How to add ABTO VoIP SDK to existing project

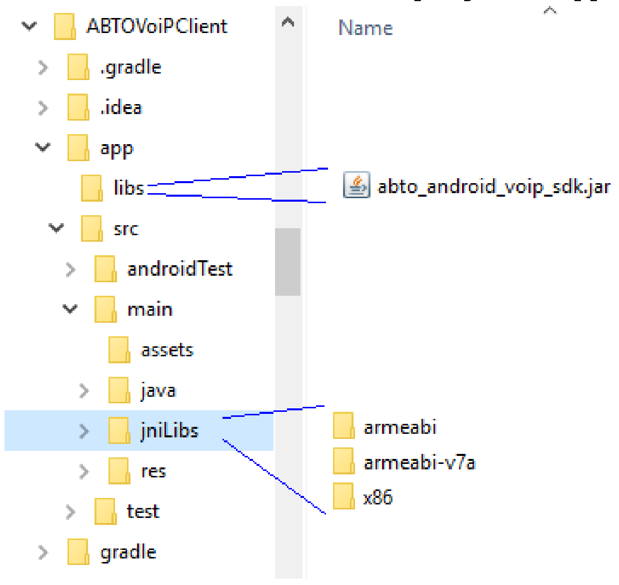
1. Copy libraries

a/ Copy *.jar file:

```
<SDK>\libs\abto_android_voip_sdk.jar
            to <project>\app\libs\abto_android_voip_sdk.jar
```

b/ Copy *.so files:

```
<SDK>\libs\armeabi     to project>\app\src\main\jniLibs
<SDK>\libs\armeabi-v7a to project>\app\src\main\jniLibs
<SDK>\libs\x86         to project>\app\src\main\jniLibs
```



2. Edit manifest file

Full version of manifest file you can see in example app “VoipTest”, provided with SDK.

a/ Add permission

```
<uses-permission android:name="android.permission.INTERNET" />
<uses-permission android:name="android.permission.RECORD_AUDIO" />
<uses-permission android:name="android.permission.WAKE_LOCK" />
<uses-permission android:name="android.permission.ACCESS_NETWORK_STATE" />
<uses-permission android:name="android.permission.ACCESS_WIFI_STATE" />
<uses-permission android:name="android.permission.VIBRATE" />
<uses-permission android:name="android.permission.WRITE_EXTERNAL_STORAGE"/>
<uses-permission android:name="android.permission.BLUETOOTH" />
<uses-permission android:name="android.permission.USE_SIP" />
<uses-permission android:name="android.permission.CONFIGURE_SIP" />
```

b/ Add features

```
<uses-feature
      android:name="android.hardware.wifi"
      android:required="false"/>
<uses-feature
      android:name="android.hardware.microphone"
      android:required="true"/>
<uses-feature
      android:name="android.hardware.touchscreen"
      android:required="false"/>
<uses-feature
      android:name="android.hardware.bluetooth"
      android:required="false"/>
<uses-feature
      android:name="android.hardware.screen.portrait"
      android:required="false"/>
```

c/ Edit 'application' tag

Is required to use application class provided by SDK or own class extended from this one

```
<application
      android:name="org.abtollc.sdk.AbtoApplication"
      android:icon="@drawable/ic_launcher"
      android:label="@string/app_name">
```

Or

```
<application
      android:name=".MyApp "
      android:icon="@drawable/ic_launcher"
      android:label="@string/app_name">

public class MyApp extends AbtoApplication {
    private long accountId;
```

d/ Add SDK service

```
<service
    android:name="org.abtollc.service.ABTOSipService"
    android:exported="true"
    android:stopWithTask="true">
    <intent-filter>
        <action android:name="org.abtollc.service.ABTOSipService" />
        <action android:name="org.abtollc.service.SipConfiguration" />
    </intent-filter>
</service>
```

e/ Add incoming call service

This service handles incoming calls when app is in background and displays incoming call activity.

```
<service
       android:name=".IncomingCallService"
       android:enabled="true">
   </service>
```

3. Add source code

a/ Configure and initialize phone instance

```
// Get AbtoPhone instance
abtoPhone = ((AbtoApplication)getApplication()).getAbtoPhone();

abtoPhone.setInitializeListener(this);

//configure codec
AbtoPhoneCfg config = abtoPhone.getConfig();
config.setCodecPriority(Codec.G729, (short) 250);
config.setCodecPriority(Codec.PCMU, (short) 200);
config.setCodecPriority(Codec.GSM, (short) 150);
config.setCodecPriority(Codec.PCMA, (short) 100);
config.setCodecPriority(Codec.speex_16000, (short) 50);

//Set port
config.setSipPort(5065);

//Set STUN server
config.setSTUNEnabled(true);
config.setSTUNServer("stun.server");

//Set timeouts
config.setRegisterTimeout(5000);
config.setHangupTimeout(3000);
```

```
//Enable logs - SDK will store log on device in folder sdcard/package_name/logs
Log.setLogLevel(5);
Log.setUseFile(true);

//Set listener
abtoPhone.setInitializeListener(this);

//Start initializing - !has to be invoked only once, when  app started!
abtoPhone.initialize();
```

