Workshop: Android and NFC

Preparatory Guide

by Michael Roland

Required Software

- Java SE JDK 7
- Android SDK
- NetBeans IDE 7.2

## Software Installation and Configuration

1. Java SE / Java Platform (JDK) 7
   - Download from
     http://www.oracle.com/technetwork/java/javase/downloads/index.html
     - Java Platform (**JDK**) 7u*
     - Windows x86   jdk-7u*-windows-i586.exe
     - **Use the 32-bit version (even if you have a 64-bit system!)**
   - Install with default options

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2. Android SDK

- Download from
  http://developer.android.com/sdk/

- Install with default options

3. Start Android SDK Manager

- Run Start → All Programs → Android SDK Tools → SDK Manager
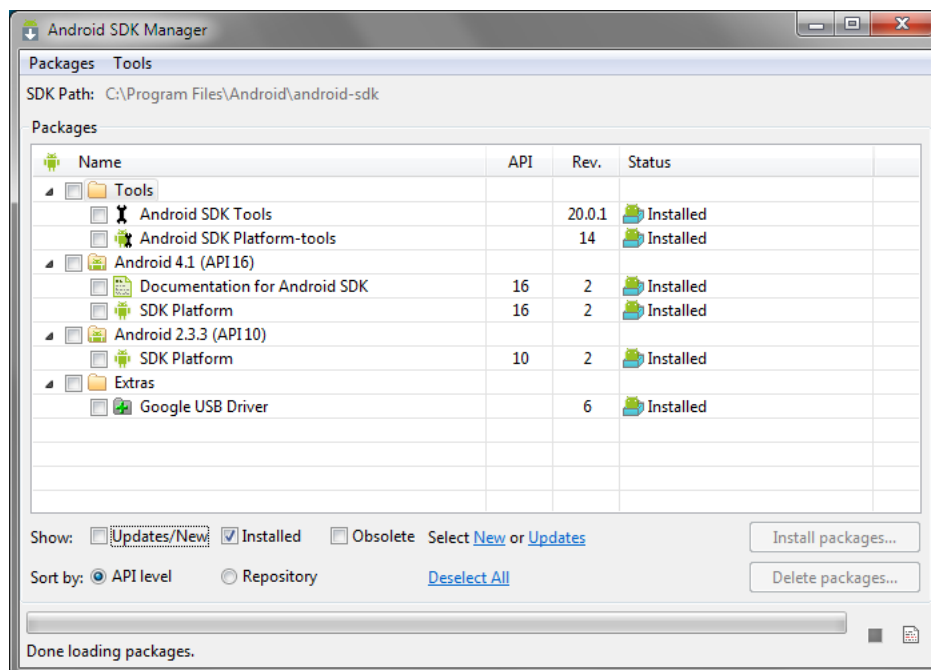
- Install packages

  ◢ Tools

    ☑ Android SDK Tools

    ☑ Android SDK Platform-tools

  ◢ Android 4.1 (API 16)

    ☑ Documentation for Android SDK

  ◢ Android 2.3.3 (API 10)

    ☑ SDK Platform[1]

