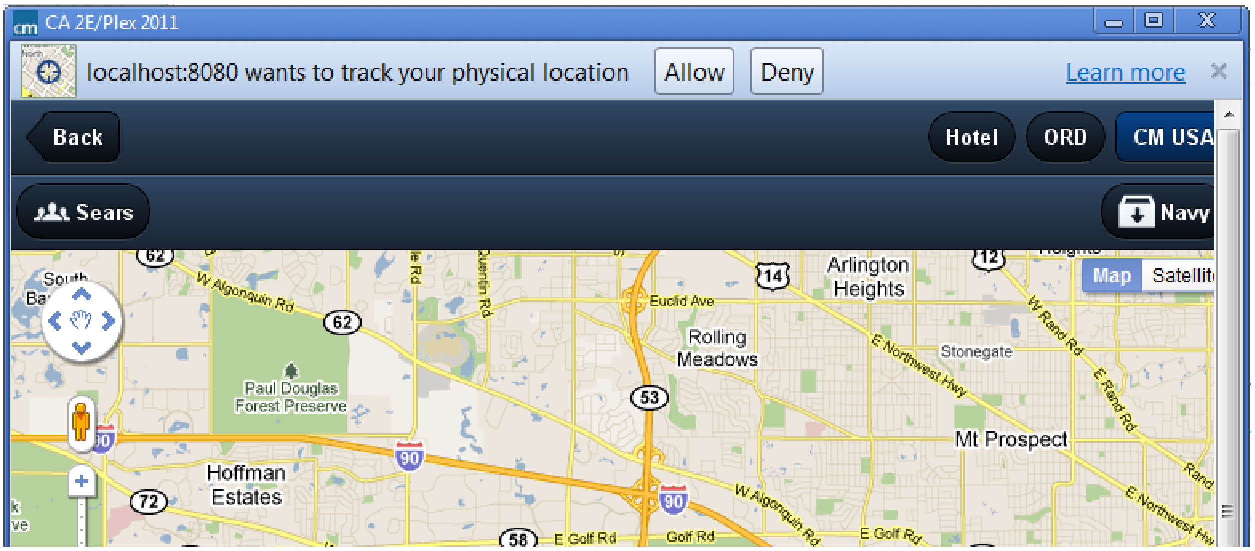
Take the opportunity to explore different button ui styles and icons, and multiple tool bars.

For example, dock a navy button to toolbar 2

- NavyBtn:ToolbarArea:toolbarNum=2:iconCls=organize:ui=round:align=right

Next add the Map to your menu.

Your resulting function will look something like this:

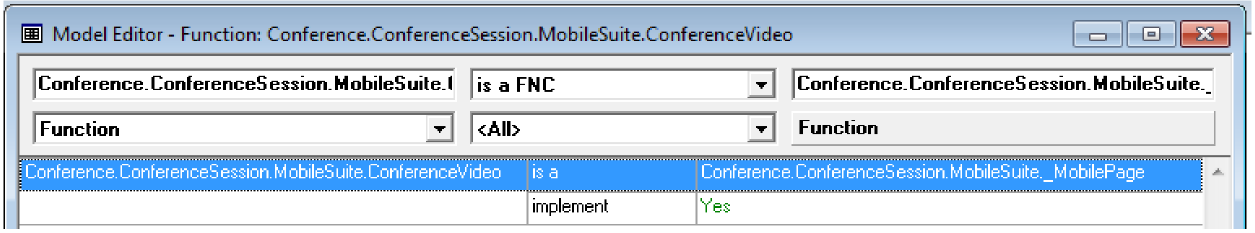


localhost:8080 wants to track your physical location

## Exercise 5 – Videos and links

In this exercise we will use the Video template, and create links to external urls.

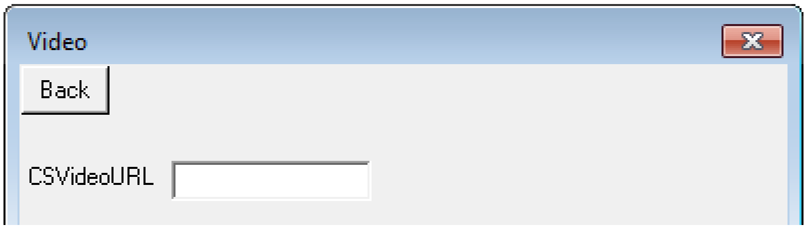
First, create a function ConferenceVideo to stream a video file.



Model Editor - Function: Conference.ConferenceSession.MobileSuite.ConferenceVideo

| Conference.ConferenceSession.MobileSuite.( | is a FNC | Conference.ConferenceSession.MobileSuite._ |
|---|---|---|
| Function | <All> | Function |
| Conference.ConferenceSession.MobileSuite.ConferenceVideo | is a | Conference.ConferenceSession.MobileSuite._MobilePage |
| | implement | Yes |

Second, modify the panel design to look something like this



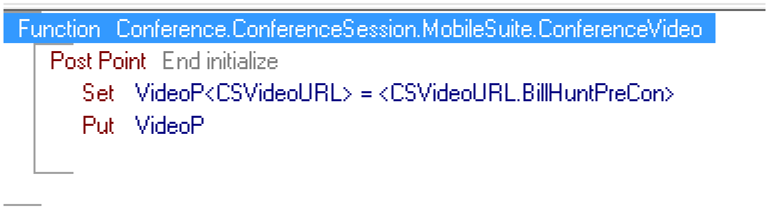
In the control name of field use the string:

- Video:FullscreenArea:template=Video

In your action diagram, set the value of the video to an url. For example, you can use this url for Bill Hunt's preconference presentation:

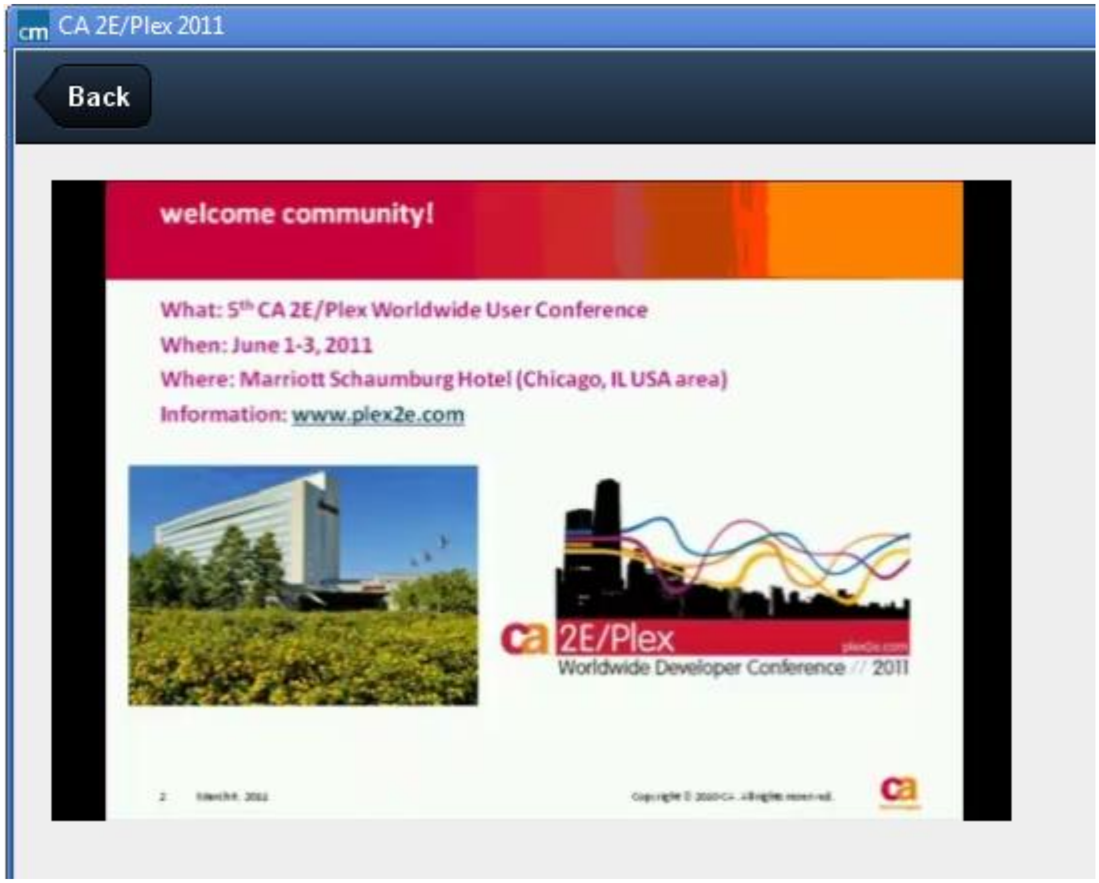
- http://mobileportal.cmfirsttech.com/Plex2EWeb/document/plex2e.mp4

I



```
Function  Conference.ConferenceSession.MobileSuite.ConferenceVideo
   Post Point   End initialize
      Set   VideoP<CSVideoURL> = <CSVideoURL.BillHuntPreCon>
      Put   VideoP
```

Add a menu option to your main menu, and try it out.



welcome community!

What: 5th CA 2E/Plex Worldwide User Conference

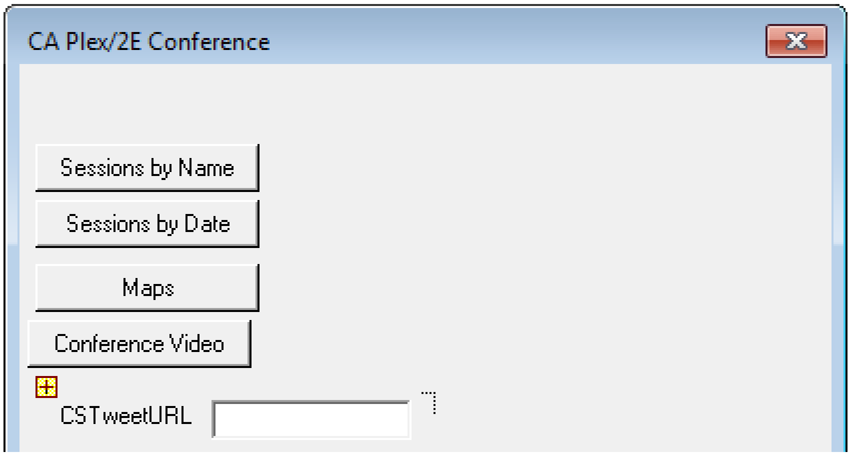
When: June 1-3, 2011

Where: Marriott Schaumburg Hotel (Chicago, IL USA area)

Information: www.plex2e.com

As part two of this exercise, lets create a web link to other types of web content. For example, on your main menu perhaps you would like a link to twitter.

