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## Getting Started with Kapsel – Part 1 (SP09+)

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SAP Mobile Platform 3.0

## Getting Started with Kapsel using SMP 3.0 SDK SP09+

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## Overview

If you are using SP 13 or higher please see the newer version of this document at [Getting Started with Kapsel SP 13+](#)

The following instructions are for versions of the SDK from SP 09 – SP 12. If you are using an older version of the SDK, please see [Getting Started with Kapsel in SP08](#).

One type of mobile app that can be written using the SAP Mobile Platform 3.0 (SMP 3.0) is an HTML5 hybrid app or Kapsel app. Apache Cordova is an open source project that provides a container with a browser that renders the UI of an application and a set of API's callable from JavaScript to access native device functionality such as the device's camera and contacts list. The benefit of this is that the same UI code (HTML/CSS) and business logic code (JavaScript) can be deployed on multiple platforms such as iOS, Android and Windows 10 without code modifications. For a complete list of Kapsel supported device versions see [SAP Mobile SDK Supported Devices Operating Systems](#) and [Product Availability Matrix](#). The list of Apache Cordova API's including sample code is available at [Plugin APIs](#). Apache Cordova itself can be extended to provide additional native device functionality. For additional details on writing a Cordova plugin see [Plugin Development Guide](#).

Kapsel is a set of plugins that enhance Apache Cordova with functionality such as a stream-lined logon to an SMP 3.0 server, offline access for OData calls, the ability to update deployed applications, encrypted storage and push notifications. For more information see [SMP 3.0 Enablement](#), the Kapsel specific enablement page at [SMP 3.0 for Developers – Hybrid Apps](#), the blog posts by [John Wargo](#), or [Kiran Karunakaran](#), or [Sami Lechner](#) the SMP SDK product manager, the roadmap for SMP at <http://service.sap.com/saproadmaps> and the [SAP Web IDE](#).

## Setup

Kapsel apps can be developed on Windows or Mac machines. Kapsel apps can target Android, iOS and Windows 8.1, Windows Phone 8.1, and Windows 10.

Development for an iOS device must occur on a Mac machine.

Android development can occur on a Windows or Mac machine.

Windows development must occur on a Windows machine.

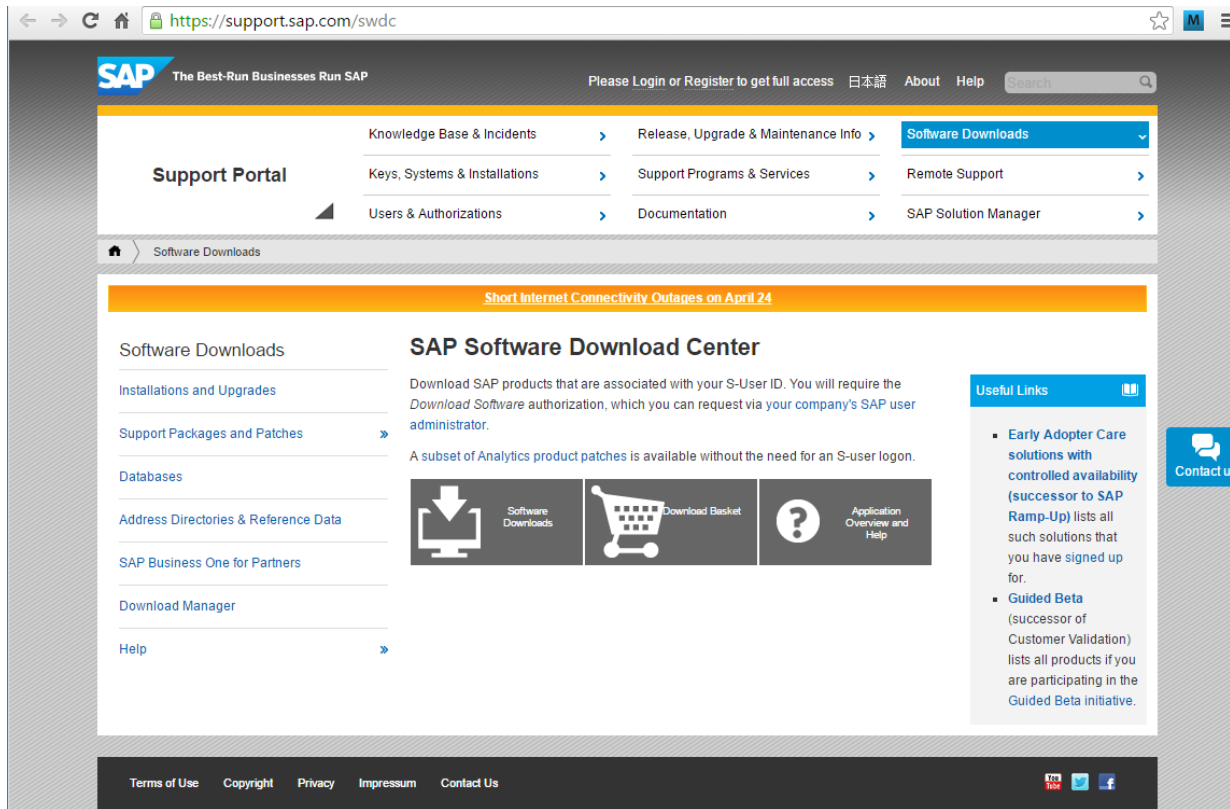
See also [Creating an Application on Windows](#).

Note, if using SAPUI5 or OpenUI5 on Windows 8.1 or Windows Phone 8.1, please see [JavaScript Dynamic Content Shim](#). This shim is not needed if targeting Windows 10.

## SMP 3.0

The SAP Mobile Platform and the SAP Mobile Platform SDK can be downloaded from the [SAP Software Download Center](#). Additionally, a trial version of the SAP Mobile SDK is available at [SMP 3.0 Mobile SDK Trial](#). The cloud version of the SMP server named [SAP HANA Cloud Platform mobile services](#) or HCPms server is also available as a trial. The examples shown in this guide were tested using the SP12 SDK and the on premise SP10 server and it is recommended that these versions or newer be used when following the examples. Note, that the server and SDK are on different release schedules.

Two files need to be downloaded to install the SAP Mobile Platform 3.0. The 3.0 SP12 SDK and the 3.0 SP10 on premise server. The latest patch levels or PLs should also be applied.



Under Software Downloads > Support Packages & Patches, By Alphabetical Index (A-Z) > M > SAP Mobile Platform SDK > SAP Mobile Platform SDK 3.0 > Downloads > SMPSDK30012P SP12 PL01

Under Software Downloads > Support Packages & Patches, By Alphabetical Index (A-Z) > M > SAP Mobile Platform > SAP Mobile Platform Runtime 3.0 > Windows on x64 64bit > Download 3.0 SP 10.

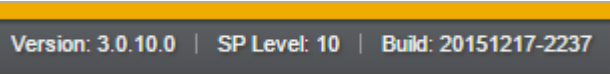
To double check what version of the SDK installed, edit a plugin's plugin.xml file. It should contain a version field such as the one shown below.

```
<plugin xmlns="http://apache.org/cordova/ns/plugins/1.0"
  id="kapsel-plugin-logon"
  version="3.12.2">
```

The SMP server is a bit trickier to determine its version. There are multiple places where it indicates a version. The most reliable may be to look at C:\SAP\MobilePlatform3\smp\_product\_info.xml. It should contain a version field as the one shown below.

```
<product name="SMPServer" version="3.0.10.0" compatibilityVersions="3.0.*">
```

One other place is in the top right of the management cockpit.



Version: 3.0.10.0 | SP Level: 10 | Build: 20151217-2237

## Additional Required Software

If your computer uses a proxy create the following environment variables and specify your proxy server. On windows, create system rather than user variables.

```
no_proxy=localhost
http_proxy=http://proxy.ph1.sap.corp:8080
https_proxy=http://proxy.ph1.sap.corp:8080
```

### Android

Install a Java JDK such as jdk-8u45-windows-x64.exe.

Download and install the Android [command line tools](#) such as installer\_r24.4.1-windows.exe. Alternatively you can download a package that includes the ADT and Android Studio which is an IDE for Android development.

Run the SDK Manager (C:\Android\android-sdk\SDK Manager.exe) and install the Android SDK Tools, Platform-tools, Build-tools as well as the SDK Platform and System Image for a particular Android Version such as Android 5.1.1.

As of SDK 10, download and install Extras > Android Support Repository and Android Support Library. See also [Support Library Setup](#).

Note, on a Windows machine, environment variables are added via Control Panel > System > Advanced System Settings > Environment Variables.  
On a Mac, edit the file /Users/user/.bash\_profile

Create an environment variable named ANDROID\_HOME.

```
ANDROID_HOME=C:\Android\android-sdk
```

Add the path to tools and platform-tools to your path.

```
%ANDROID_HOME%\tools;%ANDROID_HOME%\platform-tools;
```

If one does not exist, create a KAPSEL\_HOME environment variable.

```
KAPSEL_HOME=C:\SAP\MobileSDK3\KapselSDK
```

If your computer uses a proxy and you are developing for Android, create a folder (if one does not exist) named .gradle in your home directory and a file within it named gradle.properties.

```
C:\Users\i82XXX\.gradle\gradle.properties  
or  
/Users/i82xxx/.gradle/gradle.properties
```

The contents of the file might be as follows.

```
systemProp.http.proxyHost=proxy  
systemProp.http.proxyPort=8080  
systemProp.http.nonProxyHosts=*.sap.corp|localhost  
systemProp.https.proxyHost=proxy  
systemProp.https.proxyPort=8080  
systemProp.https.nonProxyHosts=*.sap.corp|localhost
```

## iOS

Download [Xcode](#).

## Windows 8.1, Windows 8.1 Phone and Windows 10

Download a version of [Visual Studio 2015](#) such as Visual Studio Community.

The following options should be selected.

Programming Languages > Visual C++ > Common Tools for Visual C++ 2015 Windows and Web Development > Microsoft Web Developer Tools

Windows and Web Development > Universal Windows App Development Tools

Windows and Web Development > Windows 8.1 and Windows Phone 8.0/8.1 Tools

## Accessing the SAP OData Gateway Demo

Kapsel apps communicate with backend enterprise systems primarily by using OData. For additional information on OData see [Appendix A: OData](#).

SAP provides a publicly available OData endpoint at [SAP Netweaver Gateway Demo System](#). Some of the samples in this guide will utilize this.