  ◢ Extras
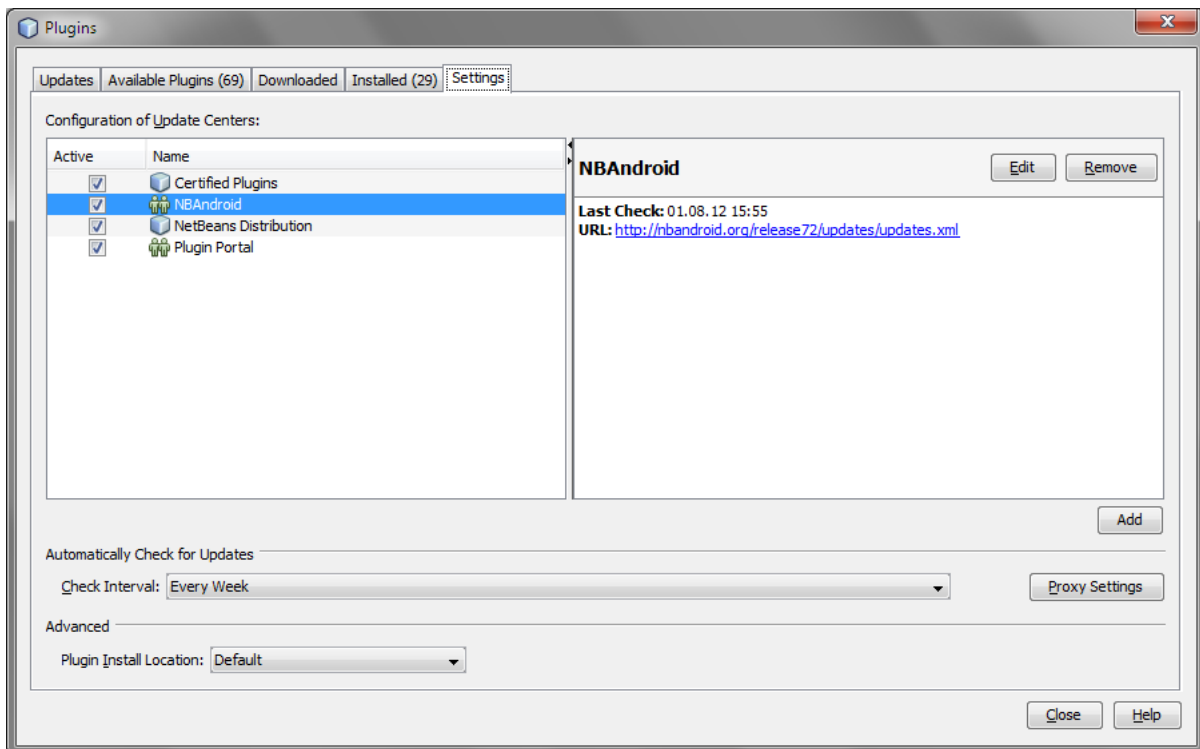
    ☑ Google USB Driver

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[1] Instead of *SDK Platform* for *Android 2.3.3 (API 10)* you can also use *SDK Platform* for *Android 4.1 (API 16)* or *SDK Platform* for *Android 4.0.3 (API 15)*; the app will still be compatible to earier versions.

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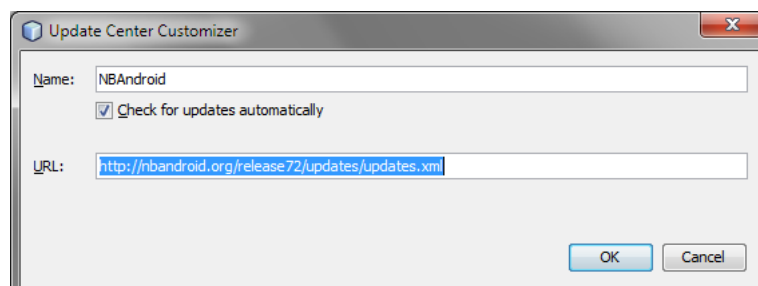## 4. NetBeans IDE 7.2

- Download from
  http://netbeans.org/downloads/
  - You need at least the *Java SE* download bundle.
- Install with default options