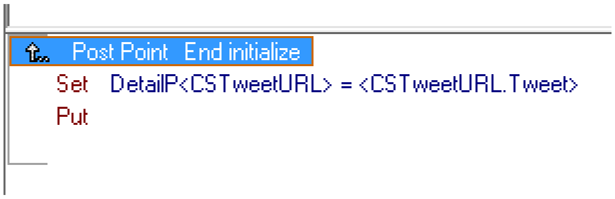
To do this, simply put a text field on your panel, such as your main menu.



You can then tie field to the WebURL template. For example – to go to twitter, you could set your url field to http://twitter.com/share and put the following in the control name property:

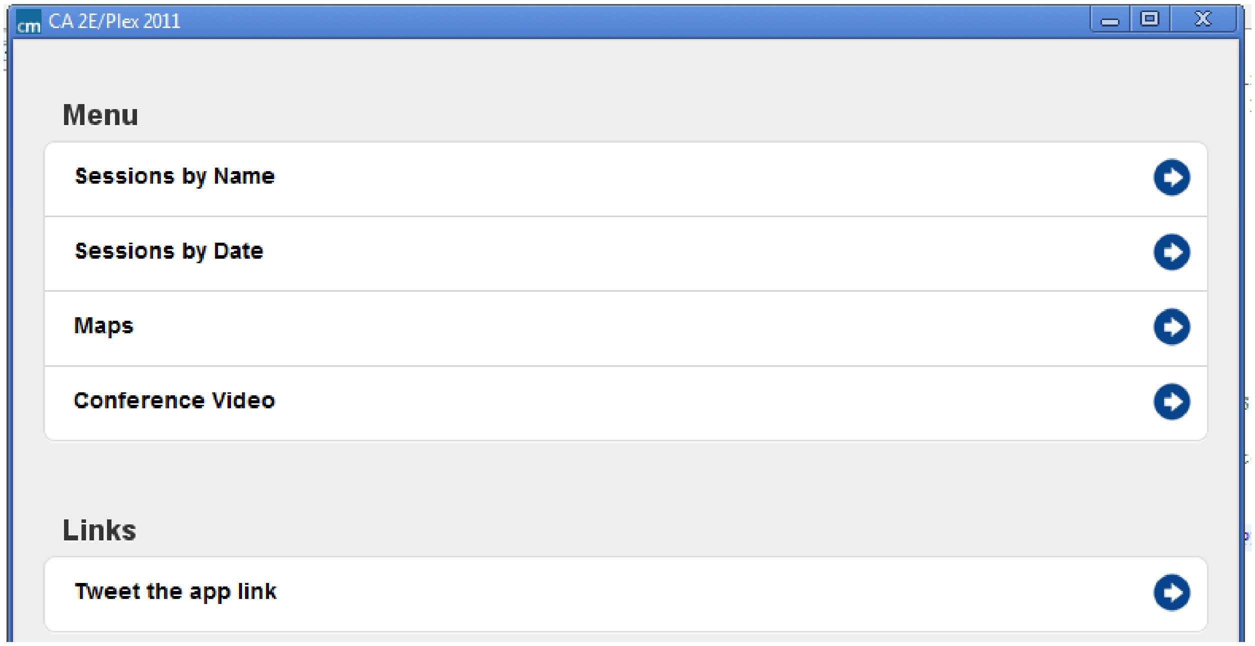
- Tweet:MainArea:template=WebURL:label=Tweet the app link:fieldSet=Links

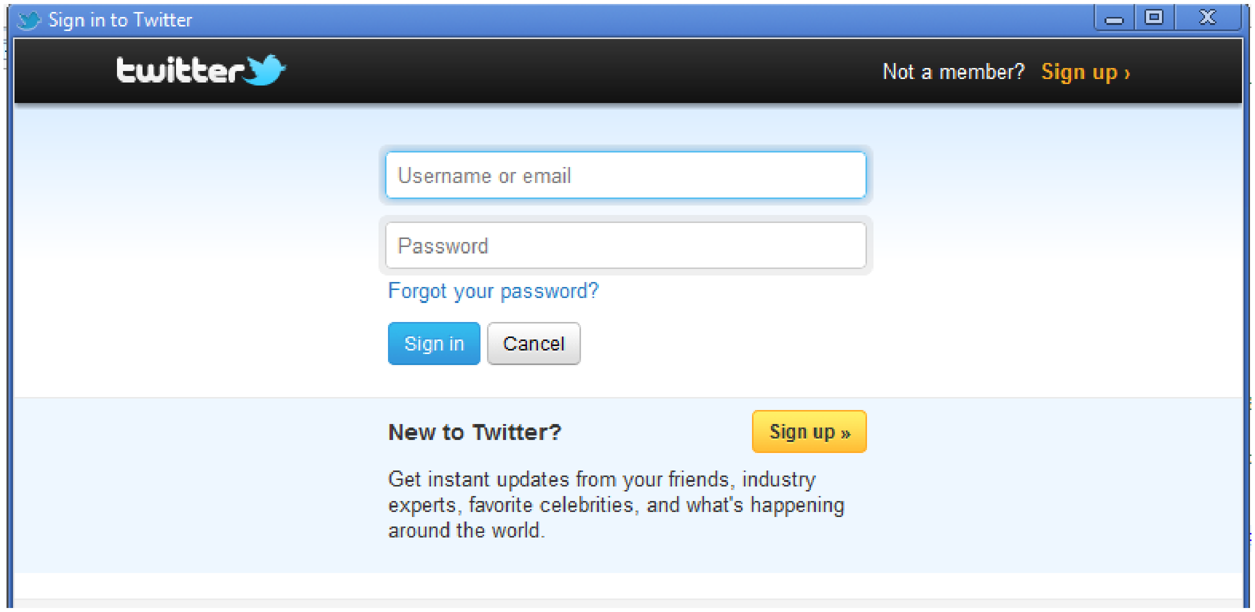
Add some action diagram code and you are finished.



```
Post Point  End initialize
    Set   DetailP<CSTweetURL> = <CSTweetURL.Tweet>
    Put
```

Generate and run





Sign in to Twitter

Not a member? Sign up ›

Username or email

Password

Forgot your password?

Sign in Cancel

New to Twitter? Sign up »

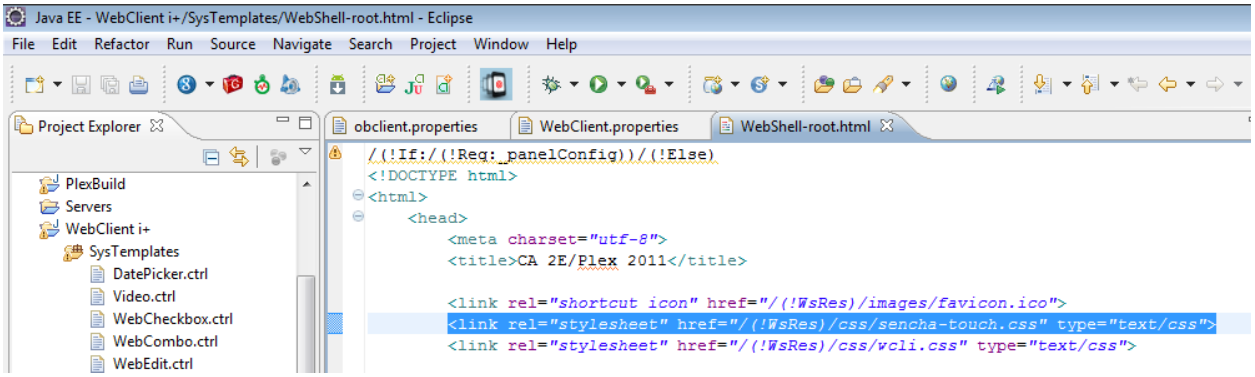
Get instant updates from your friends, industry experts, favorite celebrities, and what's happening around the world.

# Exercise 6 – Appearance

WebClient Mobile uses Sencha Touch / CSS3. With this you have the ability to make global changes to the themes.

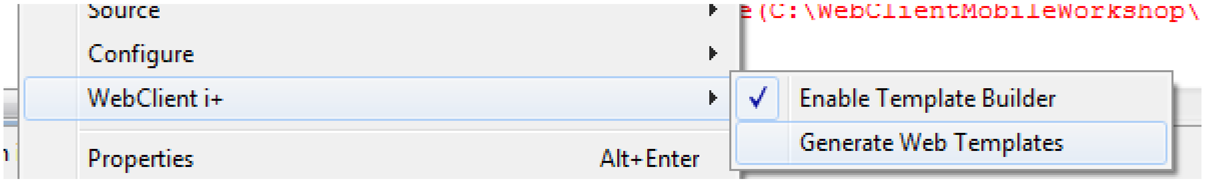
First, try changing the css file to obtain different looks.