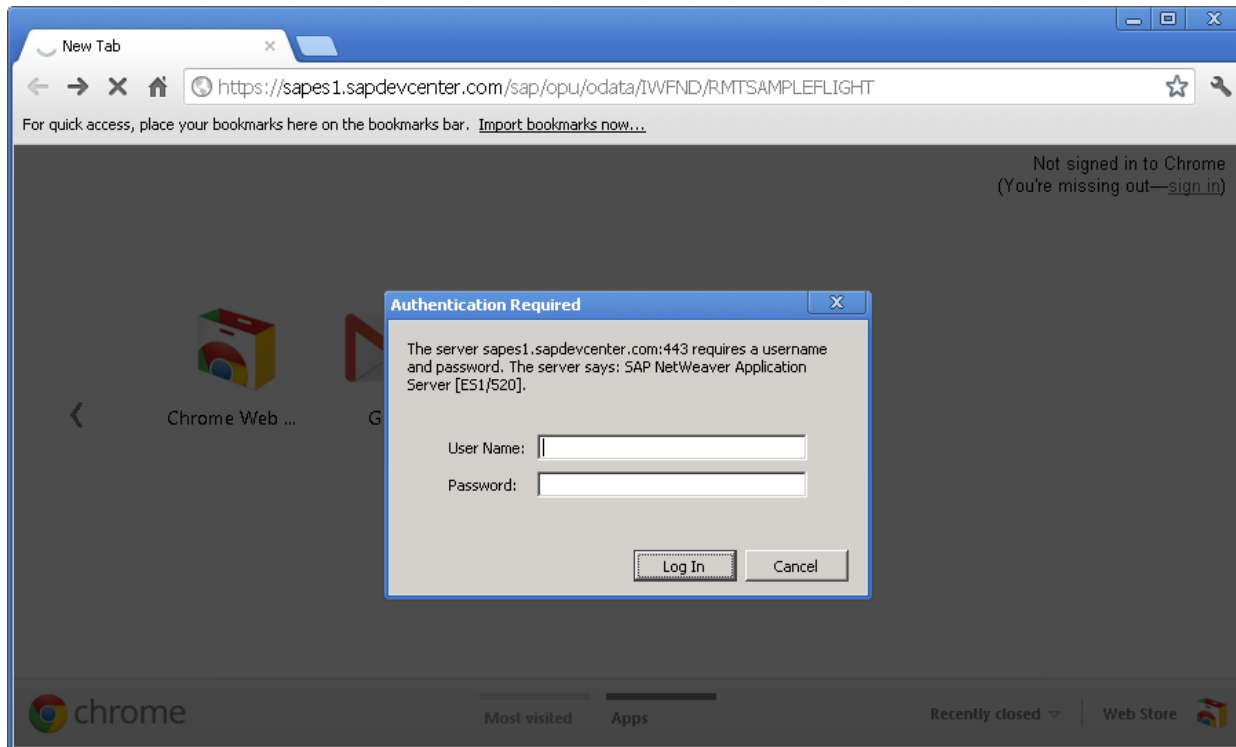
Follow the instructions on the previously provided link to receive a user name and password necessary for accessing the OData source used throughout this guide.

Note, the OData section contains an [example](#) where the same OData source is created using the SQL Anywhere OData producer.

Ensure that the OData endpoint can be accessed by opening it in a browser.

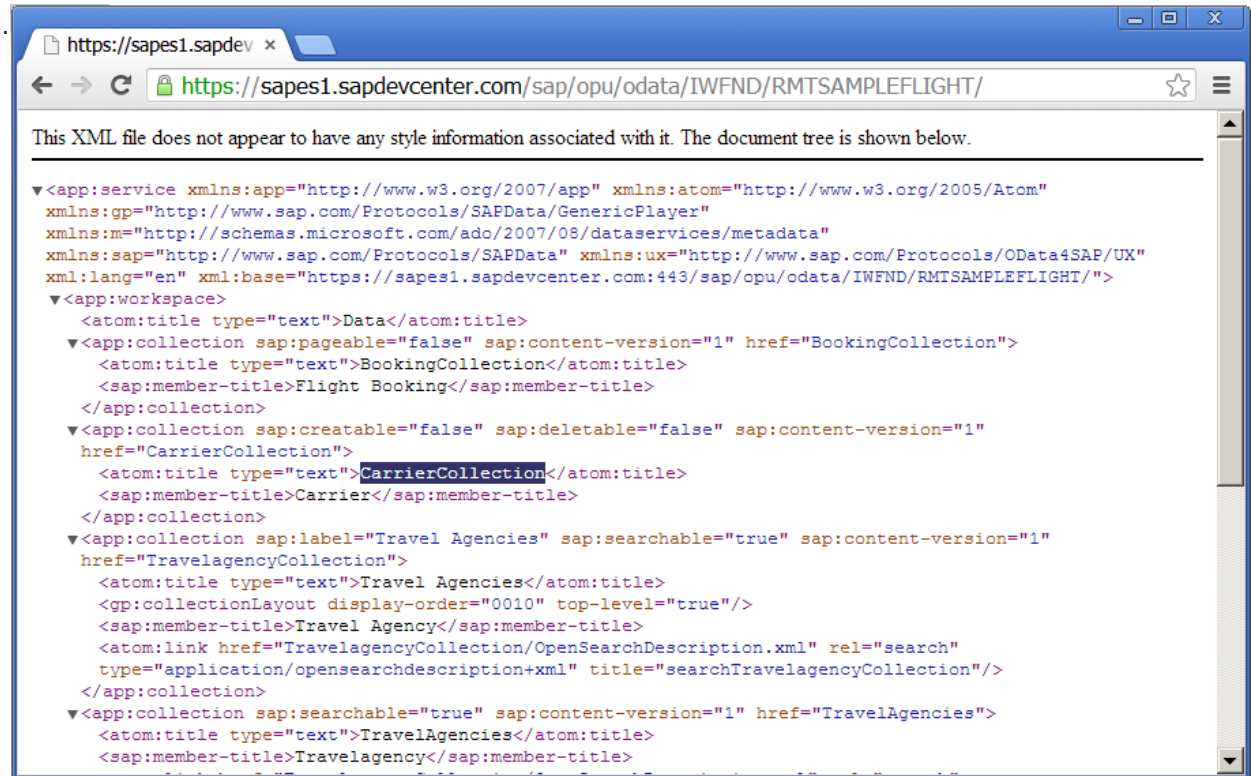
<https://sapes1.sapdevcenter.com/sap/opu/odata/IWFND/RMTSAMPLEFLIGHT>

Enter the provided user name and password.

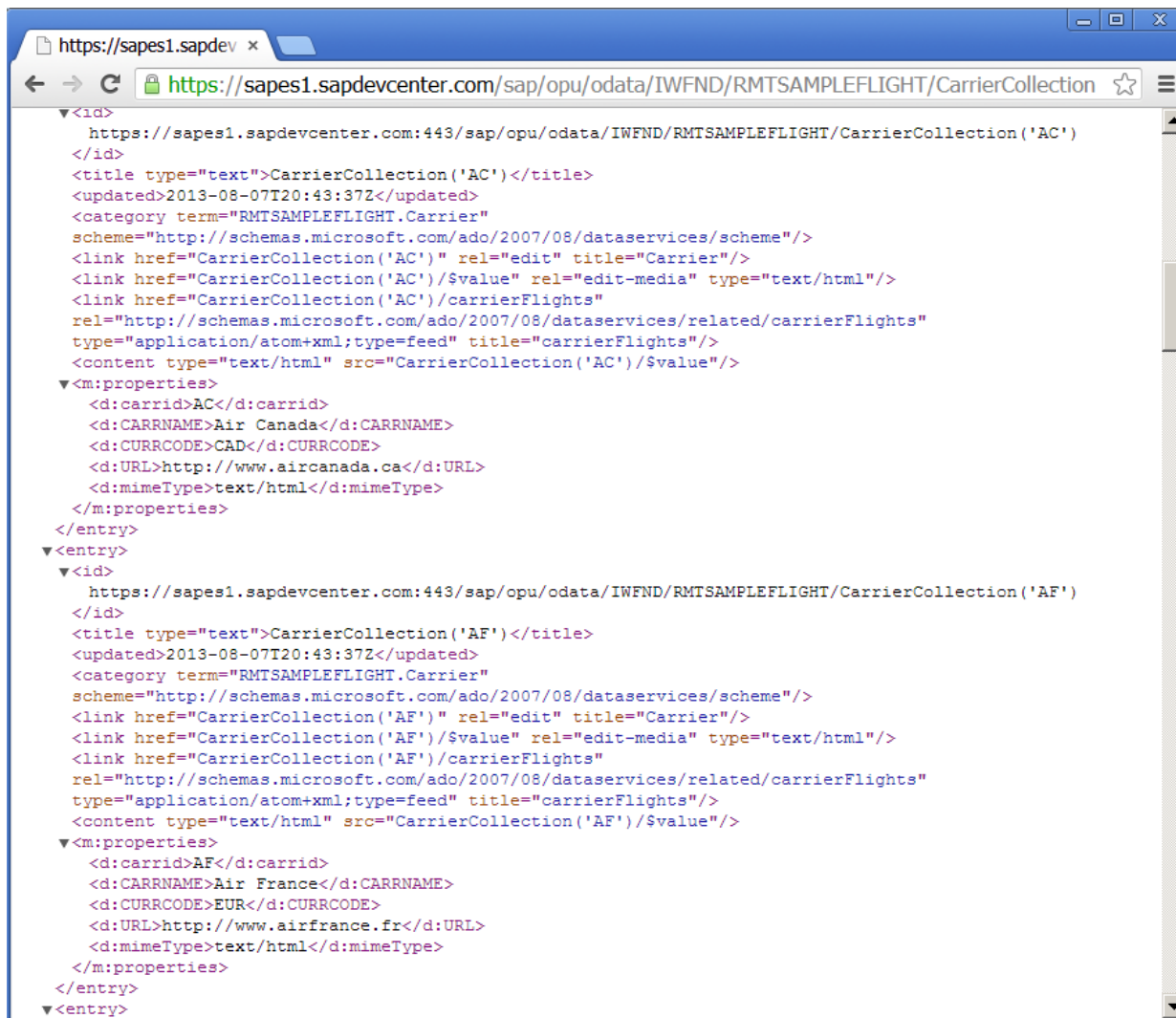




CarrierCollection is the collection that will be used.