5. Start NetBeans IDE 7.2

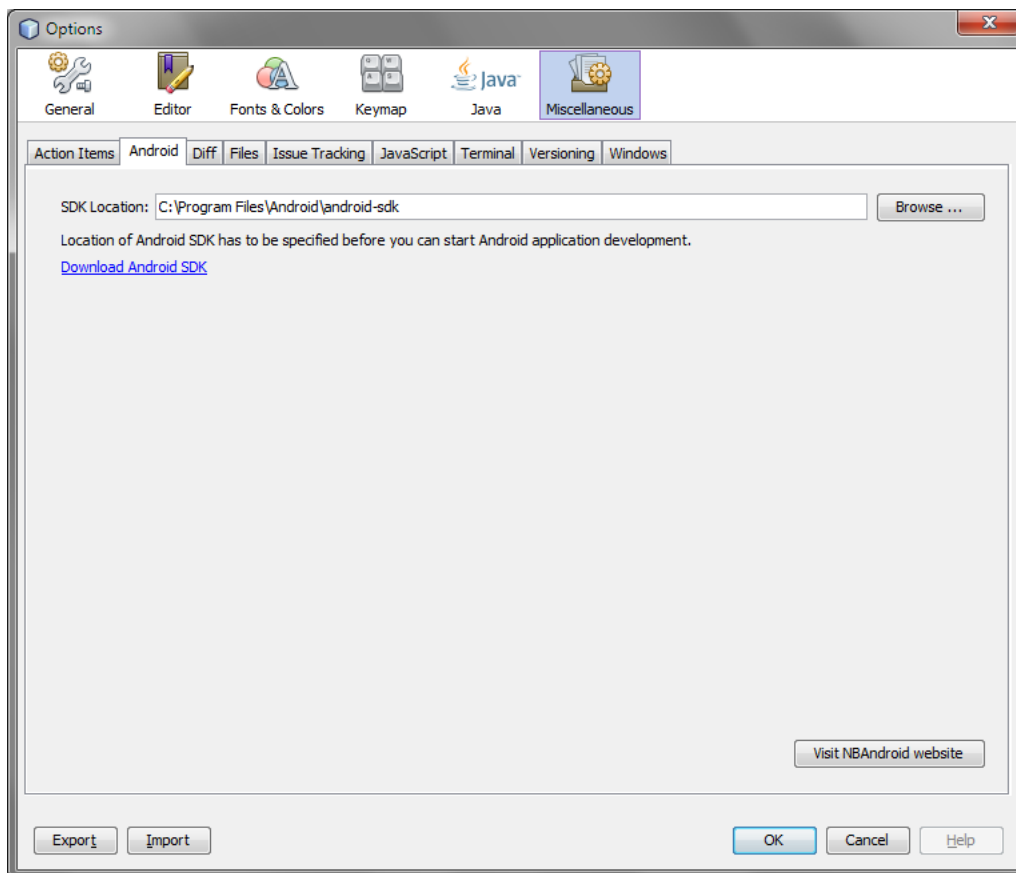- Goto *Tools → Plugins*

- On *Settings* tab
  - Add a new update center:
    - Name: NBAndroid
    - URL: http://nbandroid.org/release72/updates/updates.xml

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- On *Available Plugins* tab
  - Install plugin *JUnit* (Category *Java SE*)
  - Install plugin *Android* (Category *Mobility*)
- Goto *Tools → Options → Miscellaneous*
- On *Android* tab
  - Select the location where you installed the Android SDK[2]

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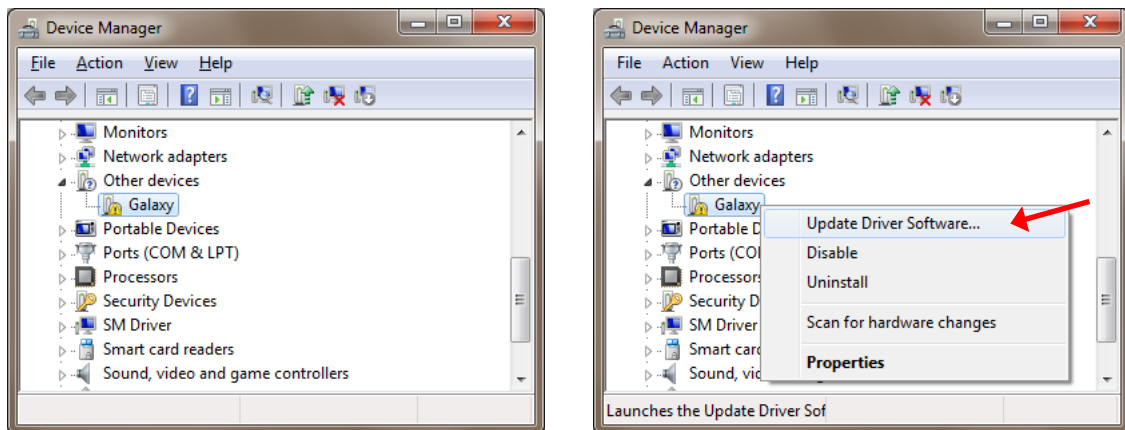www.nfc-research.at · www.mroland.at