Go to the WebClient i+ project, and navigate to WebShell-root.html. Change the sencha-touch.css line to one of the others available (see the CSS folder)

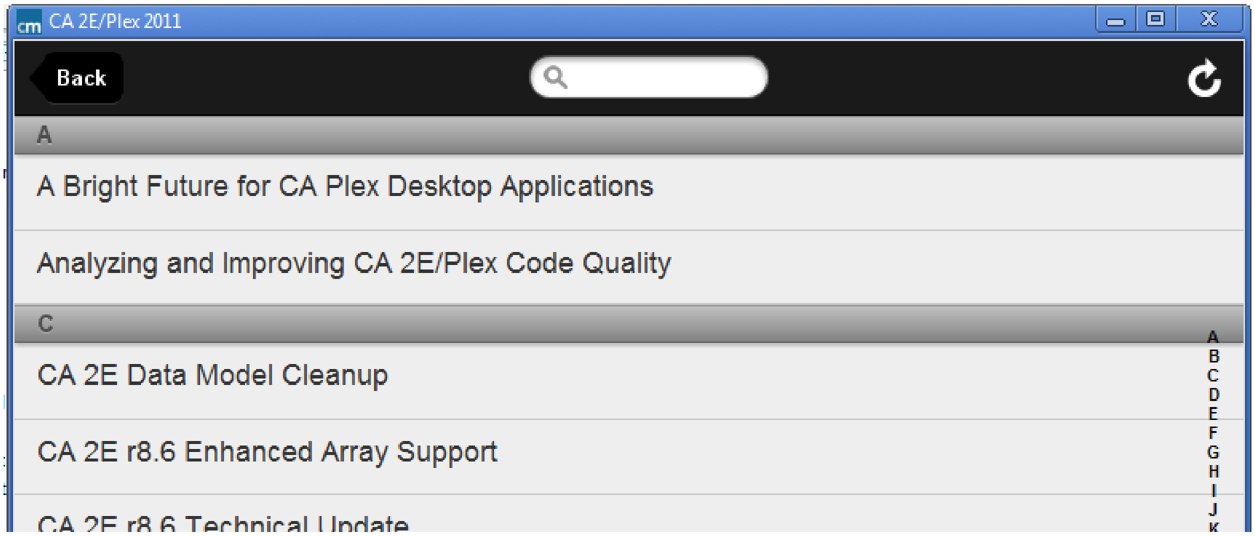


```
/(!If:/(!Req:_panelConfig))/(!Else)
<!DOCTYPE html>
<html>
    <head>
        <meta charset="utf-8">
        <title>CA 2E/Plex 2011</title>

        <link rel="shortcut icon" href="/(!WsRes)/images/favicon.ico">
        <link rel="stylesheet" href="/(!WsRes)/css/sencha-touch.css" type="text/css">
        <link rel="stylesheet" href="/(!WsRes)/css/wcli.css" type="text/css">
```

To quickly regenerate the templates, right click on the Plex2E project and select the WebClient i+ option to generate the web templates. This will generate all of the WebClient templates in one operation.



Here are the results of changing to android.css.



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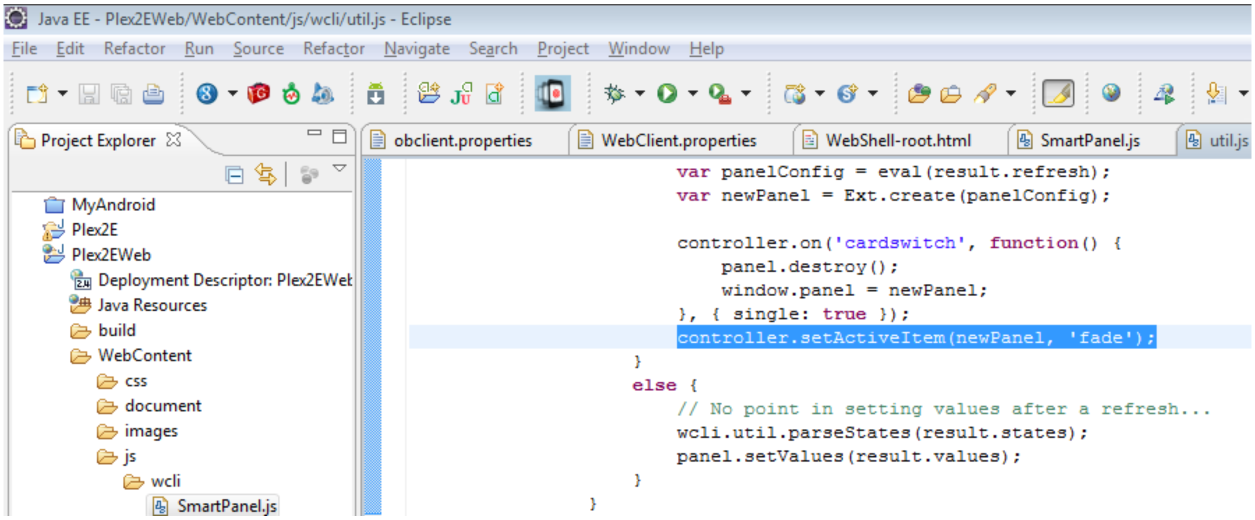
CA 2E Data Model Cleanup

CA 2E r8.6 Enhanced Array Support

CA 2E r8.6 Technical Update

Next, try changing the screen transition animation. Note that this change only shows up on mobile devices.

Navigate to the Plex2EWeb Project, and then navigate from the WebContent folder to the wcli javascript. Change the line in the javascript to fade, cube, or slide.



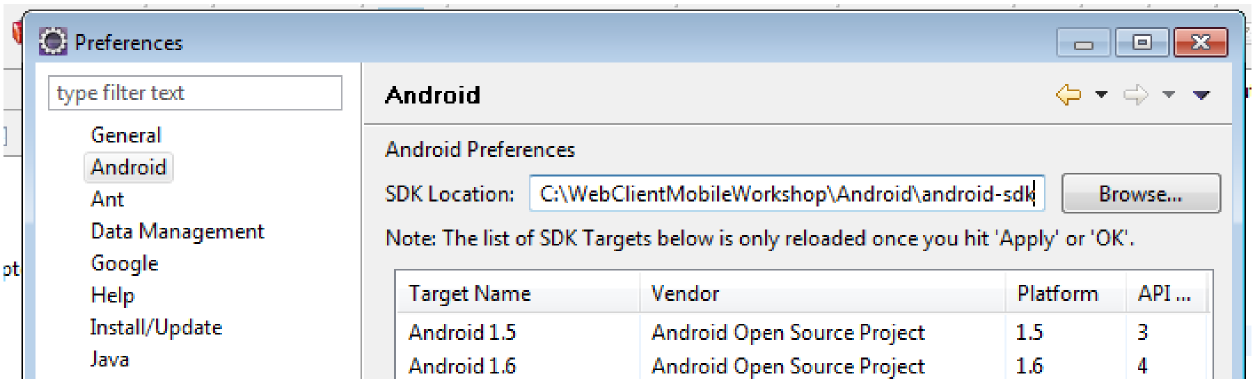
```
        var panelConfig = eval(result.refresh);
        var newPanel = Ext.create(panelConfig);

        controller.on('cardswitch', function() {
            panel.destroy();
            window.panel = newPanel;
        }, { single: true });
        controller.setActiveItem(newPanel, 'fade');
    }
    else {
        // No point in setting values after a refresh...
        wcli.util.parseStates(result.states);
        panel.setValues(result.values);
    }
}
```

Save and republish the app.

## Exercise 7 – Native App Deployment

In this exercise we will create a native application of the type that can be deployed to the Android Market.

First, go to your Eclipse preferences under the window menu. Click on the Android preferences and change the path as shown:



Preferences

type filter text

- General
- Android
- Ant
- Data Management
- Google
- Help
- Install/Update
- Java

Android

Android Preferences

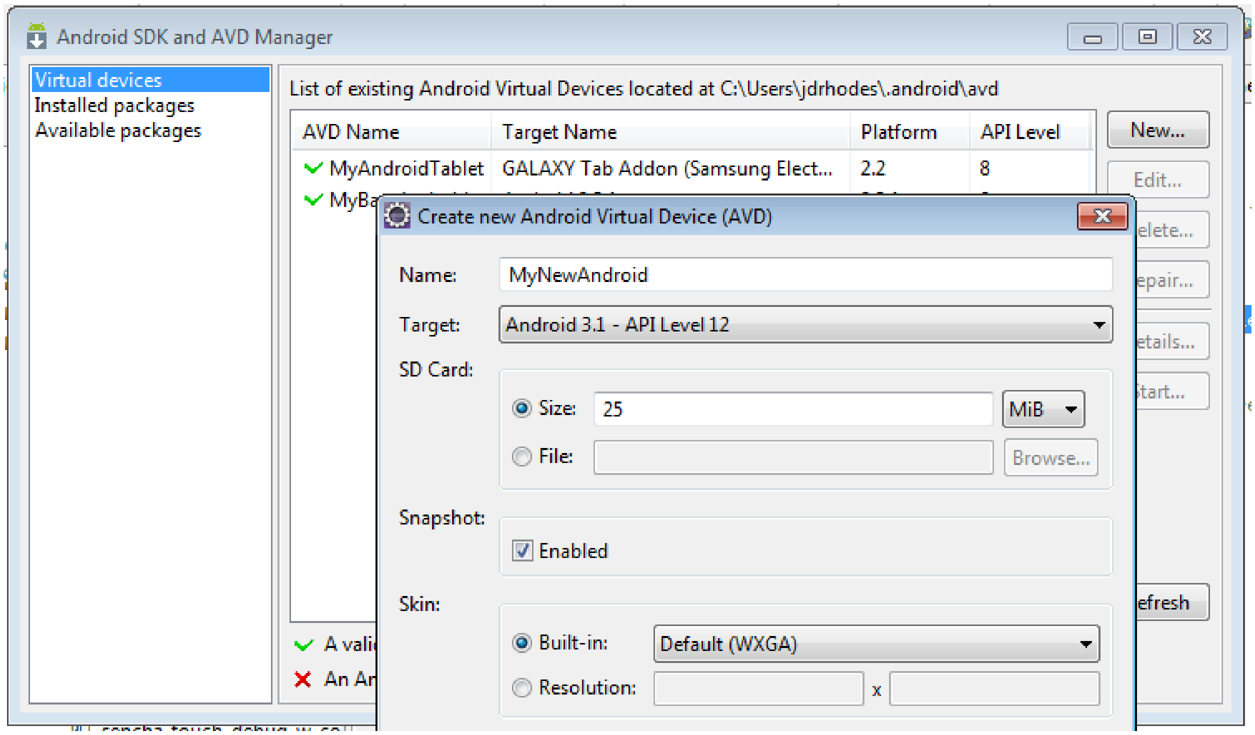
SDK Location: C:\WebClientMobileWorkshop\Android\android-sdk

Note: The list of SDK Targets below is only reloaded once you hit 'Apply' or 'OK'.