CarrierCollection returns a list of airlines.



```
<?xml version="1.0" encoding="utf-8">
<id>
  https://sapes1.sapdevcenter.com:443/sap/opu/odata/IWFND/RMTSAMPLEFLIGHT/CarrierCollection('AC')
</id>
<title type="text">CarrierCollection('AC')</title>
<updated>2013-08-07T20:43:37Z</updated>
<category term="RMTSAMPLEFLIGHT.Carrier">
  scheme="http://schemas.microsoft.com/ado/2007/08/dataservices/scheme"/>
<link href="CarrierCollection('AC')" rel="edit" title="Carrier"/>
<link href="CarrierCollection('AC')/$value" rel="edit-media" type="text/html"/>
<link href="CarrierCollection('AC')/carrierFlights"
  rel="http://schemas.microsoft.com/ado/2007/08/dataservices/related/carrierFlights"
  type="application/atom+xml;type=feed" title="carrierFlights"/>
<content type="text/html" src="CarrierCollection('AC')/$value"/>
<m:properties>
  <d:carrid>AC</d:carrid>
  <d:CARRNAME>Air Canada</d:CARRNAME>
  <d:CURRCODE>CAD</d:CURRCODE>
  <d:URL>http://www.aircanada.ca</d:URL>
  <d:mimeType>text/html</d:mimeType>
</m:properties>
</entry>
<entry>
  <id>
    https://sapes1.sapdevcenter.com:443/sap/opu/odata/IWFND/RMTSAMPLEFLIGHT/CarrierCollection('AF')
  </id>
  <title type="text">CarrierCollection('AF')</title>
  <updated>2013-08-07T20:43:37Z</updated>
  <category term="RMTSAMPLEFLIGHT.Carrier">
    scheme="http://schemas.microsoft.com/ado/2007/08/dataservices/scheme"/>
  <link href="CarrierCollection('AF')" rel="edit" title="Carrier"/>
  <link href="CarrierCollection('AF')/$value" rel="edit-media" type="text/html"/>
  <link href="CarrierCollection('AF')/carrierFlights"
    rel="http://schemas.microsoft.com/ado/2007/08/dataservices/related/carrierFlights"
    type="application/atom+xml;type=feed" title="carrierFlights"/>
  <content type="text/html" src="CarrierCollection('AF')/$value"/>
  <m:properties>
    <d:carrid>AF</d:carrid>
    <d:CARRNAME>Air France</d:CARRNAME>
    <d:CURRCODE>EUR</d:CURRCODE>
    <d:URL>http://www.airfrance.fr</d:URL>
    <d:mimeType>text/html</d:mimeType>
  </m:properties>
</entry>
</entry>
```

Note that the option `?sap-ds-debug=true` can be used with SAP Netweaver Gateway OData sources. This causes HTML to be returned to the browser enabling the content to be displayed in an easier to read format and the links become clickable.

Notice that https is used. The following step adds the certificate of the SAP Netweaver Gateway server to the SMP 3.0 server. This is needed as the SMP 3.0 keystore

```
C:\SAP\MobilePlatform3\Server\configuration\smp_keystore.jks
```

does not contain the trusted root certificate that was used to sign the certificate used by the SAP Netweaver Gateway server.

Right-click on the lock icon to the left of the URL and choose Details > View Certificate.

The screenshot shows a web browser window with the URL `https://sapes1.sapdevcenter.com/sap/opu/odata/IWFND/RMTSAMPLEFLIGHT/`. The page content displays XML data. Overlaid on the right is the Windows 'Certificate' dialog box, showing the 'Details' tab for a certificate issued to `sapes1.sapdevcenter.com` by `Go Daddy Secure Certificate Authority - G2`, valid from 11/19/2015 to 11/19/2016.

This XML file does not appear to have any style information associated with it. The

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<app:service xmlns:app="http://www.w3.org/2007/app" xmlns:atom="http://www.w3.org/2007/atom" xmlns:m="http://schemas.microsoft.com/ado/2007/08/dataservices/metadata"
xml:base="https://sapes1.sapdevcenter.com:443/sap/opu/odata/IWFND/RMTSAMPLEFLIGHT/">
  <app:workspace>
    <atom:title type="text">Data</atom:title>
    <app:collection sap:pageable="false" sap:content-version="1" href="BookingsCollection" type="text">
      <atom:title type="text">BookingCollection</atom:title>
      <sap:member-title>Flight Booking</sap:member-title>
    </app:collection>
    <app:collection sap:creatable="false" sap:deletable="false" sap:content-version="1" href="CarrierCollection" type="text">
      <atom:title type="text">CarrierCollection</atom:title>
      <sap:member-title>Carrier</sap:member-title>
    </app:collection>
    <app:collection sap:label="Travel Agencies" sap:searchable="true" sap:content-version="1" href="TravelAgencyCollection" type="text">
      <atom:title type="text">Travel Agencies</atom:title>
      <gp:collectionLayout display-order="0010" top-level="true"/>
      <sap:member-title>Travel Agency</sap:member-title>
      <atom:link href="TravelAgencyCollection/OpenSearchDescription.xml" type="application/atom+xml" rel="self"/>
    </app:collection>
  </app:workspace>
</app:service>
```

**Certificate Information**

This certificate is intended for the following purpose(s):

- Ensures the identity of a remote computer
- Proves your identity to a remote computer
- 2.16.840.1.114413.1.7.23.1

\* Refer to the certification authority's statement for details.

**Issued to:** sapes1.sapdevcenter.com

**Issued by:** Go Daddy Secure Certificate Authority - G2

**Valid from:** 11/ 19/ 2015 **to:** 11/ 19/ 2016

Notice that the certificate used by `sapes1.sapdevcenter.com` was issued by the CA Go Daddy. In order for the SMP server to successfully connect over HTTPS to this site, the SMP server needs to trust this CA. The list of trusted CA's can be viewed in the management cockpit under Settings > Certificates.

The screenshot shows the 'Settings > Certificates' page in the SAP Management Cockpit. It displays a table of 'Shared KeyStore Certificate Entries' with columns for Alias, Type, Subject, Start Date, and Expiration Date. The table lists several certificates, including those from Go Daddy and GTE CyberTrust.

HOME APPLICATIONS CLUSTER **SETTINGS** REPORTING LOGS ODATA SERVICES

SECURITY PROFILES SAML CONNECTIONS REPOSITORIES FEATURES & COMPONENTS **CERTIFICATES**

Shared KeyStore Entries Local SMP Certificate

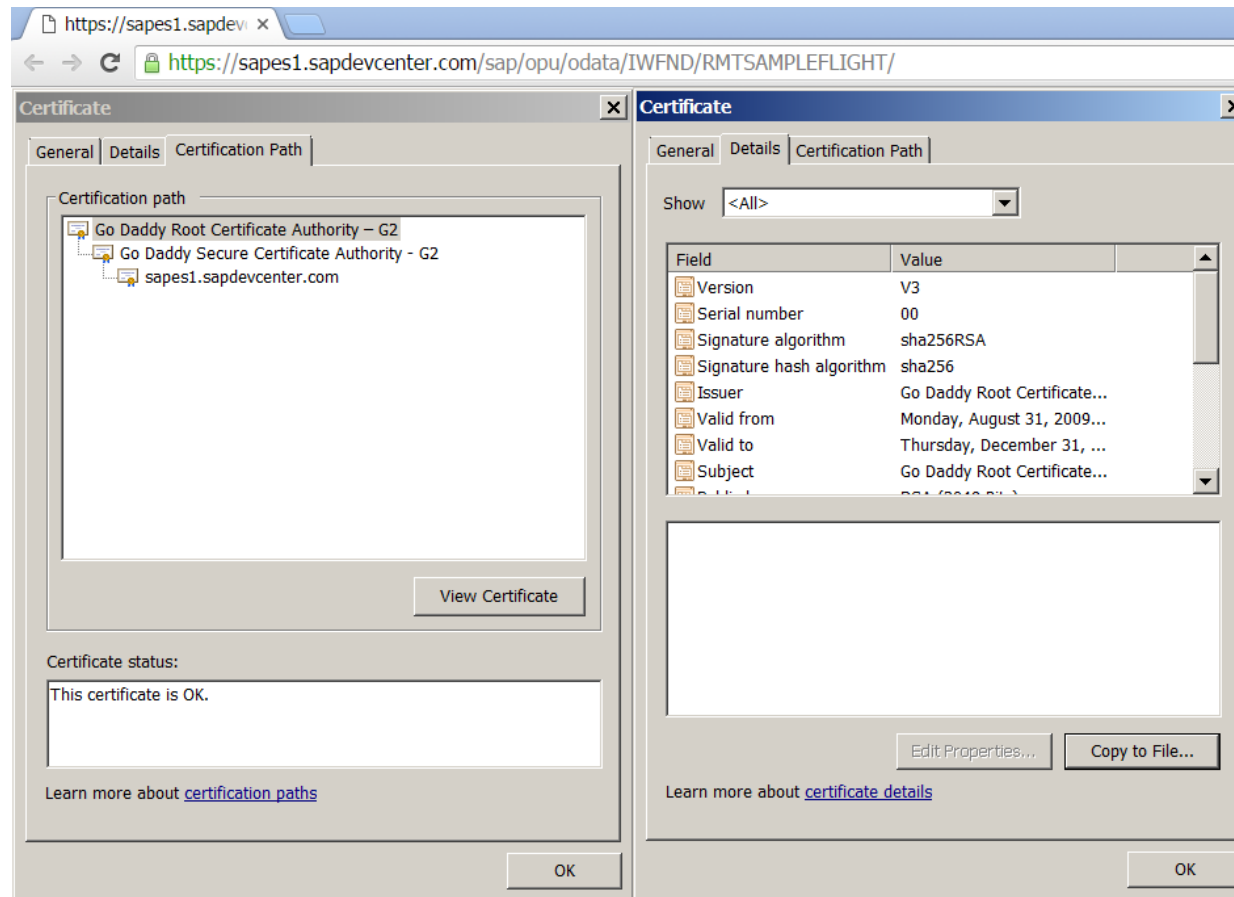
**Shared KeyStore Certificate Entries**

Import Delete Change Password

Alias	Type	Subject	Start Date	Expiration Date
godaddyclass2ca	public	OU=Go Daddy Class 2 Certification Authority, O="The Go Daddy Group..."	2004-06-29	2034-06-29
godaddyclass2g2ca	public	CN=Go Daddy Root Certificate Authority - G2, O="GoDaddy.com, Inc.", ...	2009-08-31	2037-12-31
godaddysecureserver	public	SERIALNUMBER=07969287, CN=Go Daddy Secure Certification Autho...	2006-11-15	2026-11-15
gte_global_root	public	CN=GTE CyberTrust Global Root, OU="GTE CyberTrust Solutions, Inc...."	1998-08-12	2018-08-13
sappassportca	public	CN=SAP Passport CA, O=SAP Trust Community, C=DE	2000-07-18	2018-04-01

If this CA was not present it could be added by following the below steps.

Export the certificate in Chrome by clicking on the Certificate Path tab, selecting Go Daddy Root Certificate Authority – G2 > View Certificate > Details tab, Copy To File... > export the certificate as Base-64.



Next import the certificate into the SMP 3.0 server's keystore using the import button.

Note the SMP server needs to be restarted after making this change.

The SMP server has 2 different keystores. The `smp_keystore.jks` contains trusted CA certificates for validation purposes and technical user certificates (with private keys) for accessing backend systems. The `local_smp_keystore.jks` holds only server certificates for HTTPS listeners.

## Configuring a Kapsel App in the Management Cockpit

The SMP 3.0 server provides authentication, logging and the ability to rewrite the URLs of an OData endpoint. The SMP authentication providers enable the use of an existing authentication system to authenticate users accessing mobile applications. Rewriting URL's can hide from the end user

the host name of the OData endpoint. For additional details see [SAP Mobile Platform Server as an OData Proxy](#).

The following steps will demonstrate how to configure a new hybrid or Kapsel app in the SMP 3.0 management cockpit.

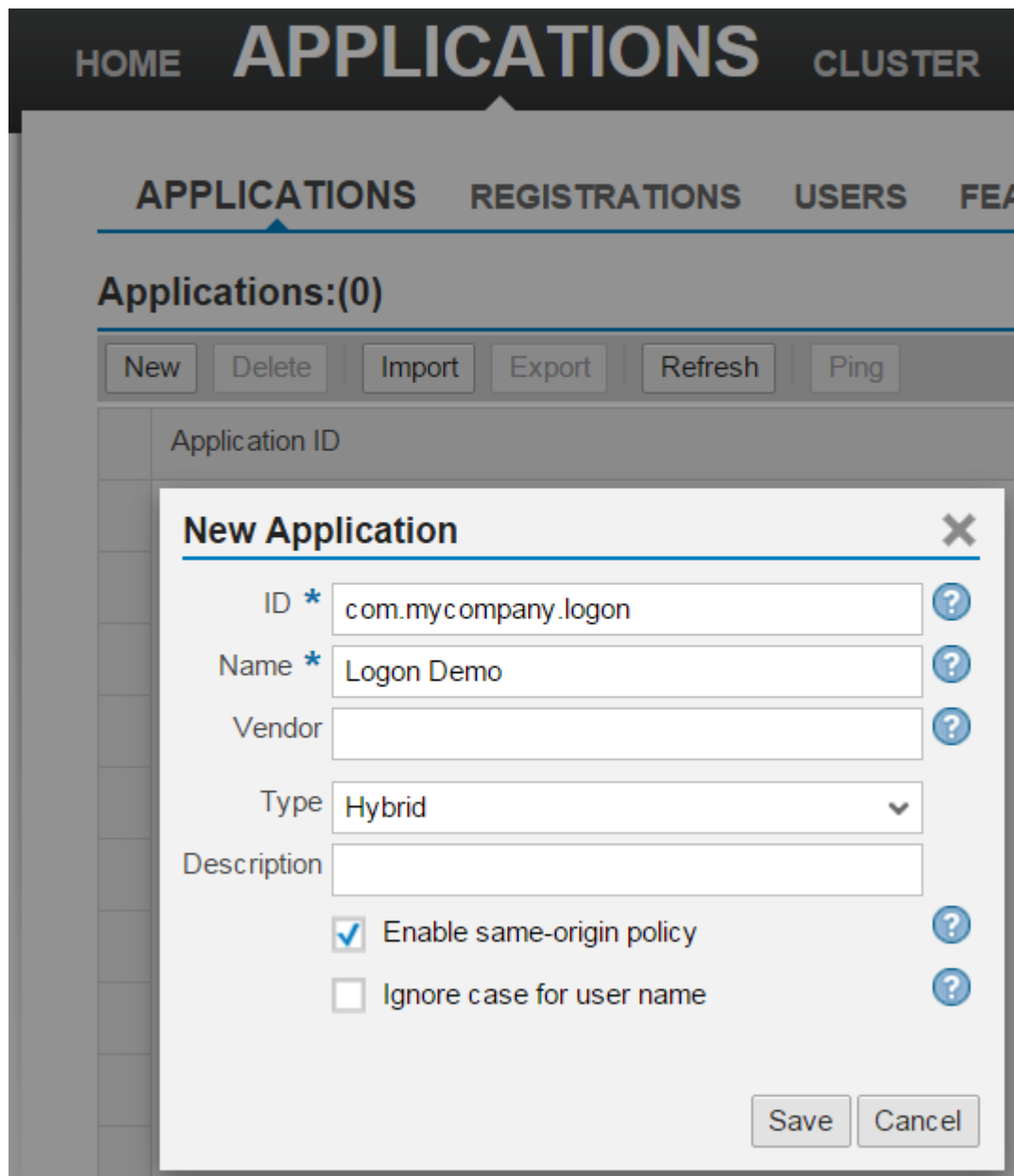
Create a new application in the management cockpit. The management cockpit can be accessed at

<https://localhost:8083/Admin/>

The default user is smpAdmin and password is whatever was specified during the install.

Click on Applications > New. The ID is

com.mycompany.logon



Note, the Same-Origin Policy setting is new in SP09 of the SMP server. It is not enforced for file URL's which are used by Cordova/Kapsel applications. For additional details see [Using CORS](#).

As an example, if this policy is enabled and a web page being hosted from a web server on port 80 attempts to register with the SMP server on port 8080, the following would occur.

An options request is made that contains the following header.