SDK invokes this method few times, during initialization:

```
@Override
public void onInitializeState(OnInitializeListener.InitializeState state, String
message) {
    switch (state) {
        case START:
        case INFO:
        case WARNING: break;
        case FAIL:              <- display error message here

        case SUCCESS:           <- switch to next activity or allow user to enter
registration credentials
```

b/ Register phone

To start registration invoke following code:

```
//Set listener
abtoPhone.setRegistrationStateListener(this);

// Add account
long accId = abtoPhone.getConfig().addAccount(domain, user, password, null, , null,
300, true);

//Send register request
try {
    abtoPhone.register();
} catch (RemoteException e) {
    e.printStackTrace();
}
```

Then display some progress indicator and wait notification from SDK.

```
public void onRegistrationFailed(long accId, int statusCode, String statusText)
{
//SDK invokes this method when registration failed for some reason
//Display error message using method arguments:
    fail.setMessage(statusCode + " - " + statusText);
}

public void onRegistered(long accId)
{
//SDK invokes this method when registration was successful (server returned “200 OK”)
//SDK invokes this method periodically (it updates registration using ‘RegExpire’ interval –
6th argument of method ‘addAccount’)
}
```

c/ Start call and handle call events

To start new call invoke method

```
try {
    abtoPhone.startCall(sipNumber, abtoPhone.getCurrentAccountId());

} catch (RemoteException e) {
    e.printStackTrace();
}
```

This code initiates call – prepares and sends ‘SIP INVITE’ request to remote side.

To handle call state events add handlers:

```
phone = ((AbtoApplication) getApplication()).getAbtoPhone();

phone.setRemoteAlertingListener(this);
phone.setCallConnectedListener(this);
phone.setCallDisconnectedListener(this);
phone.setOnCallHeldListener(this);
phone.setToneReceiveListener(this);


public void onRemoteAlerting(long accId, int statusCode)
{
   //SDK invokes this method when received message from remote side (100, 180, 183..)

   switch (statusCode) {
   case TRYING:  statusText = "Trying";   break;
   case RINGING: statusText = "Ringing";  break;
   case SESSION_PROGRESS:   statusText = "Session in progress";    break;
   }
}


public void onCallDisconcected(String remoteContact, int callId)
{
//SDK invokes this method when:
 - Outgoing call was rejected on remote side
 - Successfully established call was cleared
 - SDK can’t dial entered phone number (timeout)
}

@Override
public void onCallConnected(String remoteContact)
{
//SDK invokes this method call established
}

@Override
public void onCallHeld(HoldState state)
{
//SDK invokes this method call put on hold
}

@Override
public void onToneReceived(char tone)
{
//SDK invokes this method when received DTMF from remote side

}
```

d/ Break established call

To hangup established call or cancel initiated call invoke method:

```
try {
   phone.hangUp();
} catch (RemoteException e) {
   Log.e(THIS_FILE, e.getMessage());
}
```

Call is completed/canceled when received ‘onCallDisconcected’.

e/ Receive incoming call

To receive incoming calls add listener

```
abtoPhone.setIncomingCallListener(this);


public void OnIncomingCall(String remoteContact, long arg1)
{
//SDK invokes this method when received incoming call
//To answer this call app has to invoke: phone.answerCall(200);
//To reject this call app has to invoke: phone.rejectCall();
}
```

d/ Unregister phone instance

To unregistered phone instance invoke code:

```
try {
    abtoPhone.unregister();
} catch (RemoteException e) {
    e.printStackTrace();
    dialog.dismiss();
}


@Override
public void onUnRegistered(long arg0)
{
//SDK invokes this method when registration was successfully removed
}
```

e/ Stop phone instance

To stop phone instance invoke code:

```
try {
    //Stop incoming call service
    Intent intent = new Intent(RegisterActivity.this, IncomingCallService.class);
    stopService(intent);

    //Destroy phone
    if(abtoPhone.isActive())        abtoPhone.destroy();

} catch (RemoteException e) {
    e.printStackTrace();
}
```

4. Build app