| Target Name | Vendor | Platform | API ... |
|---|---|---|---|
| Android 1.5 | Android Open Source Project | 1.5 | 3 |
| Android 1.6 | Android Open Source Project | 1.6 | 4 |

Click on the Android SDK and AVD Manager

Create a new Android simulation device



Android SDK and AVD Manager

- Virtual devices
- Installed packages
- Available packages

List of existing Android Virtual Devices located at C:\Users\jdrhodes\.android\avd

| AVD Name | Target Name | Platform | API Level |
|---|---|---|---|
| ✓ MyAndroidTablet | GALAXY Tab Addon (Samsung Elect... | 2.2 | 8 |
| ✓ MyBa | | | |

✓ A vali

✗ An Ar

Create new Android Virtual Device (AVD)

Name: MyNewAndroid

Target: Android 3.1 - API Level 12

SD Card:

● Size: 25 MiB

○ File:

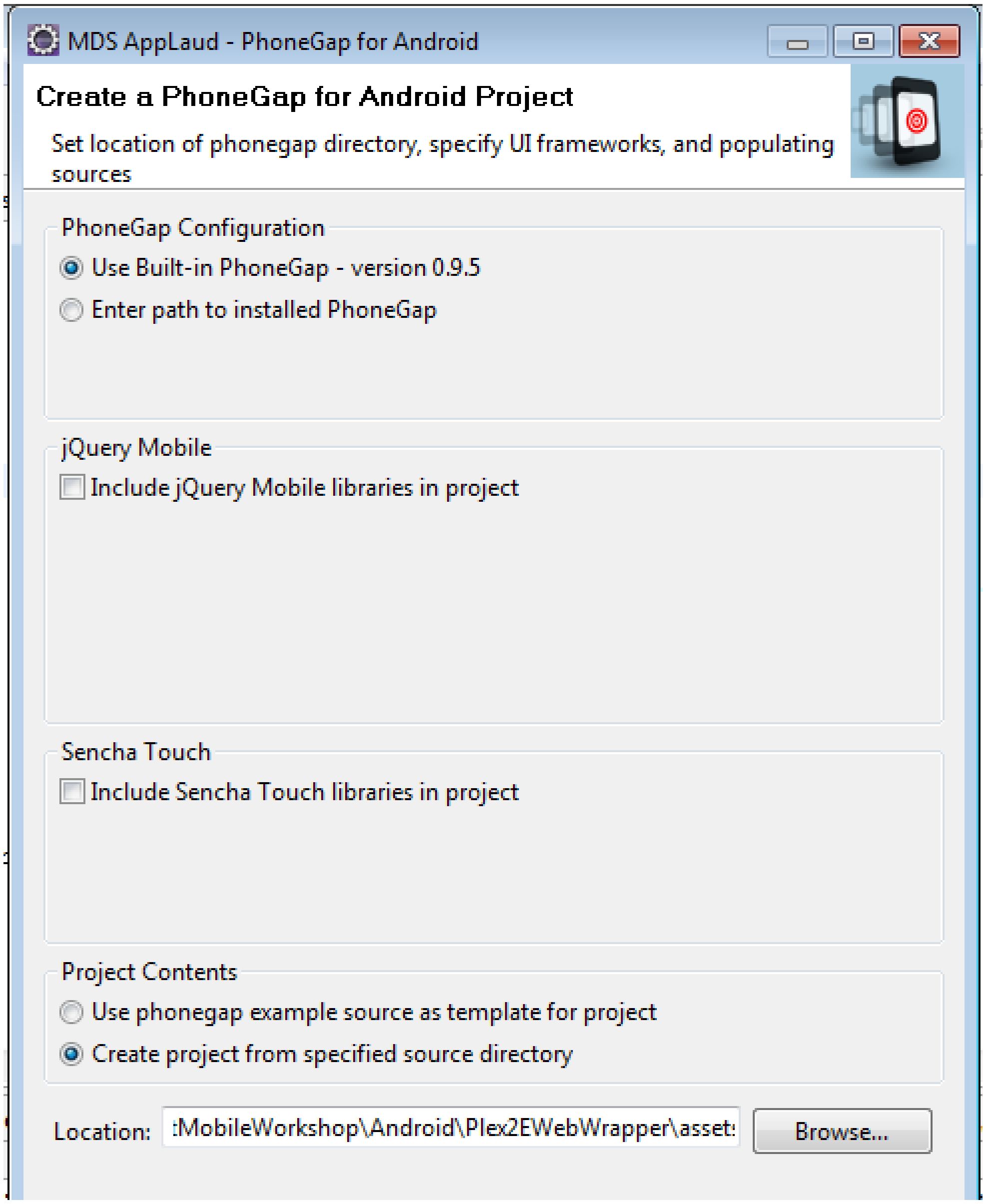
Snapshot:

☑ Enabled

Skin:

● Built-in: Default (WXGA)

○ Resolution: x



MDS AppLaud - PhoneGap for Android

**Create a PhoneGap for Android Project**

Set location of phonegap directory, specify UI frameworks, and populating sources

PhoneGap Configuration

● Use Built-in PhoneGap - version 0.9.5

○ Enter path to installed PhoneGap

jQuery Mobile

□ Include jQuery Mobile libraries in project

Sencha Touch

□ Include Sencha Touch libraries in project

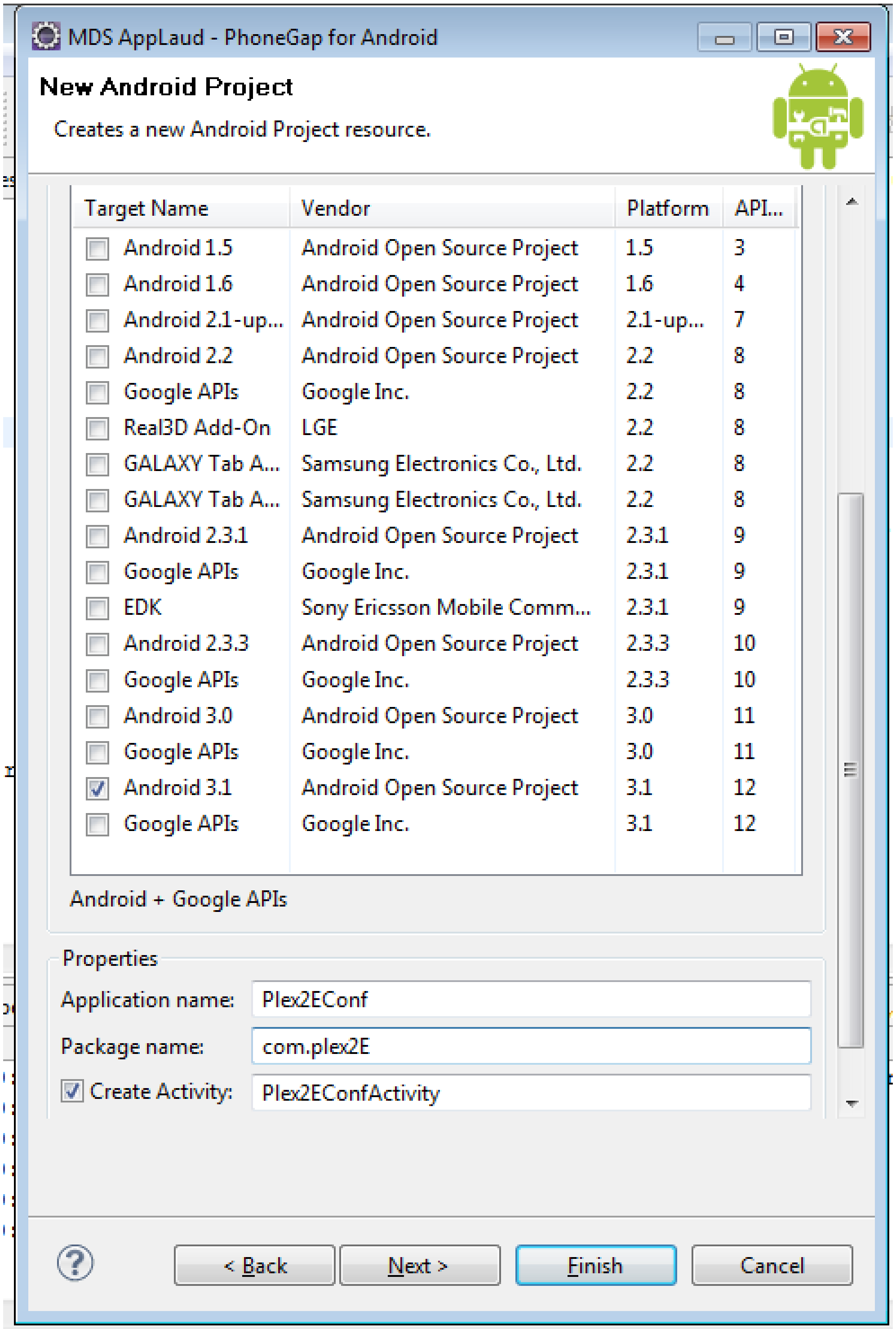
Project Contents

○ Use phonegap example source as template for project

● Create project from specified source directory

Location: :MobileWorkshop\Android\Plex2EWebWrapper\asset:

C:\WebClientMobileWorkshop\Android\Plex2EWebWrapper\assets\www



MDS AppLaud - PhoneGap for Android

New Android Project

Creates a new Android Project resource.

| Target Name | Vendor | Platform | API... |
|---|---|---|---|
| □ Android 1.5 | Android Open Source Project | 1.5 | 3 |
| □ Android 1.6 | Android Open Source Project | 1.6 | 4 |
| □ Android 2.1-up... | Android Open Source Project | 2.1-up... | 7 |
| □ Android 2.2 | Android Open Source Project | 2.2 | 8 |
| □ Google APIs | Google Inc. | 2.2 | 8 |
| □ Real3D Add-On | LGE | 2.2 | 8 |
| □ GALAXY Tab A... | Samsung Electronics Co., Ltd. | 2.2 | 8 |
| □ GALAXY Tab A... | Samsung Electronics Co., Ltd. | 2.2 | 8 |
| □ Android 2.3.1 | Android Open Source Project | 2.3.1 | 9 |
| □ Google APIs | Google Inc. | 2.3.1 | 9 |
| □ EDK | Sony Ericsson Mobile Comm... | 2.3.1 | 9 |
| □ Android 2.3.3 | Android Open Source Project | 2.3.3 | 10 |
| □ Google APIs | Google Inc. | 2.3.3 | 10 |
| □ Android 3.0 | Android Open Source Project | 3.0 | 11 |
| □ Google APIs | Google Inc. | 3.0 | 11 |
| ☑ Android 3.1 | Android Open Source Project | 3.1 | 12 |
| □ Google APIs | Google Inc. | 3.1 | 12 |