```
Origin: http://10.7.171.234
```

The response contains the following header.

```
Access-Control-Allow-Origin: http://10.7.171.234:8080
```

Since these do not match, the browser does not let the request proceed and reports the following error.

```
XMLHttpRequest cannot load http://10.7.171.234:8080/odata/applications/latest/com.mycompany.logon/Connections.  
The 'Access-Control-Allow-Origin' header has a value 'http://10.7.171.234:8080' that is not equal to the supplied origin.  
Origin 'http://10.7.171.234' is therefore not allowed access.
```

The OData endpoint URL is

```
https://sapes1.sapdevcenter.com/sap/opu/odata/IWFND/RMTSAMPLEFLIGHT
```

Under SSO Mechanisms, click on Add > Basic.

**OVERVIEW** **BACK END** **AUTHENTICATION** **CLIENT POLICY** **PUSH**

Endpoint \*

https://sapes1.sapdevcenter.com/sap/opu/odata/IWFND/RMTSAMPLEFLI

☐ Internal

☐ Use System Proxy

☐ Allow anonymous access

Maximum Connections \*

500


Certificate alias

Rewrite Mode

Rewrite URL in SMP

Relative Path

## SSO Mechanisms

Add	
Type	Delete
Basic	

The Use System Proxy should be checked if the computer uses a proxy server. The values for the system proxy are set in the management cockpit under Settings > System.



Note, changing these values requires restarting the server as indicated by the i beside the property names.

SAP Mobile Platform Administration and Monitoring Version: 3.0.7.0 | SP Level: 07 | Welcome smpAdmin | Help

HOME APPLICATIONS CLUSTER **SETTINGS** REPORTING LOGS

SECURITY PROFILES SAML CONNECTIONS REPOSITORIES FEA < > ...

### SOLUTION MANAGER SETTINGS

Solution Manager URL  ?

☐ Enabled for End to End Tracing ?

### HTTP PROXY SETTINGS

i HTTP proxy host

i HTTP proxy port

i HTTPS proxy host

i HTTPS proxy port

i Non-proxy hosts  ?

**Non-proxy hosts (Changing this property will require a server restart for it to take effect)**

i HTTP proxy password

It is also recommended to set http.nonProxyHosts setting when using the http.proxyHosts setting if using the httpAuthentication provider against a server within your corporate network.

Under the Authentication tab, create a new HTTP/HTTPS authentication provider. Provide the same URL that was used for the endpoint. During the registration process, the SMP server will validate the provided user name and password against this URL.

## SECURITY PROFILE

\*Profile Name HTTPAuthProfileSapes1

☒ Check Impersonation

## AUTHENTICATION PROVIDERS FOR HTTPAUTHPROFILESAPES1

Add

## Add Authentication Provider - HTTP/HTTPS Authentication

Authentication Providers: HTTP/HTTPS Authentication

**GENERAL** ADVANCED

\*Control Flag optional

Provider Description

\*URL https://sapes1.sapdevcenter.com/sap/opu/odata/IWFND/RMT

☐ Disable Server Certificate Validation

HTTP Connection Timeout Interval 60000

Client HTTP Values To Send

Send Client HTTP Values As

☐ Try Basic Auth if Token Auth Fails

Successful Connection Status Code 200

SSO Cookie Name

Credential Name

Ping the endpoint to confirm that it is correctly configured.

The screenshot shows the 'SETTINGS' page with the 'CONNECTIONS' tab selected. Under 'Back-end Connections: All (2)', there are two entries: 'com.mycompany.authproxy' and 'com.mycompany.logon'. The 'com.mycompany.logon' entry is highlighted. Below this, the 'Ping status: All (1)' section shows a table with one entry: 'https://sapes1.sapdevcenter.com/sap/opu/odata/IWFND/RMTSAMPLEFLIGHT' with a 'Backend profile' and a status of 'Success' (green checkmark).

Connection Name	Endpoint
com.mycompany.authproxy	https://sap-gw-vm1.oak.sap.corp:8001/sap/opu/odata/IWFND/RMTSAMPLEFLIGHT
com.mycompany.logon	https://sapes1.sapdevcenter.com/sap/opu/odata/IWFND/RMTSAMPLEFLIGHT

URL	Profile	Status	Status Description
https://sapes1.sapdevcenter.com/sap/opu/odata/IWFND/RMTSAMPLEFLIGHT	Backend profile	✓	Backend system reached successfully

The following screenshot shows the result of a registration. The steps to perform the registration are covered in the [Logon](#) plugin section.

The screenshot shows the 'APPLICATIONS' page with the 'REGISTRATIONS' tab selected. The 'Search Criteria' section includes 'Application ID' (set to 'ALL'), 'Time Frame' (From: Jun 22, 2015 10:51 hrs to Jul 27, 2015 11:51 hrs), and 'User' (User Name). The 'Entries' section shows 'No. of Entries' set to '200'. Below this, the 'Registrations: (1)' section shows a table with one entry: '9de9cf75-1772-420a-a9bb-9ac678f6e61e' for 'com.mycompany.logon' on an 'Android' device with 'User Name' 'i826', registered on 'Jul 07 2015 11:51:52 EDT'.

**Search Criteria**

Application ID: ALL

Time Frame: From Jun 22, 2015 10:51 hrs To Jul 27, 2015 11:51 hrs

User: User Name

**Entries**

No. of Entries: 200

Search

**Registrations: (1)**

Registration ID	Application ID	Device Type	User Name	Registration Time	Client Log
9de9cf75-1772-420a-a9bb-9ac678f6e61e	com.mycompany.logon	Android	i826	Jul 07 2015 11:51:52 EDT	

The application is now configured in the SMP 3.0 server and ready to be implemented.

## Installing Apache Cordova with Node.js

Note, execute the following commands using the Windows command prompt or the OS X terminal.

If necessary, download and install Node.js from [nodejs.org/download](https://nodejs.org/download).

Node.js and its package manager npm can be used to install Apache Cordova. The version installed can be seen by the following node command

```
node -v  
v5.4.1
```

Install the latest available version.

To see what packages are already globally installed use

```
npm ls -g
```

Use npm to install the Apache Cordova command-line interface.

Cordova 3.0.6 (or the latest 3.0.x version) should be used if using SMP 3.0 SDK.

Cordova 3.1.0-0.2.0 (or the latest 3.1.x version) should be used if using SMP 3.0 SP01 SDK.

Cordova 3.3.1-0.1.2 (or the latest 3.3.x version) should be used if using SMP 3.0 SP02 SDK.

Cordova 3.4.0-0.1.3 should be used if using SMP 3.0 SP03 SDK.

Cordova 3.4.1-0.1.0 should be used if using SMP 3.0 SP04 SDK.

Cordova 3.5.0-0.2.7 (or the latest 3.5.x version) should be used if using SMP 3.0 SP05 SDK.

Cordova 3.6.3-0.2.13 (or the latest 3.6.x version) should be used if using SMP 3.0 SP05 PL03 or SP06 SDK.

\* Cordova 4.2.0 should be used if using SMP 3.0 SP07 SDK.

\* Cordova 4.2.0 should be used if using SMP 3.0 SP08 SDK.

\* You may wish to upgrade to a newer version on Android to address this fixed security flaw on Android. [CVE-2015-1835](#)

Cordova 5.1.1 should be used if using SMP 3.0 SP09 SDK.

Cordova 5.1.1 should be used if using SMP 3.0 SP10 SDK.

Cordova 5.4.1 should be used if using SMP 3.0 SP11 SDK.

Cordova 6.0.0 should be used if using SMP 3.0 SP12 SDK.

