



Access points are required to establish connection for data transfers. Its always a nice feature to create an access point in code than to go to settings and do.

In this page I will give code snippet for creating a WLAN access point and a sample application for creating a GPRS access point.

Creating a WLAN access point (With WEP security settings)

A wireless access point (WAP or AP) is a device that connects wireless communication devices together to form a wireless network. The WAP usually connects to a wired network, and can relay data between wireless devices and wired devices. Several WAPs can link together to form a larger network that allows "roaming". (In contrast, a network where the client devices manage themselves - without the need for any access points - becomes an ad-hoc network.) WAPs have IP addresses for configuration.

The following headers are required for this

```
#include <commdb.h>           // link against commdb.lib
#include <apselect.h>        // link against apengine.lib
#include <aplistitem.h>
#include <apdatahandler.h>
#include <apaccesspointitem.h>
#include <wlancdbcols.h>    // for security settings
```

A WLAN access point can be created using the following code snippet.

Creating a WLAN access point:

```
CApAccessPointItem *wlan = CApAccessPointItem::NewLC();
wlan->SetNamesL(_L("NewAP"));
wlan->SetBearerTypeL(EApBearerTypeWLAN);
wlan->WriteTextL(EApWlanNetworkName, _L("WlanAP"));
wlan->WriteUint(EApWlanSecurityMode,2);
    // security mode 2 refers to WEP.
wlan->WriteUint(EApWlanNetworkMode,1);
    // network mode refers to whether its AdHoc or Infrastructure mode.
```

Store it into the CommsDb

```
CCommsDatabase *commDb = CCommsDatabase::NewL();
CleanupStack::PushL(db);
CApDataHandler *handler = CApDataHandler::NewLC(*commDb);
TInt err = commDb ->BeginTransaction();
TUint32 newApId = handler->CreateFromDataL(*wlan);
CleanupStack::PopAndDestroy(3); // handler, commDb, wlan
```

For Symbian OS v9.1 necessary to use capability 'WriteDeviceData', else CreateFromDataL() generate leave KErrAbort (-39).

Setting the security settings:

```
enum TWEPKeyFormat
{
```

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```
EAscii,          // Ascii format
EHexadecimal     // Hex format
};

enum TWEPKeyInUse
{
    EKeyNumber1,      // Key number 1
    EKeyNumber2,      // Key number 2
    EKeyNumber3,      // Key number 3
    EKeyNumber4       // Key number 4
};

enum TWEPAuthentication
{
    EAuthOpen,        // Open authentication
    EAuthShared       // Shared authentication
};

handler->AccessPointDataL(newApId,*wlanNew1);
//wlanNew1 is an object of CApAccessPointItem

wlanNew1->ReadUInt( EApIapServiceId, newalanid );

// we need to get the IAP id to manipulate the security settings.

iKeyData.Copy(_L("626ABB616A"));
//Should be the same value to which the WLAN router is configured

iKeyFormat=EAscii;          // TWEPKeyFormat
iAuthentication=EAuthShared; // TWEPAuthentication
iKeyInUse=EKeyNumber3;      // TWEPKeyInUse

wlanServiceTable = db->OpenViewMatchingUIntLC(
                                                    TPtrC( WLAN_SERVICE ),
                                                    TPtrC( WLAN_SERVICE_ID ),
                                                    newalanid
                                                    );

// Give the corresponding IAP ID

errorCode = wlanServiceTable->GotoFirstRecord();

TBool ival =ETrue;
if ( errorCode == KErrNone )
{
    wlanServiceTable->UpdateRecord();
}
else
{
    TUInt32 dummyUid( KUidNone );
    User::LeaveIfError( wlanServiceTable->InsertRecord( dummyUid ) );
    // Save link to LAN service
    wlanServiceTable->WriteUIntL( TPtrC( WLAN_SERVICE_ID ), newApId);
}

// Save index of key in use (1,2,3 or 4)
TRAP(error,wlanServiceTable->WriteUIntL(
                                                    TPtrC( WLAN_WEP_INDEX ),
                                                    ( TUInt32& ) iKeyInUse )
                                                    );

// Save the authentication type (shared or Open)
```

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```
TRAP (error,wLanServiceTable->WriteUIntL(
    TPtrC( WLAN_AUTHENTICATION_MODE ),
    ( TUInt32& )iAuthentication )
);

// save the correct keydata corresponding to the router configuration
TRAP (error,wLanServiceTable->WriteTextL(
    TPtrC( WLAN_WEP_KEY3 ),
    iKeyData )
);

// Save the format of the key (Hexadecimal or Ascii)
wLanServiceTable->WriteUIntL(
    TPtrC( LAN_WEP_KEY3_FORMAT ),
    ( TUInt32& ) iKeyFormat
);

wLanServiceTable->PutRecordChanges();
err = db->CommitTransaction();
    // End a transaction.
    // Call after `InsertRecord()` or `UpdateRecord()`.
```

NOTE: The Key In Use, the Key format and the Key data should be the same as the WLAN router or else the connection will not be established.

Creating a GPRS access point

An access point is:

An Internet network to which a mobile can be connected.

A set of settings which are used for that connection.

A particular option in a set of settings in a mobile phone.

Find the **sample application** from the following link which creates a GPRS access point.

<http://wiki.forum.nokia.com/index.php/Image:IAPSampleEx.zip>

Internal links

- [Internet Access Point](#)
- [Reading internet access points from the device](#)
- [Mandatory tables for creating GPRS access point](#)
- [How to create access point](#)