Android + Google APIs

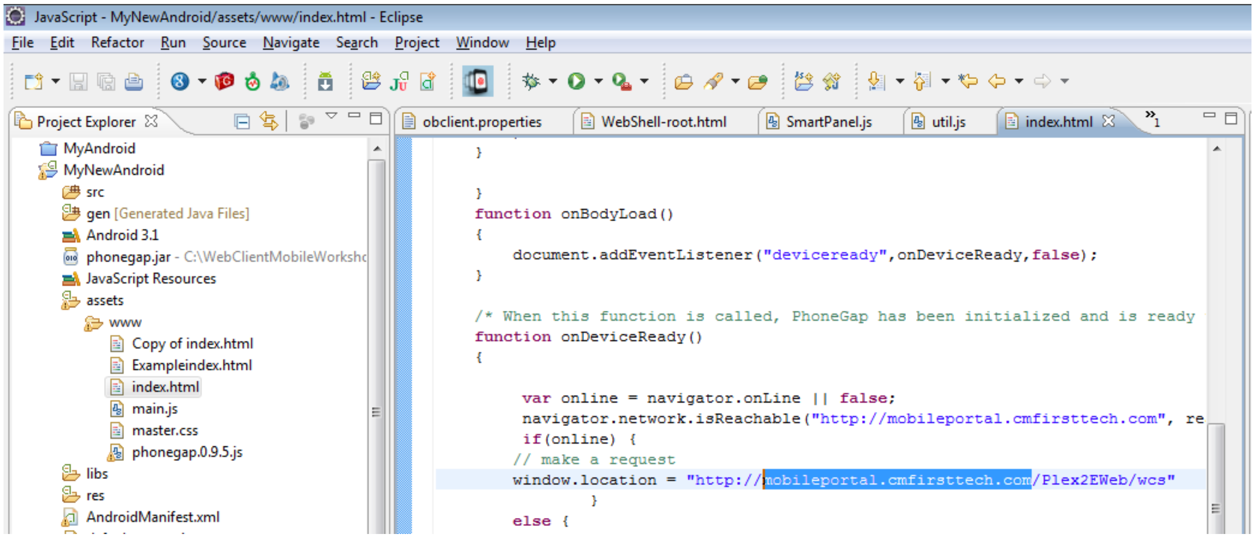
Properties

Application name: Plex2EConf

Package name: com.plex2E

☑ Create Activity: Plex2EConfActivity

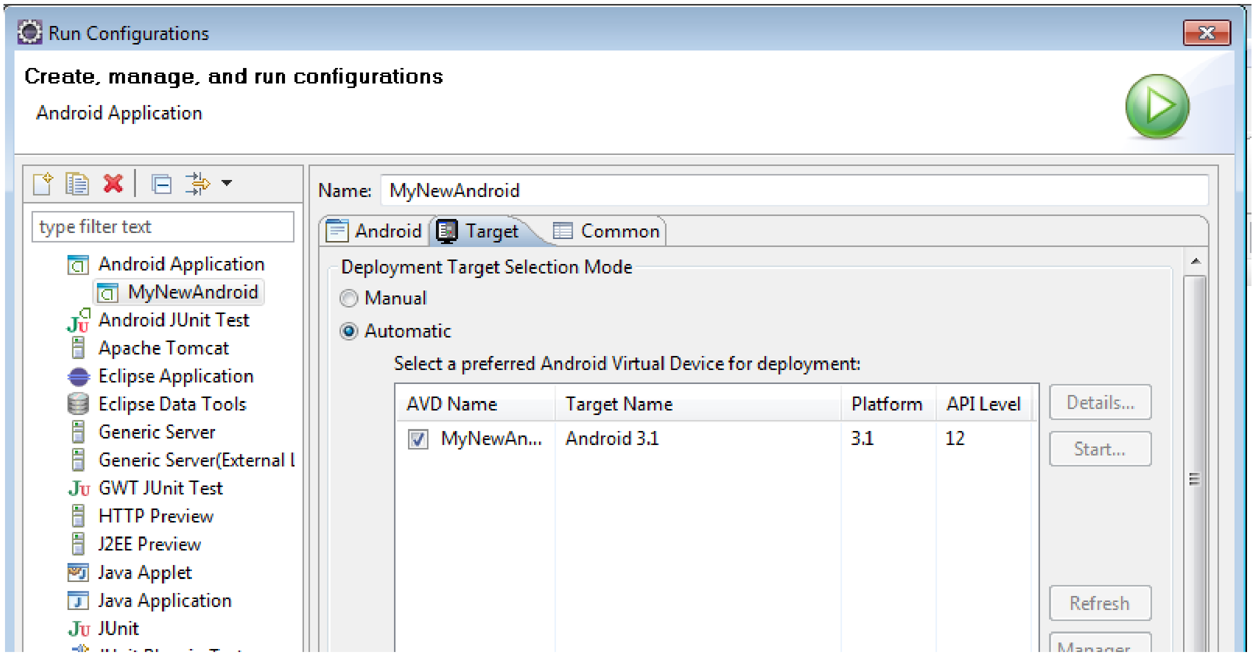
Navigate to the index.html file in your new project. Change to site to the url of your development site



JavaScript - MyNewAndroid/assets/www/index.html - Eclipse

```
    }

    }
    function onBodyLoad()
    {
        document.addEventListener("deviceready",onDeviceReady,false);
    }

    /* When this function is called, PhoneGap has been initialized and is ready
    function onDeviceReady()
    {

         var online = navigator.onLine || false;
         navigator.network.isReachable("http://mobileportal.cmfirsttech.com", re
         if(online) {
        // make a request
        window.location = "http://mobileportal.cmfirsttech.com/Plex2EWeb/wcs"
                }
        else {
```

Go to run configurations and make sure your new device is selected under target



Run Configurations

Create, manage, and run configurations

Android Application

Name: MyNewAndroid

Target

Deployment Target Selection Mode

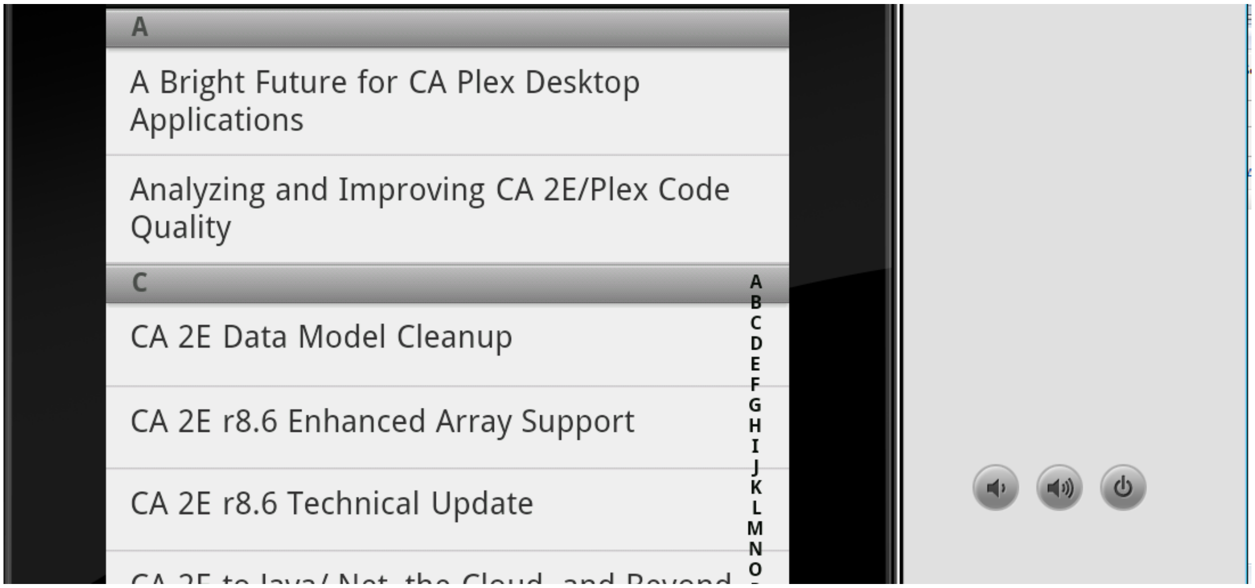
○ Manual

● Automatic

Select a preferred Android Virtual Device for deployment:

| AVD Name | Target Name | Platform | API Level |
|---|---|---|---|
| ☑ MyNewAn... | Android 3.1 | 3.1 | 12 |

Run the application. Note that the emulator is slow. It is much faster to connect your own device for testing – beyond the scope of this course, but not difficult.



A

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C

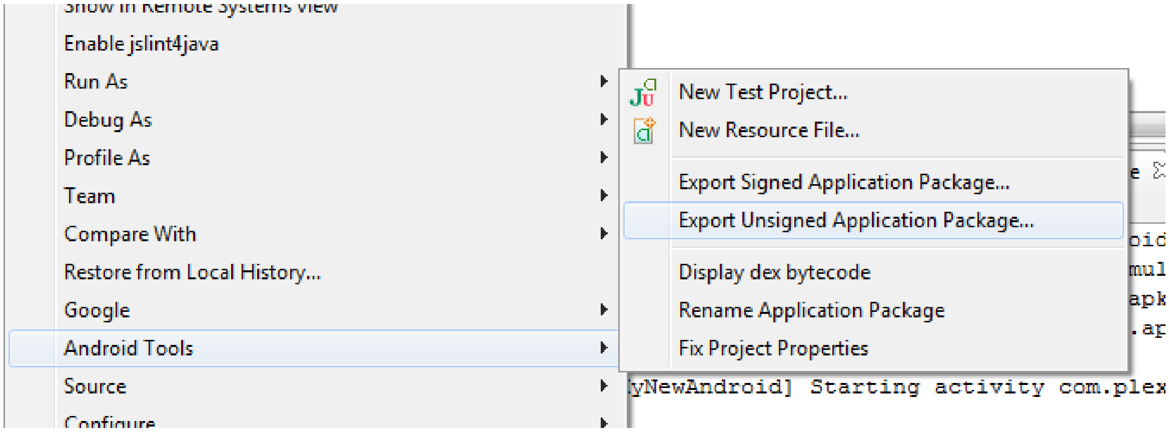
CA 2E Data Model Cleanup

CA 2E r8.6 Enhanced Array Support

CA 2E r8.6 Technical Update

CA 2E to Java/.Net, the Cloud, and Beyond

Export the APK file.