```
npm install -g cordova@6.0.0
npm ls -g cordova
or
cordova -v
```

Note, the -g indicates that Apache Cordova should be installed globally. It will be placed at the location indicated by

```
npm root -g
```

Note if you are on a Mac, use

```
sudo npm install -g cordova@6.0.0
```

A specific version of Apache Cordova can be installed by specifying a version number or if the version number is not supplied then the latest version is installed.

```
npm install -g cordova@6.0.0
```

The available versions can be seen with the info command.

```
npm info cordova
```

Note, if you use a proxy server you will need to configure npm as shown below.

```
npm config set proxy http://proxy:8080
npm config set https-proxy http://proxy:8080
```

The following are for illustration purposes and demonstrate how to list the current proxy settings and remove the proxy settings.

```
npm config list
npm config get proxy
npm config get https-proxy
npm config delete proxy
npm config delete https-proxy
```

## Uninstalling Apache Cordova

Note, this section is for illustration purposes only. Cordova should not be uninstalled to continue with this guide.

Cordova can be uninstalled by

```
npm uninstall -g cordova
npm cache clean
```

After performing the uninstall, if the following folder exists, you may wish to delete it.

```
C:\Users\user\.cordova
```

or on a Mac

```
~/users/user/.cordova
```

## Creating an Apache Cordova Project

The command-line interface or CLI is used to create Cordova projects. For additional details see [Command-line Interface](#).

Create a folder to hold the Kapsel projects such as C:\Kapsel\_Projects or ~/Documents/Kapsel\_Projects

A new project can now be created using

```
cordova -d create C:\Kapsel_Projects\LogonDemo com.mycompany.logon LogonDemo
```

or on a Mac

```
cordova -d create ~/Documents/Kapsel_Projects/LogonDemo com.mycompany.logondemo LogonDemo
```

The first parameter following create is the directory to create the project, followed by a reverse-domain-style identifier, followed by the project name. Note, this may take a few minutes to complete as an initial download of the template project that will be used has to be downloaded. Note, the -d flag indicates debug output and is optional but can be useful the first time this is run in case something goes wrong.

Note, on a Mac, if the above command fails due to a permission problem, it may be necessary to provide execute rights to the folder where Cordova was installed.

```
cd /usr/local  
sudo chmod +r+x bin
```

To add a platform run the following command

```
cd C:\Kapsel_Projects\LogonDemo  
or  
cd ~/Documents/Kapsel_Projects/LogonDemo  
  
cordova -d platform add android
```

or

```
cordova -d platform add ios
```

or

```
cordova -d platform add windows
```

If you are developing Windows 10 universal apps add the following preference to your config.xml file as documented [here](#).

```
<preference name="windows-target-version" value="10.0" />
```

At this point, the root www folder contains the HTML, JavaScript and CSS used by the project.

 [http://danielva-xpvm.dhcp.oak.sap.corp/webworkflows/Getting\\_Started/images/image1.PNG](http://danielva-xpvm.dhcp.oak.sap.corp/webworkflows/Getting_Started/images/image1.PNG)

A duplicate set (also known as platform specific set) of the files are included in each of the below directories. These files should not be modified as they are replaced with the set from the folder shown in the previous screenshot when the commands cordova prepare or cordova run are executed.

```
LogonDemo\platforms\android\assets\www  
LogonDemo\platforms\windows\www  
LogonDemo\platforms\ios\www
```

A plugin can be added with the following command. The below plugin enables console.log to display log messages on iOS.

```
cordova plugin add cordova-plugin-console
```

Note it is possible to specify a specific version of a plugin or to specify that the plugin comes from a GIT repository.

```
cordova plugin add cordova-plugin-console@0.2.12  
cordova plugin add cordova-plugin-console@latest  
cordova plugin add https://github.com/apache/cordova-plugin-console.git  
cordova plugin add https://github.com/apache/cordova-plugin-console.git#r0.2.13
```

As of Cordova 5.0, plugins are stored in [NPM ecosystem:cordova](#) and have a different naming standard (cordova-plugin-camera vs org.apache.cordova.camera).

Previously they were available in the [Apache Cordova plugins registry](#).

Some commonly used plugins are listed [here](#).

Some of the plugins are archived [here](#).



Type `cordova help plugin` and examine the `add` command for additional details.

After the project has been created, the default app can be modified, and additional files can be added to the `www` folder such as adding `datajs-1.1.2.min.js`. Another common change would be to edit the `config.xml` file and specify a few settings such as enabling all orientations on iOS and the min Android SDK to target.

```
<platform name="ios">
  <preference name="Orientation" value="all" />
  <preference name="deployment-target" value="6.0" />
</platform>
<platform name="android">
  <preference name="android-minSdkVersion" value="14" />
</platform>
```

Changes would now be made to the `index.html` file followed by calling the `prepare` command to copy the files in the `project/www` folder to the platform specific `www` folders.

```
cordova -d prepare
```

## Running an Apache Cordova Project

At this point the project can be opened in a development environment such as Xcode, Android Studio or Visual Studio. Alternatively, the `cordova` command line can also be used to build and deploy the project.

The following are a few examples using the Cordova CLI for each platform.

### Android

```
cordova compile android (creates an apk file that can then be installed)
emulator -list-avds (lists the emulators that are currently available)
emulator -avd Android51 (starts an existing Android emulator named Android51)
adb install platforms/android/ant-build/CordovaApp-debug.apk (installs the app on a running device or emulator)
cordova run android (performs a cordova prepare, then builds the apk and installs the app and runs it)
```

Note, if the below error is shown after running cordova run android, unchecking Settings > Developer options > Verify apps over USB may help. See also [Unable to test app after upgrading to Lollipop](#).

```
java.lang.UnsatisfiedLinkError: No implementation found for java.lang.String android.os.SystemProperties.native_get(java.l
```

To open the project in Android Studio choose Import Project and navigate to C:\Kapsel\_Projects\LogonDemo\platforms\android.

The project can be run by choosing Run > Run 'android'

Note, if you are unable to build the project in Android Studio, try running the following commands and then opening it.

```
cordova platform remove android
cordova platform add android --searchpath %KAPSEL_HOME%/plugins
cordova build android
```

## iOS

For iOS the following additional components need to be installed.

```
sudo npm install -g ios-sim
sudo npm install -g ios-deploy
```

Then the below command can also be used to prepare, build and install an iOS app.

```
cordova run ios --list //if needed to determine a target

cordova run ios --emulator --target iPhone-5
or
cordova run ios --device
```

To open the project in Xcode, double click on the file

```
~/Documents/Kapsel_Projects/LogonDemo/platforms/ios/LogonDemo.xcodeproj
```

## Windows

For Windows the following commands can be run. Note if you are deploying to a phone, the phone must first be unlocked using the Windows Phone Developer Registration tool.

```
cordova run windows --archs=x64

cordova run windows --list
cordova run windows --emulator --target
or
cordova run windows --archs=arm --device -- --phone
```

If you double click on the following file, it will open in Visual Studio and a project for each platform can be seen.

```
C:\Kapsel_Projects\LogonDemo\platforms\windows\CordovaApp.sln
```

 [http://danielva-xpvm.dhcp.oak.sap.corp/webworkflows/Getting\\_Started/images/image21.PNG](http://danielva-xpvm.dhcp.oak.sap.corp/webworkflows/Getting_Started/images/image21.PNG)

Notice that the bolded one below is the project for Windows Phone 8.1. To use a different one, right-click on the project and choose Set as Startup Project.

An architecture such as x64 or ARM can be selected. These then affect the available list of available target devices.

Note that it is required to select an architecture to work with some of the Kapsel plugins. They do not support the option AnyCPU.

Note, if you attempt to install three application on a Windows phone you may encounter the following error message.