6. Enable USB-Debugging on your Android device

• Goto *Settings → Developer options* and check *USB debugging*
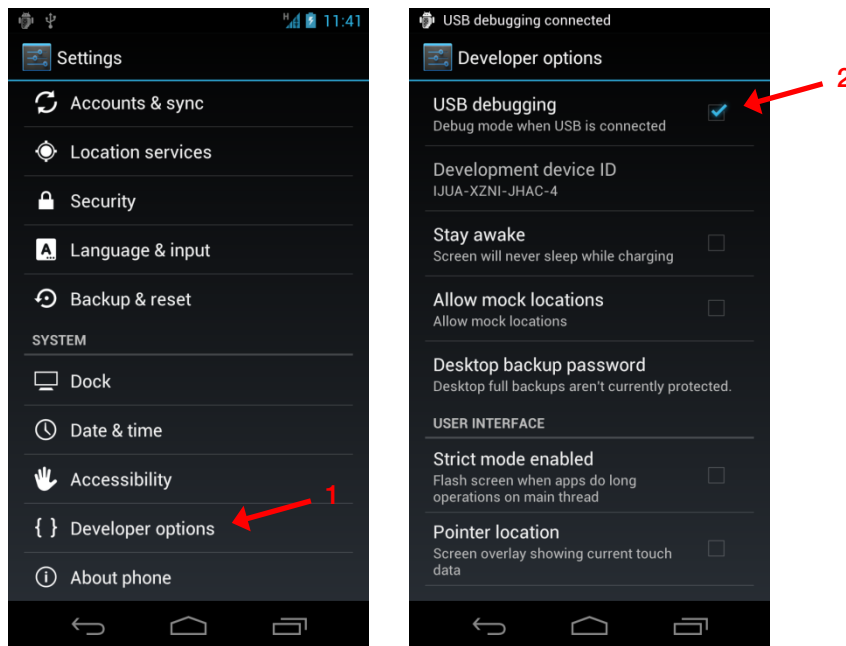
7. Install driver for USB-Debugging

• Open the *Device Manager* and right-click on *Other devices → Galaxy* (or your phone type)

• Select *Update Driver Software*

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How do you want to search for driver software?

➔ **Search automatically for updated driver software**
Windows will search your computer and the Internet for the latest driver software
for your device, unless you've disabled this feature in your device installation
settings.

➔ **Browse my computer for driver software**
Locate and install driver software manually.

- Select *Browse my computer for driver software*
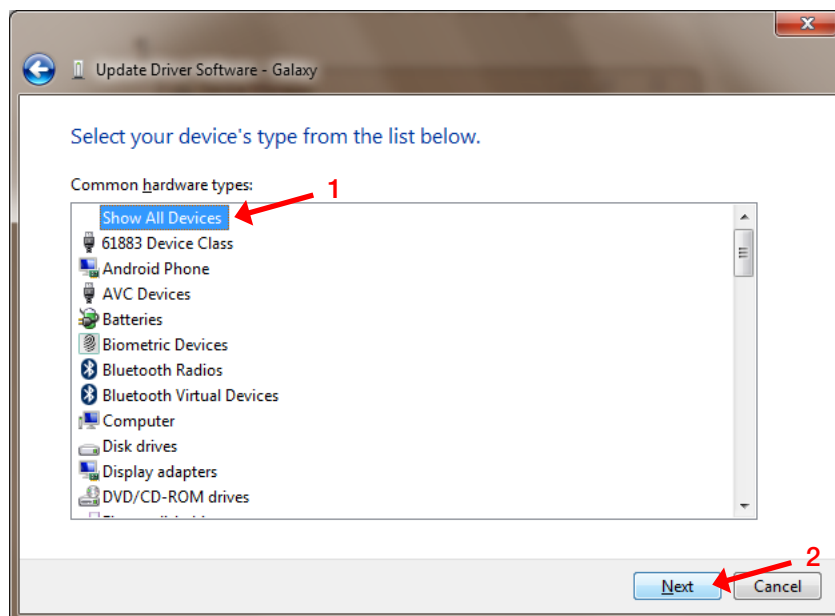
Browse for driver software on your computer

Search for driver software in this location:

C:\PROGRAM FILES (X86)\ANDROID\ANDROID-SDK\EXTRAS\GOO ▾   [Browse...]