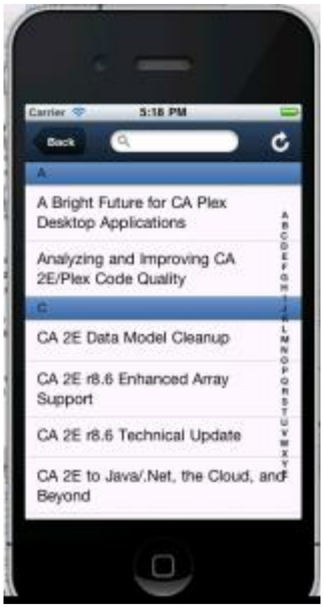


```
yNewAndroid] Starting activity com.plex
```

If you are planning to release commercial applications, you should sign up with google and get code signing credentials.

## Congratulations!

You have completed the workshop.



A Bright Future for CA Plex Desktop Applications

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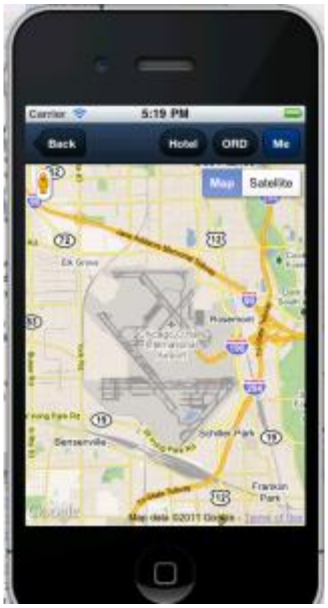
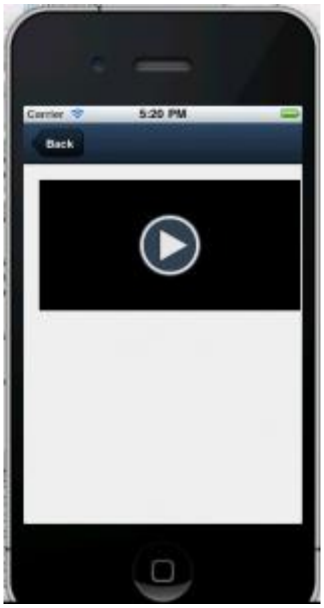
CA 2E r8.6 Technical Update

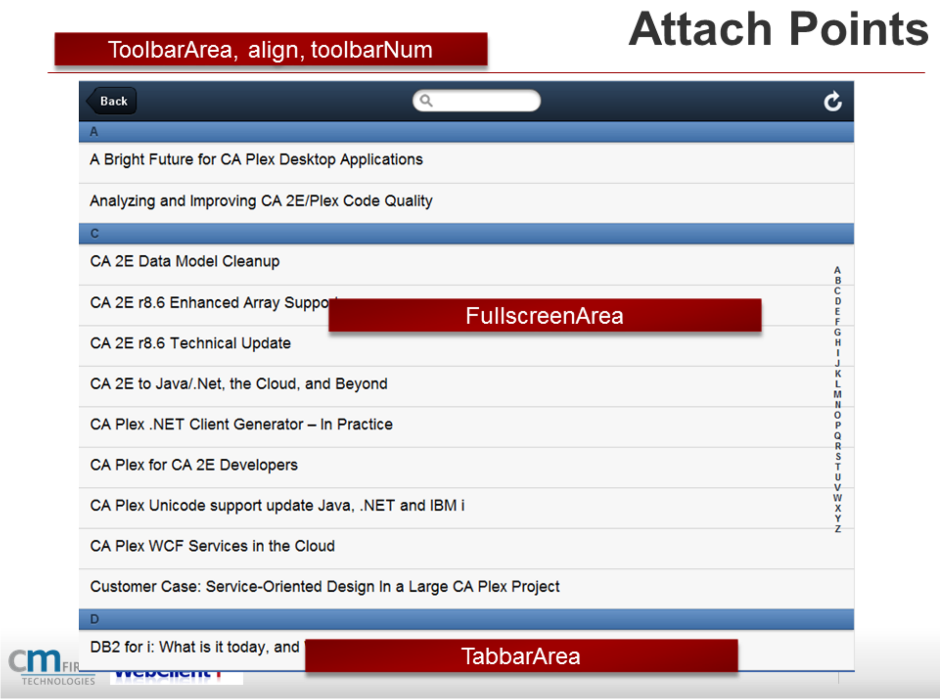
CA 2E to Java/.Net, the Cloud, and Beyond





If you are interested in the XCode version of PhoneGap, contact CM First for this project file.

## Appendix – Attach Points



### Attach Points

ToolbarArea, align, toolbarNum

FullscreenArea

TabbarArea

A Bright Future for CA Plex Desktop Applications

Analyzing and Improving CA 2E/Plex Code Quality

CA 2E Data Model Cleanup

CA 2E r8.6 Enhanced Array Suppo

CA 2E r8.6 Technical Update

CA 2E to Java/.Net, the Cloud, and Beyond

CA Plex .NET Client Generator – In Practice

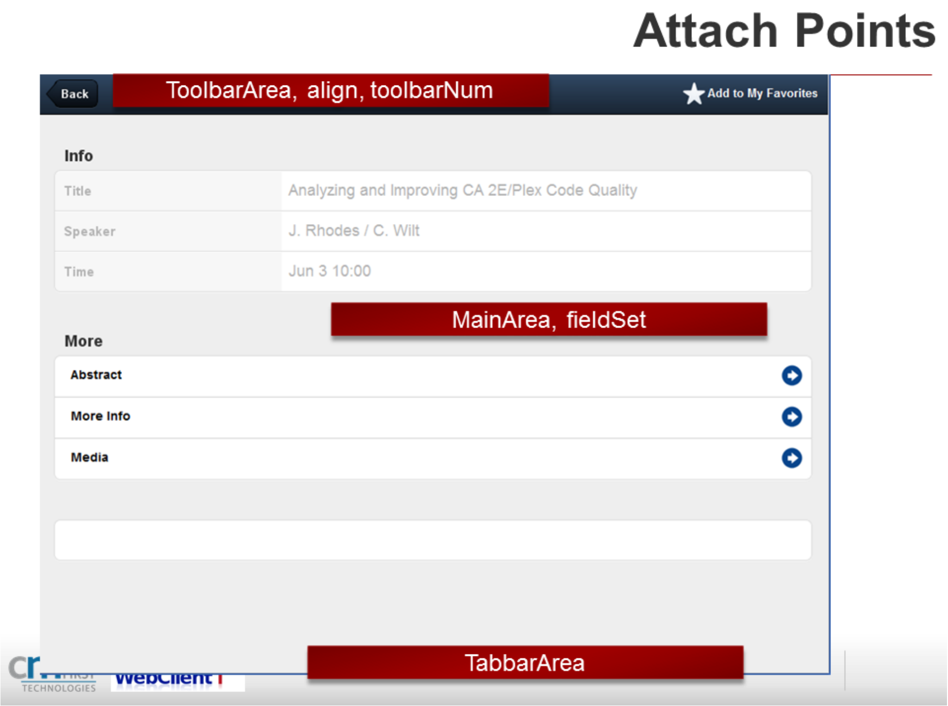
CA Plex for CA 2E Developers

CA Plex Unicode support update Java, .NET and IBM i

CA Plex WCF Services in the Cloud

Customer Case: Service-Oriented Design In a Large CA Plex Project

DB2 for i: What is it today, and



### Attach Points

ToolbarArea, align, toolbarNum

MainArea, fieldSet

TabbarArea

**Info**

| | |
|---|---|
| Title | Analyzing and Improving CA 2E/Plex Code Quality |
| Speaker | J. Rhodes / C. Wilt |
| Time | Jun 3 10:00 |

**More**

- Abstract
- More Info
- Media

# Appendix – Reference

See this link of all styles in action

http://dev.sencha.com/deploy/touch/examples/kitchensink/

## Button Appearance

**Partial iconCls list (see sencha documentation)**

action
add
arrow_down
arrow_left
arrow_right
arrow_up
compose
delete
organize
refresh
reply
search
settings
star
trash
maps
locate
home
bookmarks
download
favorites
info
more
time
user
team

## Partial ui list (see sencha documentation)

normal
back

round
forward
action

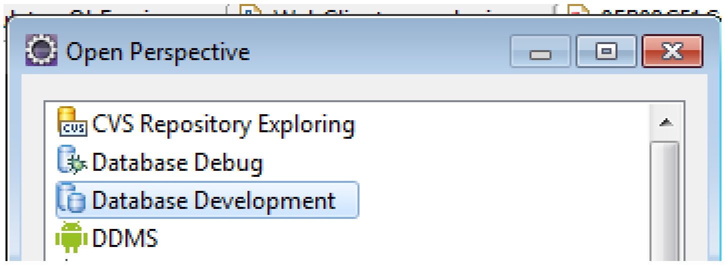
## Animations

Slide
Fade
Cube

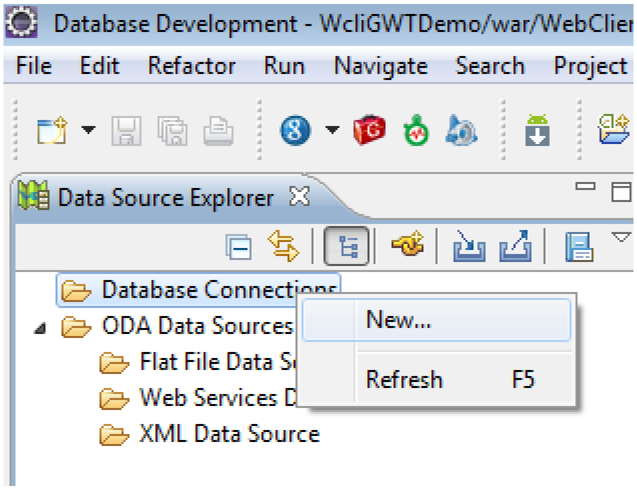
## Appendix – Configure and Check your SQL Server Access from Eclipse

Set up and verify you can run SQL Server from your Eclipse environment.