```
Error: Unable to install application. The maximum number of developer applications on this phone has been reached. Please
```

See also, [Register as an app developer](#).

Note, if you receive the Error, Package could not be registered, a possible workaround is to remove the sharedUserCertificates capability in the

appxmanifest file. This capability is added by the Kapsel Logon plugin. In general, the Capability entries should appear first and the DeviceCapabilities should appear second.

## Kapsel Plugins

The following sections provide step by step instructions demonstrating each Kapsel plugin and a set of appendices on topics related to Kapsel app development. Note some of the plugins mentioned below such as the Barcode Scanner, Calendar, and Print plugins are based on third party plugins. They are included in the Kapsel SDK for your convenience.

[Logon](#)

[AppUpdate](#)

[Push](#)

[EncryptedStorage](#)

[Logger](#)

[Settings](#)

[AuthProxy](#)

[Barcode Scanner](#)

[Offline OData](#)

[End-To-End Trace](#)

[Attachment Viewer](#)

[Calendar](#)

[Printer](#)

[Localization](#)

[SAP Fiori Client](#)

[Online Application](#)

[Toolbar](#)

[Application Preferences](#)

[Voice Recording](#)

[Appendix A: OData](#)

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[Appendix D: Security Part 2](#)

[Appendix E: Upgrading](#)  
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[Appendix H: Non Kapsel Plugins](#)  
[Appendix I: SAP Afaria and Kapsel](#)

[Appendix J: Hybrid Apps in SAP Mobile Platform 2.3 vs 3.0](#)  
[Appendix K: Crosswalk](#)  
[Appendix L: SAP HANA Cloud Platform Mobile Services \(HCPms\)](#)  
[Appendix M: Using SAML with Kapsel](#)

Note that comments are not easily searchable in SCN. If you have a question that is not specific to the above content it would be best to create a new discussion on SCN.

To include a reference to this document, Right Click on the title and select 'Copy Shortcut'. Paste it into the new Discussion so people will know the relevance. If you want to bring it to the attention of the author, repeat the same process with the Author's name.

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## Related Questions

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[Links to file not working for archived "Getting Started with Kapsel " document](#)

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[Kapsel Logon Manager Hide Passcode Screen](#)

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[Device not registering on SMP Server](#)

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## 29 Comments

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**Nagesh Caparthy**

July 24, 2015 at 5:24 pm

Thanks for the updated version.

Regards,

Nagesh

Like (0)

---



Former Member

August 10, 2015 at 1:43 pm

Hi Danel,

using this code i could able to register app but when i click on read button i get an error 401 and i am not able to fetch data.

BR,

Saurabh

Like (0)

---



Daniel Van Leeuwen | Post author

October 2, 2015 at 12:04 pm

Updated for SMP 3.0 SP10 SDK

Like (0)

---



Chirag Chauhan

October 28, 2015 at 7:11 am

Hi Daniel,

I am referring to local business objects (LBO) available in SUP ([SyBooks Online](#)). Just wanted to know whether latest SMP 3.0 SDK SP10 supports similar concept? If Yes, then how it can be done?

Thanks,

Chirag.

Like (0)



[Daniel Van Leeuwen](#) | Post author

[October 28, 2015 at 11:46 am](#)

Can you provide a more concrete use case of what you are looking for? In general the Encrypted Storage plugin provides a simple API for get and storing local data on the device.

See also

[Getting Started with Kapsel – Part 5 — EncryptedStorage \(SP09+\)](#)

Regards,

Dan van Leeuwen

Like (0)



[Chirag Chauhan](#)

[October 28, 2015 at 11:52 am](#)



Hi Daniel,

My question is related to OData Offline plugin. I would like create an entities locally in offline storage. These entities will never be synchronized(flush/refresh) to backend. Is it supported by latest OData Offline plugin? If Yes, then how can I do that?

Thanks,

Chirag.

Like (0)



**Daniel Van Leeuwen** | Post author

October 28, 2015 at 1:32 pm

This would perhaps be best asked in the Offline section of this guide or as a separate question on SCN.

However, you could simply create an offline store and never call flush or refresh on it. I believe that should work. You can also create more than one offline store so if you could create one offline store for local data and another one for data that will be synced.

See the section titled

## Using More than one Offline Store

[Getting Started with Kapsel – Part 10 — Offline OData \(SP09+\)](#)

Regards,

Dan van Leeuwen

Like (0)



Chirag Chauhan

October 28, 2015 at 1:38 pm

Thanks Daniel,

Yes I thought of the same approach of creating a second offline store to keep the local entities.

But just wanted to make sure that if there is a direct way of achieve the same.

Thanks,

Chirag.

Like (0)



Former Member

December 23, 2015 at 9:59 am

Hi Daniel,

Thanks for details.

I am using

SMP SDK 3 SP10 PL09

cordova 5.1.1

After creating android project and adding logon plugin following plugins installed

“cordova-plugin-whitelist”: “1.2.0”,

“kapsel-plugin-logon”: “3.10.9”,

“kapsel-plugin-corelibs”: “3.10.9”,

“cordova-plugin-device”: “1.1.0”,

“kapsel-plugin-inappbrowser”: “1.0.1”,

“kapsel-plugin-authproxy”: “3.10.9”

Now when i try to run the android project, it is getting crashed and in log we got following error.

java.lang.ClassNotFoundException: com.sap.mp.cordova.plugins.authProxy.AuthProxy

12-23 15:32:36.372: E/AndroidRuntime(12601): java.lang.RuntimeException: Unable to start activity ComponentInfo{com.xxxxxx.logonpl09/com.xxxxxx.logonpl09.MainActivity}: java.lang.NullPointerException: Attempt to invoke virtual method 'void org.apache.cordova.CordovaPlugin.privateInitialize(java.lang.String, org.apache.cordova.CordovaInterface, org.apache.cordova.CordovaWebView, org.apache.cordova.CordovaPreferences)' on a null object reference

Thanks

Suresh

Like (0)



[billy shen](#)

[January 18, 2016 at 6:39 am](#)

same error for me , i am using SMP SDK 3 SP10 PL09 cordova 5.2.0.

have you solved this error?

thanks,

Billy

Like (0)



[Daniel Van Leeuwen](#) | Post author

[January 18, 2016 at 8:10 pm](#)

I was not able to reproduce the problem using Cordova 5.1.1 or 5.2.0 with SP10 PL10. Is this problem happening on a specific Android device version or emulator? I was using a Nexus 7 running 5.0.2 of Android.

Regards,

Dan van Leeuwen

Like (0)



billy shen

January 19, 2016 at 1:50 am

i tried a emulator Nexus7 on android 5.1.1, the same error happened. the error never occur on cordova 4.2.0 , when we upgrade the HAT to 1.10.2, and cordova to 5.x.x, it occurred.

here is the detail for the error.

*01-19 10:18:07.284: I/art(1423): Not late-enabling -Xcheck:jni (already on)*

*01-19 10:18:12.274: I/WebViewFactory(1423): Loading com.android.webview version 39 (1737576-arm) (code 300001)*

*01-19 10:18:13.278: I/LibraryLoader(1423): Time to load native libraries: 741 ms (timestamps 9658-399)*

*01-19 10:18:13.282: I/LibraryLoader(1423): Expected native library version number "",actual native library version number ""*

*01-19 10:18:13.692: V/WebViewChromiumFactoryProvider(1423): Binding Chromium to main looper Looper (main, tid 1) {25efe5e0}*

*01-19 10:18:13.694: I/LibraryLoader(1423): Expected native library version number "",actual native library version number ""*

*01-19 10:18:13.801: I/chromium(1423): [INFO:library\_loader\_hooks.cc(104)] Chromium logging enabled: level = 0, default verbosity = 0*

01-19 10:18:13.919: I/BrowserStartupController(1423): Initializing chromium process, singleProcess=true

01-19 10:18:13.941: W/art(1423): Attempt to remove local handle scope entry from IRT, ignoring

01-19 10:18:14.157: W/AudioManagerAndroid(1423): Requires BLUETOOTH permission

01-19 10:18:14.185: W/chromium(1423): [WARNING:resource\_bundle.cc(304)] locale\_file\_path.empty()

01-19 10:18:14.198: I/chromium(1423): [INFO:aw\_browser\_main\_parts.cc(65)] Load from apk succesful, fd=31 off=46184 len=3037

01-19 10:18:14.211: I/chromium(1423): [INFO:aw\_browser\_main\_parts.cc(78)] Loading webviewchromium.pak from, fd:32 off:229484 len:1089587

01-19 10:18:14.295: E/chromium(1423): [ERROR:gl\_surface\_egl.cc(165)] No suitable EGL configs found.

01-19 10:18:14.300: E/chromium(1423): [ERROR:gl\_surface\_android.cc(23)] GLSurfaceEGL::InitializeOneOff failed.

01-19 10:18:14.301: E/chromium(1423): [ERROR:browser\_main\_loop.cc(988)] GLSurface::InitializeOneOff failed

01-19 10:18:14.907: W/chromium(1423): [WARNING:data\_reduction\_proxy\_settings.cc(331)] SPDY proxy OFF at startup

01-19 10:18:15.052: W/art(1423): Attempt to remove local handle scope entry from IRT, ignoring

01-19 10:18:15.120: W/AwContents(1423): onDetachedFromWindow called when already detached. Ignoring

01-19 10:18:15.275: D/SystemWebViewEngine(1423): CordovaWebView is running on device made by: unknown

01-19 10:18:15.372: W/art(1423): Attempt to remove local handle scope entry from IRT, ignoring

01-19 10:18:15.372: W/art(1423): Attempt to remove local handle scope entry from IRT, ignoring

01-19 10:18:15.397: I/art(1423): Background sticky concurrent mark sweep GC freed 3395(241KB) AllocSpace objects, 1(16KB) LOS objects, 17% free, 918KB/1117KB, paused 16.069ms total 420.386ms

01-19 10:18:15.452: W/System.err(1423): java.lang.ClassNotFoundException: com.sap.mp.cordova.plugins.authProxy.AuthProxy

01-19 10:18:15.455: W/System.err(1423): at java.lang.Class.classForName(Native Method)

01-19 10:18:15.455: W/System.err(1423): at java.lang.Class.forName(Class.java:309)

01-19 10:18:15.455: W/System.err(1423): at java.lang.Class.forName(Class.java:273)

01-19 10:18:15.466: W/System.err(1423): at org.apache.cordova.PluginManager.instantiatePlugin(PluginManager.java:487)

01-19 10:18:15.467: W/System.err(1423): at org.apache.cordova.PluginManager.getPlugin(PluginManager.java:167)

01-19 10:18:15.467: W/System.err(1423): at org.apache.cordova.PluginManager.startupPlugins(PluginManager.java:95)

01-19 10:18:15.467: W/System.err(1423): at org.apache.cordova.PluginManager.init(PluginManager.java:84)

01-19 10:18:15.468: W/System.err(1423): at org.apache.cordova.CordovaWebViewImpl.init(CordovaWebViewImpl.java:116)

01-19 10:18:15.468: W/System.err(1423): at org.apache.cordova.CordovaActivity.init(CordovaActivity.java:150)

01-19 10:18:15.468: W/System.err(1423): at org.apache.cordova.CordovaActivity.loadUrl(CordovaActivity.java:220)

01-19 10:18:15.469: W/System.err(1423): at com.zhenergy.hr01.MainActivity.onCreate(MainActivity.java:32)

01-19 10:18:15.469: W/System.err(1423): at android.app.Activity.performCreate(Activity.java:5990)

01-19 10:18:15.469: W/System.err(1423): at android.app.Instrumentation.callActivityOnCreate(Instrumentation.java:1106)

01-19 10:18:15.469: W/System.err(1423): at android.app.ActivityThread.performLaunchActivity(ActivityThread.java:2278)

01-19 10:18:15.469: W/System.err(1423): at android.app.ActivityThread.handleLaunchActivity(ActivityThread.java:2390)

01-19 10:18:15.470: W/System.err(1423): at android.app.ActivityThread.access\$800(ActivityThread.java:151)

01-19 10:18:15.470: W/System.err(1423): at android.app.ActivityThread\$H.handleMessage(ActivityThread.java:1303)

01-19 10:18:15.470: W/System.err(1423): at android.os.Handler.dispatchMessage(Handler.java:102)

01-19 10:18:15.470: W/System.err(1423): at android.os.Looper.loop(Looper.java:135)

01-19 10:18:15.470: W/System.err(1423): at android.app.ActivityThread.main(ActivityThread.java:5257)

01-19 10:18:15.471: W/System.err(1423): at java.lang.reflect.Method.invoke(Native Method)

01-19 10:18:15.471: W/System.err(1423): at java.lang.reflect.Method.invoke(Method.java:372)

01-19 10:18:15.471: W/System.err(1423): at com.android.internal.os.ZygoteInit\$MethodAndArgsCaller.run(ZygoteInit.java:903)

01-19 10:18:15.471: W/System.err(1423): at com.android.internal.os.ZygoteInit.main(ZygoteInit.java:698)

01-19 10:18:15.472: W/System.err(1423): Caused by: java.lang.ClassNotFoundException: Didn't find class "com.sap.mp.cordova.plugins.authProxy.AuthProxy" on path: DexPathList[[zip file "/data/app/com.zhenergy.hr01-1/base.apk"],nativeLibraryDirectories=[/vendor/lib, /system/lib]]

01-19 10:18:15.474: W/System.err(1423): at dalvik.system.BaseDexClassLoader.findClass(BaseDexClassLoader.java:56)

01-19 10:18:15.474: W/System.err(1423): at java.lang.ClassLoader.loadClass(ClassLoader.java:511)

01-19 10:18:15.474: W/System.err(1423): at java.lang.ClassLoader.loadClass(ClassLoader.java:469)

01-19 10:18:15.475: W/System.err(1423): ... 24 more

01-19 10:18:15.475: W/System.err(1423): Suppressed: java.lang.ClassNotFoundException: com.sap.mp.cordova.plugins.authProxy.AuthProxy

01-19 10:18:15.489: W/System.err(1423): at java.lang.Class.forName(Native Method)

01-19 10:18:15.490: W/System.err(1423): at java.lang.BootClassLoader.findClass(ClassLoader.java:781)



01-19 10:18:15.490: W/System.err(1423): at java.lang.BootClassLoader.loadClass(ClassLoader.java:841)

01-19 10:18:15.490: W/System.err(1423): at java.lang.ClassLoader.loadClass(ClassLoader.java:504)

01-19 10:18:15.491: W/System.err(1423): ... 25 more

01-19 10:18:15.491: W/System.err(1423): Caused by: java.lang.NoClassDefFoundError: Class not found using the boot class loader; no stack available

01-19 10:18:15.492: I/System.out(1423): Error adding plugin com.sap.mp.cordova.plugins.authProxy.AuthProxy.

01-19 10:18:15.525: D/AndroidRuntime(1423): Shutting down VM

01-19 10:18:15.559: E/AndroidRuntime(1423): FATAL EXCEPTION: main

01-19 10:18:15.559: E/AndroidRuntime(1423): Process: com.zhenergy.hr01, PID: 1423

01-19 10:18:15.559: E/AndroidRuntime(1423): java.lang.RuntimeException: Unable to start activity ComponentInfo{com.zhenergy.hr01/com.zhenergy.hr01.MainActivity}: java.lang.NullPointerException: Attempt to invoke virtual method 'void org.apache.cordova.CordovaPlugin.privateInitialize(java.lang.String, org.apache.cordova.CordovaInterface, org.apache.cordova.CordovaWebView, org.apache.cordova.CordovaPreferences)' on a null object reference

01-19 10:18:15.559: E/AndroidRuntime(1423): at android.app.ActivityThread.performLaunchActivity(ActivityThread.java:2325)

01-19 10:18:15.559: E/AndroidRuntime(1423): at android.app.ActivityThread.handleLaunchActivity(ActivityThread.java:2390)

01-19 10:18:15.559: E/AndroidRuntime(1423): at android.app.ActivityThread.access\$800(ActivityThread.java:151)

01-19 10:18:15.559: E/AndroidRuntime(1423): at android.app.ActivityThread\$H.handleMessage(ActivityThread.java:1303)

01-19 10:18:15.559: E/AndroidRuntime(1423): at android.os.Handler.dispatchMessage(Handler.java:102)

01-19 10:18:15.559: E/AndroidRuntime(1423): at android.os.Looper.loop(Looper.java:135)

01-19 10:18:15.559: E/AndroidRuntime(1423): at android.app.ActivityThread.main(ActivityThread.java:5257)

01-19 10:18:15.559: E/AndroidRuntime(1423): at java.lang.reflect.Method.invoke(Native Method)

01-19 10:18:15.559: E/AndroidRuntime(1423): at java.lang.reflect.Method.invoke(Method.java:372)

01-19 10:18:15.559: E/AndroidRuntime(1423): at com.android.internal.os.ZygoteInit\$MethodAndArgsCaller.run(ZygoteInit.java:903)

01-19 10:18:15.559: E/AndroidRuntime(1423): at com.android.internal.os.ZygoteInit.main(ZygoteInit.java:698)

01-19 10:18:15.559: E/AndroidRuntime(1423): Caused by: java.lang.NullPointerException: Attempt to invoke virtual method 'void org.apache.cordova.CordovaPlugin.privateInitialize(java.lang.String, org.apache.cordova.CordovaInterface, org.apache.cordova.CordovaWebView, org.apache.cordova.CordovaPreferences)' on a null object reference

01-19 10:18:15.559: E/AndroidRuntime(1423): at org.apache.cordova.PluginManager.getPlugin(PluginManager.java:169)

01-19 10:18:15.559: E/AndroidRuntime(1423): at org.apache.cordova.PluginManager.startupPlugins(PluginManager.java:95)

01-19 10:18:15.559: E/AndroidRuntime(1423): at org.apache.cordova.PluginManager.init(PluginManager.java:84)

01-19 10:18:15.559: E/AndroidRuntime(1423): at org.apache.cordova.CordovaWebViewImpl.init(CordovaWebViewImpl.java:116)

01-19 10:18:15.559: E/AndroidRuntime(1423): at org.apache.cordova.CordovaActivity.init(CordovaActivity.java:150)

01-19 10:18:15.559: E/AndroidRuntime(1423): at org.apache.cordova.CordovaActivity.loadUrl(CordovaActivity.java:220)

01-19 10:18:15.559: E/AndroidRuntime(1423): at com.zhenergy.hr01.MainActivity.onCreate(MainActivity.java:32)

01-19 10:18:15.559: E/AndroidRuntime(1423): at android.app.Activity.performCreate(Activity.java:5990)

01-19 10:18:15.559: E/AndroidRuntime(1423): at android.app.Instrumentation.callActivityOnCreate(Instrumentation.java:1106)

01-19 10:18:15.559: E/AndroidRuntime(1423): at android.app.ActivityThread.performLaunchActivity(ActivityThread.java:2278)

01-19 10:18:15.559: E/AndroidRuntime(1423): ... 10 more

01-19 10:18:15.837: I/art(1423): Background partial concurrent mark sweep GC freed 1328(136KB) AllocSpace objects, 0(0B) LOS objects, 52% free, 936KB/1960KB, paused 1.106ms total 299.232ms

01-19 10:23:15.987: I/Process(1423): Sending signal. PID: 1423 SIG: 9

Like (0)



[Daniel Van Leeuwen](#) | Post author

[January 20, 2016 at 5:38 pm](#)

Does the problem occur with an app created following the instructions in this guide? I notice you mentioned HAT. I wonder if that is the difference between what I tried and what you tried.

Regards,

Dan van Leeuwen

Like (0)



Former Member

[January 28, 2016 at 11:26 am](#)

Hi [Daniel Van Leeuwen](#)

I am using SMP SDK 3 SP10 PL10 , Here is the screen shot for versions. and when try to run the app in android it is getting crash with the below error message, please suggest...