☑ Include subfolders

➔ **Let me pick from a list of device drivers on my computer**
This list will show installed driver software compatible with the device, and all driver
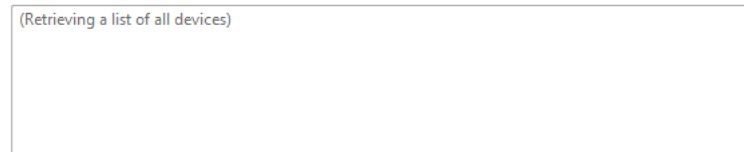software in the same category as the device.

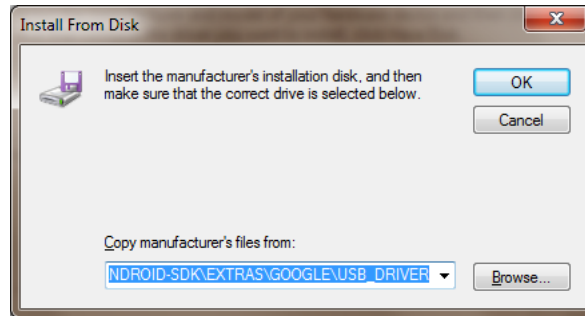- Select *Let me pick from a list of device drivers on my computer*

Update Driver Software - Galaxy

Select your device's type from the list below.

Common hardware types:

1

Show All Devices
📟 61883 Device Class
📟 Android Phone
📟 AVC Devices
📟 Batteries
📟 Biometric Devices
📶 Bluetooth Radios
📶 Bluetooth Virtual Devices
🖥 Computer
💾 Disk drives
🖥 Display adapters
💿 DVD/CD-ROM drives

2

[Next]   [Cancel]

- Select *Show All Devices*

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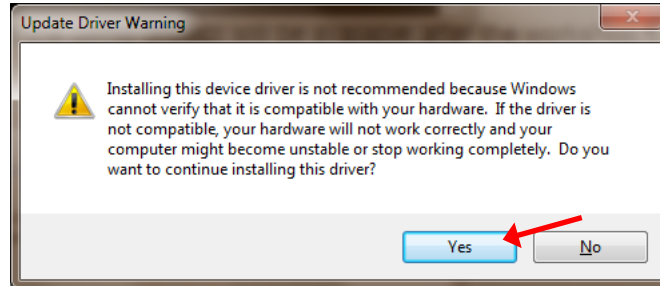michael.roland (at) fh-hagenberg.at
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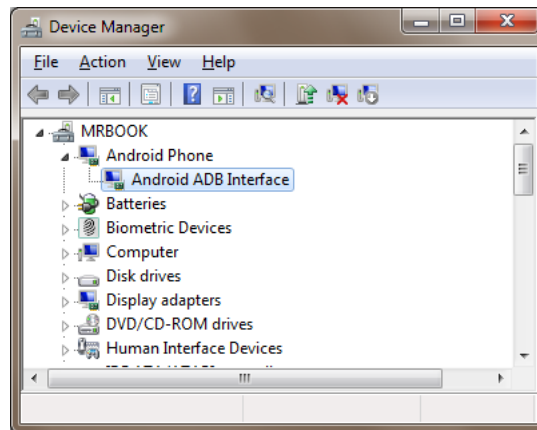
- Select *Have Disk…*