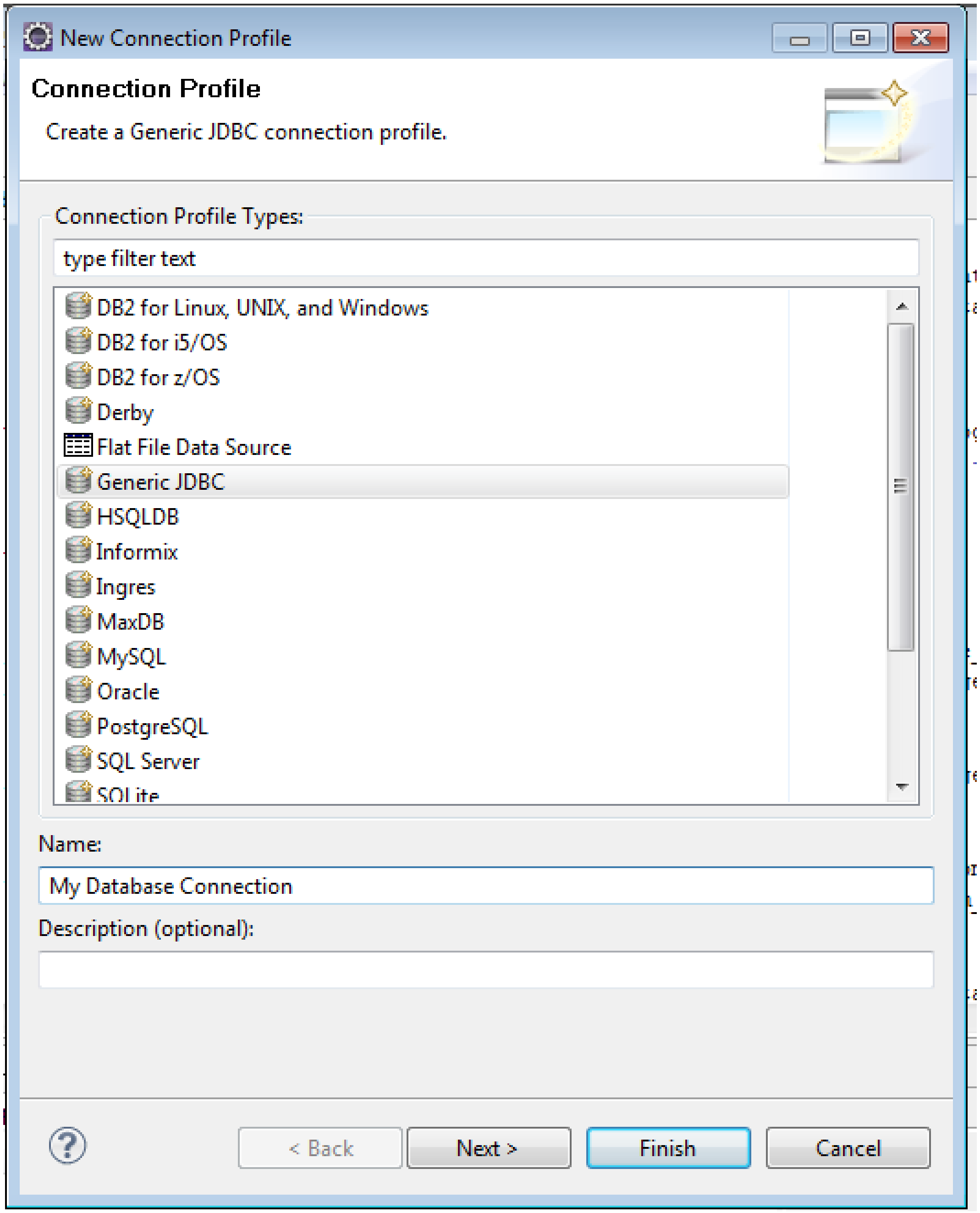
From Eclipse, go the Window menu and choose Open Perspective. Select Other… Then select the Database Development perspective.



Right click on Database Connections and choose new:



Choose Generic JDBC and give it a name like “MySQLServer”. Note that the SQL Server choice will not work with SQL Server Express editions



New Connection Profile

Connection Profile

Create a Generic JDBC connection profile.

Connection Profile Types:

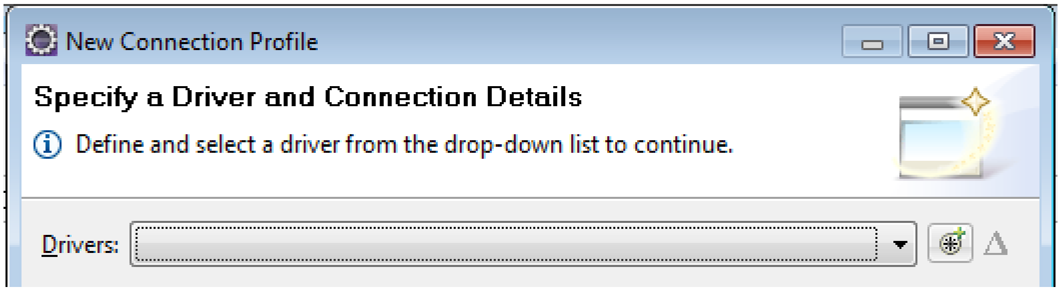
type filter text

- DB2 for Linux, UNIX, and Windows
- DB2 for i5/OS
- DB2 for z/OS
- Derby
- Flat File Data Source
- Generic JDBC
- HSQLDB
- Informix
- Ingres
- MaxDB
- MySQL
- Oracle
- PostgreSQL
- SQL Server
- SQLite

Name: My Database Connection

Description (optional):

Choose the new driver button at the right of the combo

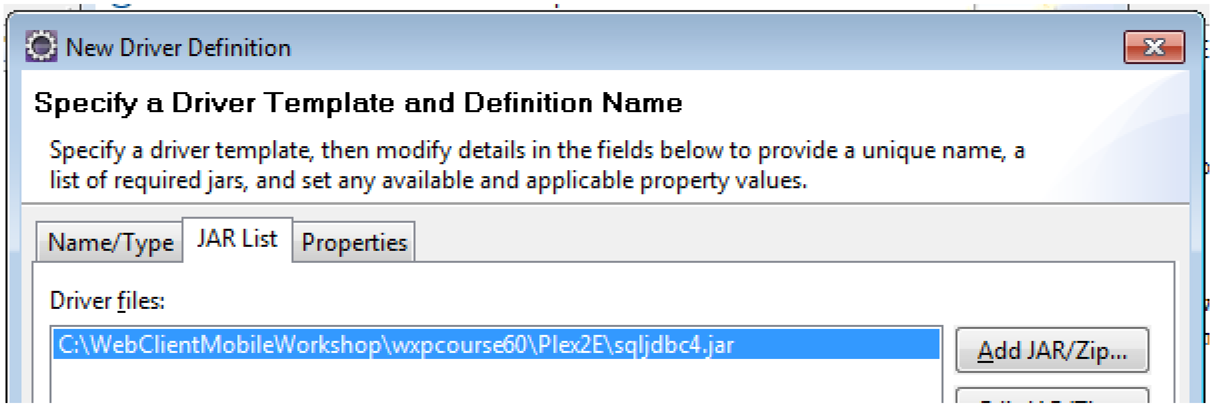


New Connection Profile

Specify a Driver and Connection Details

Define and select a driver from the drop-down list to continue.

Go to the second tab and select the jar C:\WebClientMobileWorkshop\wxpcourse60\Plex2E\sqljdbc4.jar. Note this is not an integrated security jar – it will not work with integrated SQL Server security. To use integrated security you will need to obtain the appropriate jar from Microsoft.



New Driver Definition

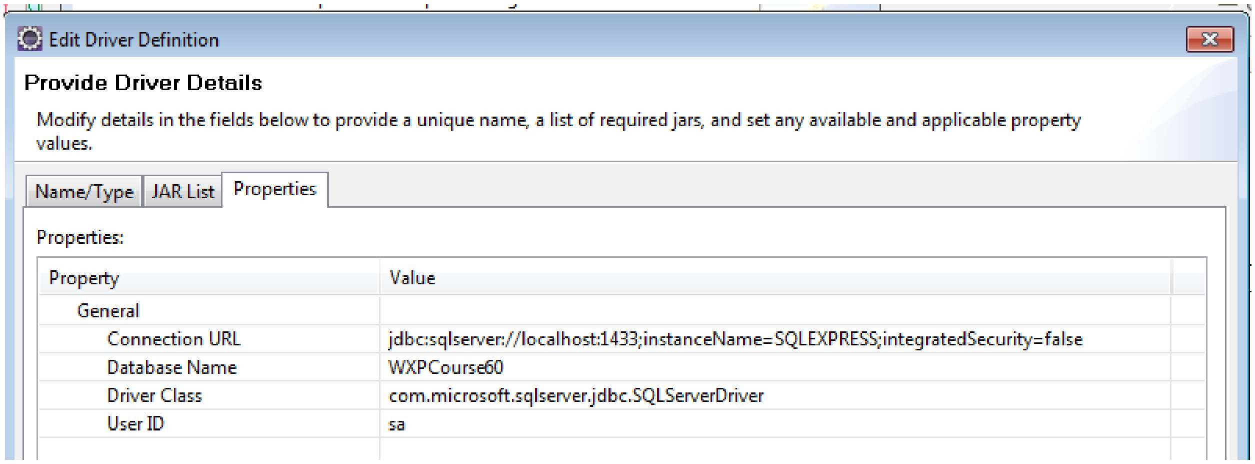
Specify a Driver Template and Definition Name

Specify a driver template, then modify details in the fields below to provide a unique name, a list of required jars, and set any available and applicable property values.