```
C:\SMP1010\OFFLINE>cordova plugins
cordova-plugin-console 1.0.3-dev "Console"
cordova-plugin-device 1.1.1 "Device"
cordova-plugin-whitelist 1.2.1 "Whitelist"
kapsel-plugin-authproxy 3.10.10 "AuthProxy"
kapsel-plugin-barcodescanner 3.10.10 "BarcodeScanner"
kapsel-plugin-corelibs 3.10.10 "CoreLibs"
kapsel-plugin-inappbrowser 1.0.1 "InAppBrowser"
kapsel-plugin-logon 3.10.10 "Logon"
kapsel-plugin-odata 3.10.10 "OData"

C:\SMP1010\OFFLINE>cordova -v
5.1.1

C:\SMP1010\OFFLINE>node --version
v0.10.40

C:\SMP1010\OFFLINE>npm -v
1.4.28

C:\SMP1010\OFFLINE>kapsel -v
3.10.10
```

Error Log	0..	27963	27963	com.innovapptive.offline	Syste...	... 24 more
	0..	27963	27963	com.innovapptive.offline	Syste...	Suppressed: java.lang.ClassNotFoundException: com.sap.mp.cordova.p lugins.authProxy.AuthProxy
	0..	27963	27963	com.innovapptive.offline	Syste...	at java.lang.Class.forName(Native Method)
	0..	27963	27963	com.innovapptive.offline	Syste...	at java.lang.BootClassLoader.findClass(ClassLoader.java:781)
	0..	27963	27963	com.innovapptive.offline	Syste...	at java.lang.BootClassLoader.loadClass(ClassLoader.java:841)
	0..	27963	27963	com.innovapptive.offline	Syste...	at java.lang.ClassLoader.loadClass(ClassLoader.java:504)
	0..	27963	27963	com.innovapptive.offline	Syste...	... 25 more
	0..	27963	27963	com.innovapptive.offline	Syste...	Caused by: java.lang.NoClassDefFoundError: Class not found using t he boot class loader; no stack available
I	0..	27963	27963	com.innovapptive.offline	Syste...	Error adding plugin com.sap.mp.cordova.plugins.authProxy.AuthProxy.
E	0..	27963	27963	com.innovapptive.offline	Andro...	FATAL EXCEPTION: main
E	0..	27963	27963	com.innovapptive.offline	Andro...	Process: com.innovapptive.offline, PID: 27963
E	0..	27963	27963	com.innovapptive.offline	Andro...	java.lang.RuntimeException: Unable to start activity ComponentInfo{ com.innovapptive.offline/com.innovapptive.offline.MainActivity}: ja va.lang.NullPointerException: Attempt to invoke virtual method 'voi d org.apache.cordova.CordovaPlugin.privateInitialize(java.lang.Stri ng, org.apache.cordova.CordovaInterface, org.apache.cordova.Cordova WebView, org.apache.cordova.CordovaPreferences)' on a null object r eference
E	0..	27963	27963	com.innovapptive.offline	Andro...	at android.app.ActivityThread.performLaunchActivity(ActivityThread. .java:2689)
E	0..	27963	27963	com.innovapptive.offline	Andro...	at android.app.ActivityThread.handleLaunchActivity(ActivityThread. java:2754)
E	0..	27963	27963	com.innovapptive.offline	Andro...	at android.app.ActivityThread.access\$900(ActivityThread.java:177)
E	0..	27963	27963	com.innovapptive.offline	Andro...	at android.app.ActivityThread\$H.handleMessage(ActivityThread.java:4

Thanks

Suresh Babu

Like (0)



[Daniel Van Leeuwen](#) | Post author

[January 28, 2016 at 1:06 pm](#)

It would be best if the questions or comments posted here were directly related to the documents examples or content. I would recommend creating a new discussion on the error you are having and feel free to link to me or this guide via mouseOver the item or author, Right Click, and select Copy Shortcut. Paste it into your Discussion.

In you new posting it would also help to describe how you have created the project. Did you use the command line as shown in this guide or another tool such as the Web IDE? One other possibility would be to share the project so I or others could take a quick look. I recall seeing an error similar to that from another posting but do not recall that it was resolved so would like to find a solution.

Regards,

Dan van Leeuwen

Like (0)



Former Member

[April 14, 2016 at 2:15 am](#)

Hi [Daniel Van Leeuwen](#),

I am also facing the same issue while trying with Cordova 5.1.1 or 5.2.0 with SMP SDK SP10 PL04. I also tried with cordova 5.4.1 with SMP SDK SP10 PL04. My SMP Server is running on SP9 PL01.

I was using a Nexus 4 running 5.0.0 of Android & Nexus 5X running 6.0.0 of Android.

Did anybody was able to solve this issue. Please suggest.

Thanks,

Shrikant.

Like (0)



Michael Appleby

April 14, 2016 at 11:21 am

Unless you are asking for clarification/correction of some part of the Document, please create a new Discussion marked as a Question. The Comments section of a Blog (or Document) is not the right vehicle for asking questions as the results are not easily searchable. Once your issue is solved, a Discussion with the solution (and marked with Correct Answer) makes the results visible to others experiencing a similar problem. If a blog or document is related, put in a link. Read the Getting Started documents (link at the top right) including the Rules of Engagement.

NOTE: Getting the link is easy enough for both the author and Blog. Simply MouseOver the item, Right Click, and select Copy Shortcut. Paste it into your Discussion. You can also click on the url after pasting. Click on the A to expand the options and select T (on the right) to Auto-Title the url.

Thanks, Mike (Moderator)

SAP Technology RIG

Like (0)



Former Member

February 1, 2016 at 8:31 am

Hi Dan,

I am trying to upload log files using the Kapsel Logger plugin. I'm running Kapsel SDK 3.0 SP09. I have installed PL03.

I used the sample from here [Getting Started with Kapsel – Part 6 – Logger \(SP09+\)](#)

When I hit upload, I can see one entry getting created in the Logs & Traces tab in the SMP Management cockpit.

The last statement there is "Processing request through UploadLogsAuthFilter#".

I downloaded the logs and found some exception messages

```
dmpadm:com.sap.mobile.platform.server.configuration.persistence.service.impl.ClusterHandler,IUFDEV SAP119-18479#####TDSReader@1268346 (ConnectionID:196444 ClientConnectionId: 3000c74e-c36e-4947-bd1d-2155d0d5df29): closePreparedHandle: Processing EOF |
```

```
2016 02 01 18:04:13#+1000#DEBUG#com.microsoft.sqlserver.jdbc.Connection###logback-smpdb-appender-1#####ENTRY INSERT INTO SMP_SERVER_LOGS (CORRELATIONID, SEQUENCE, APPLICATIONCONNECTIONID, APPLICATIONID, CONNECTIONID, COUNTER, LOCATION, "MESSAGE", messageCode, NODEID, ROOTCONTEXTID, severity, SOURCE, TASK, THREADID, timestamp, TRANSACTIONID, username) VALUES (?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?) |
```

```
2016 02 01 18:04:13#+1000#DEBUG#com.microsoft.sqlserver.jdbc.internals.SQLServerResultSet###Thread-21#####SQLServerResultSet:6925071 Getting Column:4 |
```

2016 02 01 18:04:13#+1000#DEBUG#org.apache.coyote.http11.Http11Processor###http-bio-8080-exec-3#####Error parsing HTTP request header java.io.EOFException: Unexpected EOF read on the socket

at org.apache.coyote.http11.Http11Processor.setRequestLineReadTimeout(Http11Processor.java:168)

at org.apache.coyote.http11.AbstractHttp11Processor.process(AbstractHttp11Processor.java:982)

at org.apache.coyote.AbstractProtocol\$AbstractConnectionHandler.process(AbstractProtocol.java:611)

at org.apache.tomcat.util.net.JIoEndpoint\$SocketProcessor.run(JIoEndpoint.java:314)

at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1145)

at java.util.concurrent.ThreadPoolExecutor\$Worker.run(ThreadPoolExecutor.java:615)

at org.apache.tomcat.util.threads.TaskThread\$WrappingRunnable.run(TaskThread.java:61)

at java.lang.Thread.run(Thread.java:791)

|

2016 02 01 18:04:13#+1000#DEBUG#com.microsoft.sqlserver.jdbc.Connection###logback-smpdb-appender-1#####ENTRY INSERT INTO SMP\_SERVER\_LOGS (CORRELATIONID, SEQUENCE, APPLICATIONCONNECTIONID, APPLICATIONID, CONNECTIONID, COUNTER, LOCATION, "MESSAGE", messageCode, NODEID, ROOTCONTEXTID, severity, SOURCE, TASK, THREADID, timestamp, TRANSACTIONID, username) VALUES (?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?, ?) 1,003 1,007 |

2016 02 01 18:04:13#+1000#DEBUG#com.microsoft.sqlserver.jdbc.internals.SQLServerStatement###Timer-4,SQLUATAGL034\{INSTANCENAME}-56420-DMP-dmpadm:com.sap.mobile.platform.server.configuration.persistence.service.impl.ClusterHandler,IUFDEV SAP119-18479#####SQLServerPreparedStatement:18928345: Closed PreparedHandle:0 |

2016 02 01 18:04:13#+1000#DEBUG#com.microsoft.sqlserver.jdbc.ResultSet###Thread-21#####RETURN null |

2016 02 01 18:04:13#+1000#DEBUG#com.microsoft.sqlserver.jdbc.Statement###logback-smpdb-appender-1#####ENTRY adaptive |



```
2016 02 01 18:04:13#+1000#DEBUG#com.microsoft.sqlserver.jdbc.Statement###Timer-4,SQLUATAGL034\{INSTANCENAME}-56420-DMP-  
dmpadm:com.sap.mobile.platform.server.configuration.persistence.service.impl.ClusterHandler,IUFDEV SAP119-18479#####RETURN |
```

```
2016 02 01 18:04:13#+1000#DEBUG#org.apache.coyote.http11.Http11Protocol###http-bio-8080-exec-3#####Socket:  
[org.apache.tomcat.util.net.SocketWrapper@744817cd:Socket[addr=/10.1.96.19,port=44309,localport=8080]], Status in: [OPEN_READ], State out:  
[CLOSED] |
```

Any advice on how I can get this working?

The same did not work with SMP 3.0 SP08 as well. My log messages do not show up in the Logs&Traces.

Thanks,

V. Sriram

Like (0)



[Daniel Van Leeuwen](#) | Post author

[February 1, 2016 at 1:09 pm](#)

What version of the SMP server are you using?

If possible, perhaps try the latest available version SP10 and PL.

Have you tried the

```
sap.Logger.emailLog
```

or

```
sap.Logger.getLogEntries
```

APIs to either email the log or to view the log on the device?

Assuming those work, you could then perhaps try fiddler to capture and view the results of calling.

```
sap.Logger.upload
```

<http://scn.sap.com/docs/DOC-65535#monitor>

As a final comment, perhaps this question could have been posted under the Logger section.

Regards,

Dan van Leeuwen

Like (0)

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[Daniel Van Leeuwen](#) | Post author

[February 3, 2016 at 3:28 pm](#)

Updated for SP11 SDK and SP10 server.

Like (0)



[Chirag Chauhan](#)

[March 28, 2016 at 2:25 pm](#)

Hi Dan,

What's the preferred cordova and node version for SMP Client SDK SP11 PL03? I tried cordova 5.1.1 and 5.2.0. But then the Logon.init() SAML authentication fails with error as 'confirm' is undefined.

Thanks,

Chirag.

Like (0)



[Daniel Van Leeuwen](#) | Post author

[March 28, 2016 at 2:45 pm](#)

As mentioned above in the section

## Installing Apache Cordova with Node.js

Cordova 5.4.1 should be used with SP 11 of the SDK.

Are you by chance using Windows? If so, perhaps try adding the dialogs plugin.

[GitHub – apache/cordova-plugin-dialogs: Mirror of Apache Cordova Plugin dialogs](#)

Then change confirm calls to

`navigator.notification.confirm`

Regards,

Dan van Leeuwen

Like (0)



[Chirag Chauhan](#)

[March 28, 2016 at 2:49 pm](#)

Yes Dan, the target platform is Windows. Let me try your suggestion.

Thanks,

Chirag.

Like (0)



[Daniel Van Leeuwen](#) | Post author

[April 25, 2016 at 2:07 pm](#)

Updated for SMP 3.0 SDK SP 12

Like (0)



Ivan Mirisola

September 2, 2016 at 2:03 pm

Hi Daniel,

I have found at Web IDE/HAT docs that cordova requirements are documented under the HAT release notes:

[SAP Web IDE Hybrid App Toolkit Add-on](#)

You have to keep an eye at the “Changed Requirements” to actually figure out if you can move to a new SDK or not. If you take a look at version 1.16, there is a table stating that you must use at least SMP SDK SP12. For versions 1.17 and 1.18 no changes were recorded.

It is really odd to me that SAP releases a new SMP SDK when HAT is not yet supported by this release.

What do you think about adding this link aside from the information related to each release. This way people could seek the information online.

Regards,

Ivan

Like (0)



Ludo Noens

September 2, 2016 at 4:16 pm

Our online documentation indicates the version required.

### SAP Web IDE Hybrid App Toolkit Add-on

Our latest HAT version requires SMP3 SDK SP12.

HAT is not yet compatible with SMP3 SDK SP13. We are working on this.

Thanks,

Ludo

Like (0)



Former Member

November 11, 2016 at 2:12 pm

Hi Daniel,

I've a question regarding the installation of the App in the users device which was developed by using SMP and Fiori. Could you please have a look at the below URL .

<https://answers.sap.com/questions/59496/deploying-smp-fiori-application-to-user-mobileandr.html>

Thanks & Regards,

Mahesh

Like (0)



Former Member

May 8, 2018 at 9:52 am

Hi Experts,

While trying to access OData endpoint by opening it in a browser :

<https://sapes1.sapdevcenter.com/sap/opu/odata/IWFND/RMTSAMPLEFLIGHT>

getting following message:

This site can't be reached

The webpage at <https://sapes1.sapdevcenter.com/sap/opu/odata/IWFND/RMTSAMPLEFLIGHT> might be temporarily down or it may have moved permanently to a new web address.

ERR\_TUNNEL\_CONNECTION\_FAILED\

Could you please help on this

Thanks in advance.

Regards,

Shubham

Like (0)



[Daniel Van Leeuwen](#) | Post author

May 9, 2018 at 12:23 pm

Note, that a more current version of this blog is available at <https://blogs.sap.com/2016/10/20/getting-started-kapsel-part-1-sp13/#odatademo>

In the above version there are steps on how to access the OData service.

<https://blogs.sap.com/2016/10/20/getting-started-kapsel-part-1-sp13/#odatademo>

<https://sapes5.sandevcenter.com/sap/opu/odata/IWEND/RMTSAMPLELIGHT>

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