Driver files:

C:\WebClientMobileWorkshop\wxpcourse60\Plex2E\sqljdbc4.jar

Go to the Properties tab and create entries like this, using the strings in obclient.properties



Edit Driver Definition

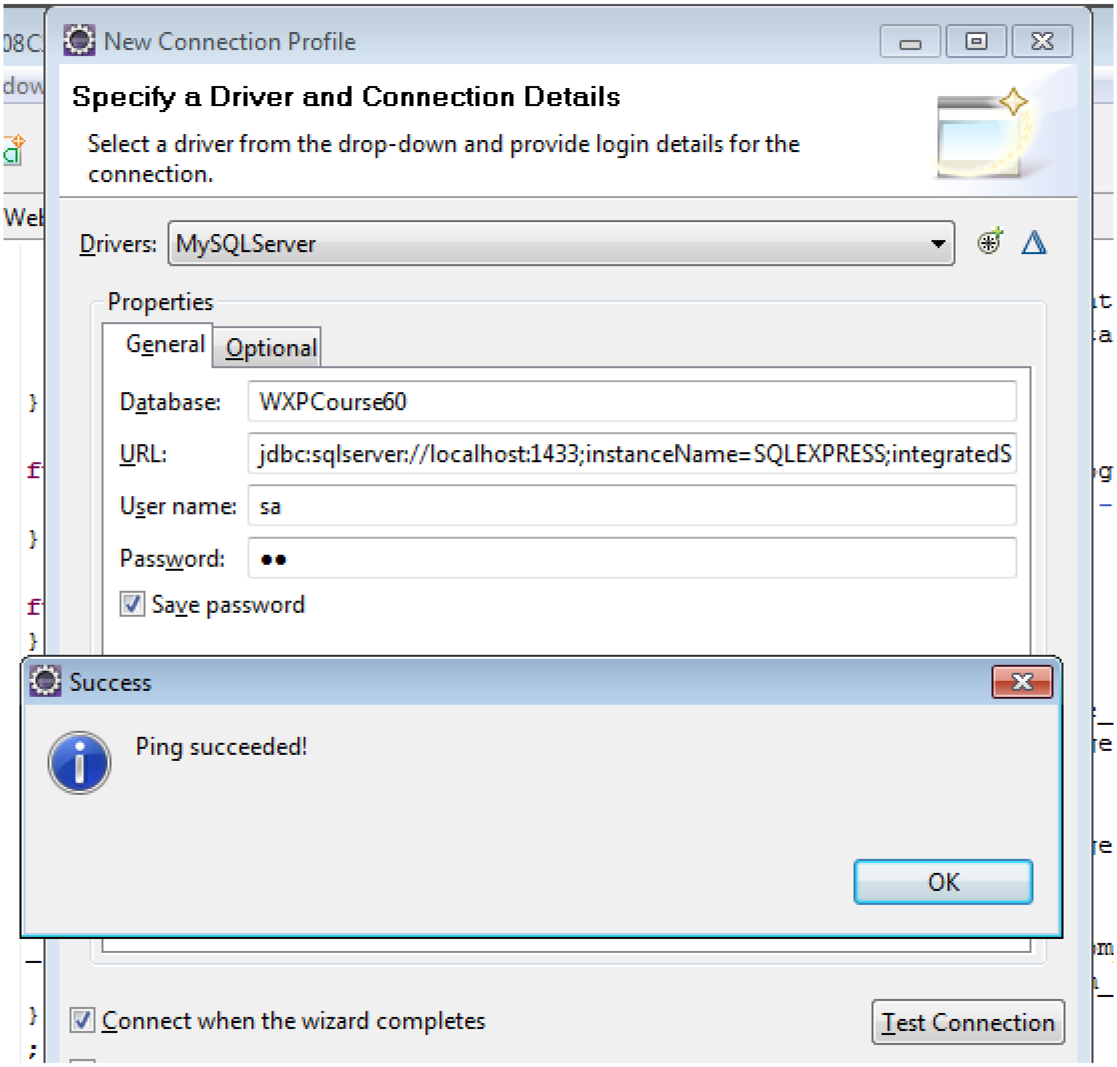
Provide Driver Details

Modify details in the fields below to provide a unique name, a list of required jars, and set any available and applicable property values.

Properties:

| Property | Value |
|---|---|
| General | |
| Connection URL | jdbc:sqlserver://localhost:1433;instanceName=SQLEXPRESS;integratedSecurity=false |
| Database Name | WXPCourse60 |
| Driver Class | com.microsoft.sqlserver.jdbc.SQLServerDriver |
| User ID | sa |

When you get back to the connection profile screen, hit the Test Connection button and verify you can connect



New Connection Profile

Specify a Driver and Connection Details

Select a driver from the drop-down and provide login details for the connection.

Drivers: MySQLServer

Properties

General | Optional

Database: WXPCourse60

URL: jdbc:sqlserver://localhost:1433;instanceName=SQLEXPRESS;integratedS

User name: sa

Password: ••

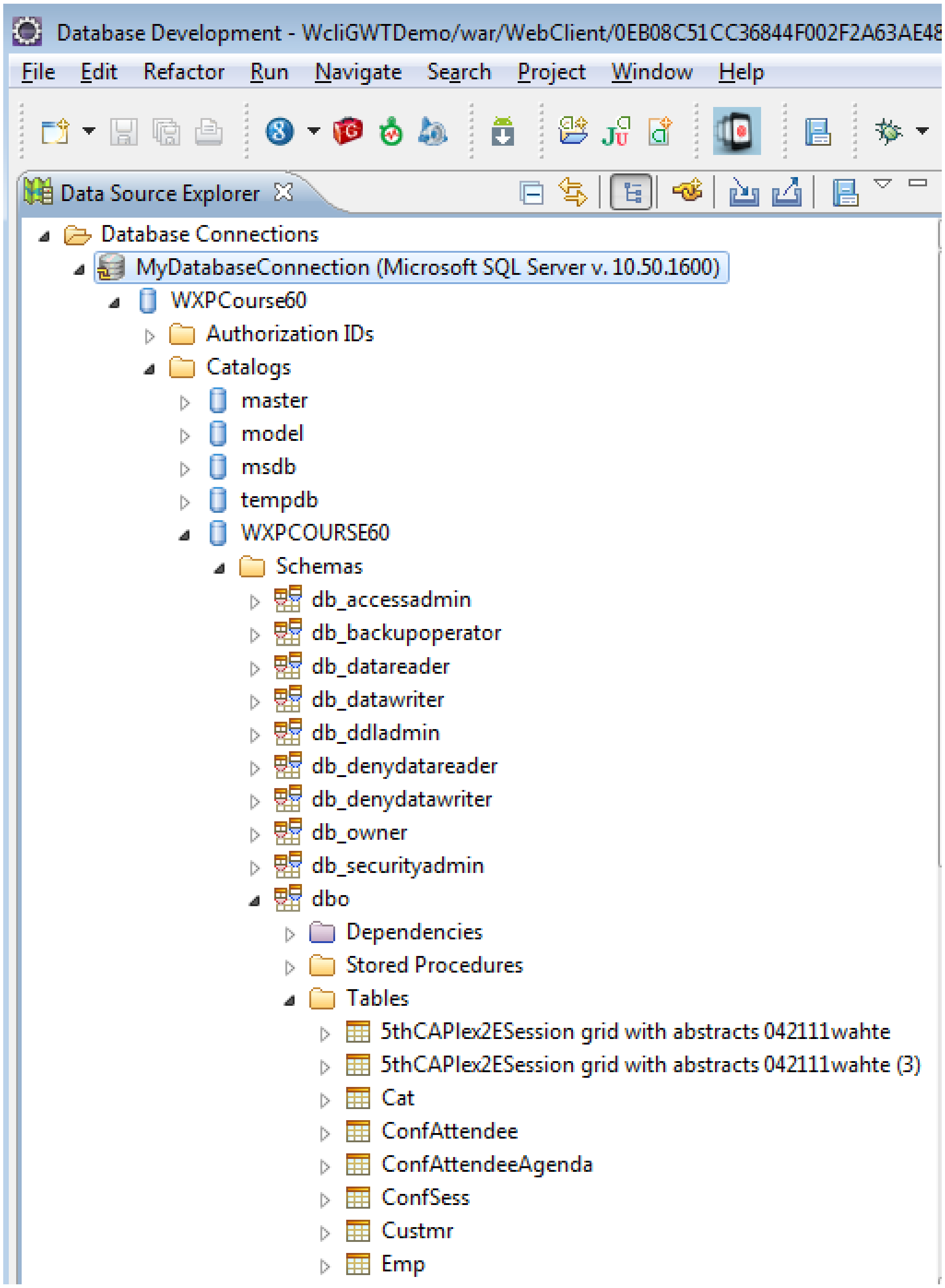
☑ Save password

Success

Ping succeeded!

☑ Connect when the wizard completes

Verify you can see the schema and tables


Database Development - WcliGWTDemo/war/WebClient/0EB08C51CC36844F002F2A63AE48
File Edit Refactor Run Navigate Search Project Window Help
Data Source Explorer

- Database Connections
  - MyDatabaseConnection (Microsoft SQL Server v. 10.50.1600)
    - WXPCourse60
      - Authorization IDs
      - Catalogs
        - master
        - model
        - msdb
        - tempdb
        - WXPCOURSE60
          - Schemas
            - db_accessadmin
            - db_backupoperator
            - db_datareader
            - db_datawriter
            - db_ddladmin
            - db_denydatareader
            - db_denydatawriter
            - db_owner
            - db_securityadmin
            - dbo
              - Dependencies
              - Stored Procedures
              - Tables
                - 5thCAPlex2ESession grid with abstracts 042111wahte
                - 5thCAPlex2ESession grid with abstracts 042111wahte (3)
                - Cat
                - ConfAttendee
                - ConfAttendeeAgenda
                - ConfSess
                - Custmr
                - Emp