- Select the path of the Android debug drivers (for Nexus devices, the drivers are located in *extras/google/usb_driver/* in the Android SDK installation directory)
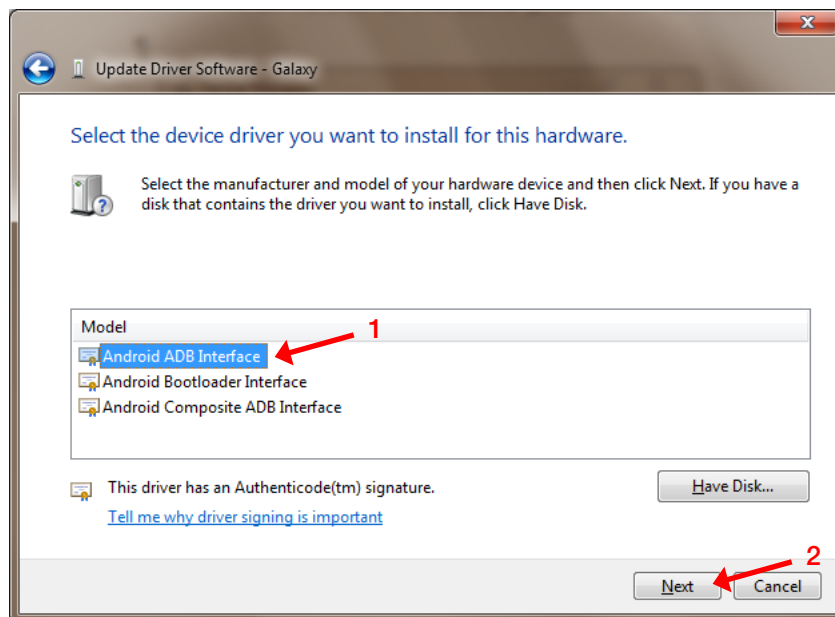
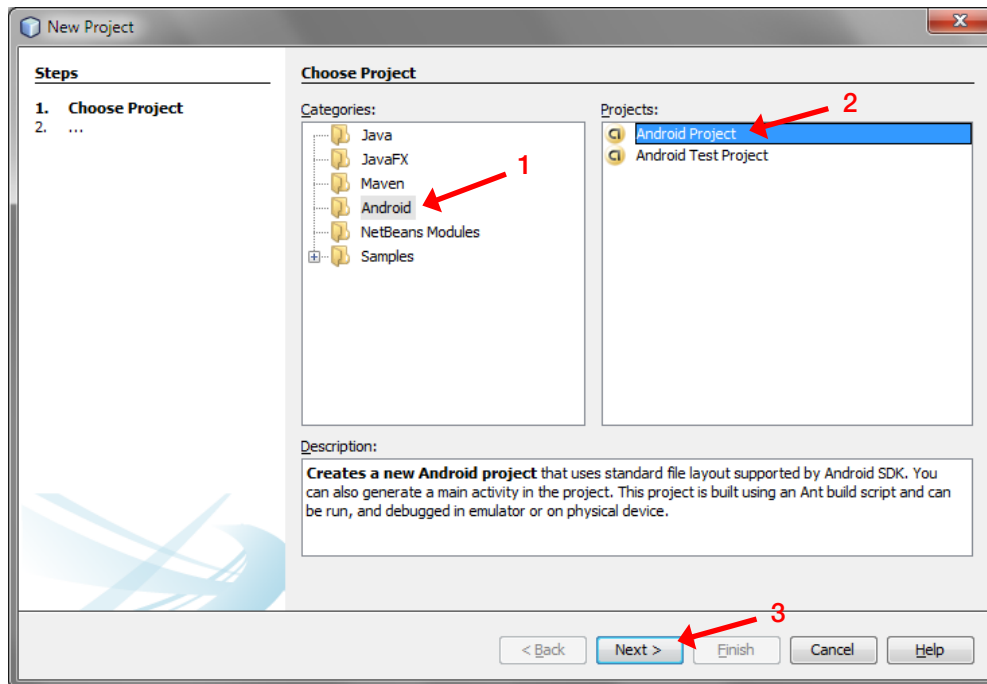- Select the *Android ADB Interface* driver

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- Accept the warning and complete the installation

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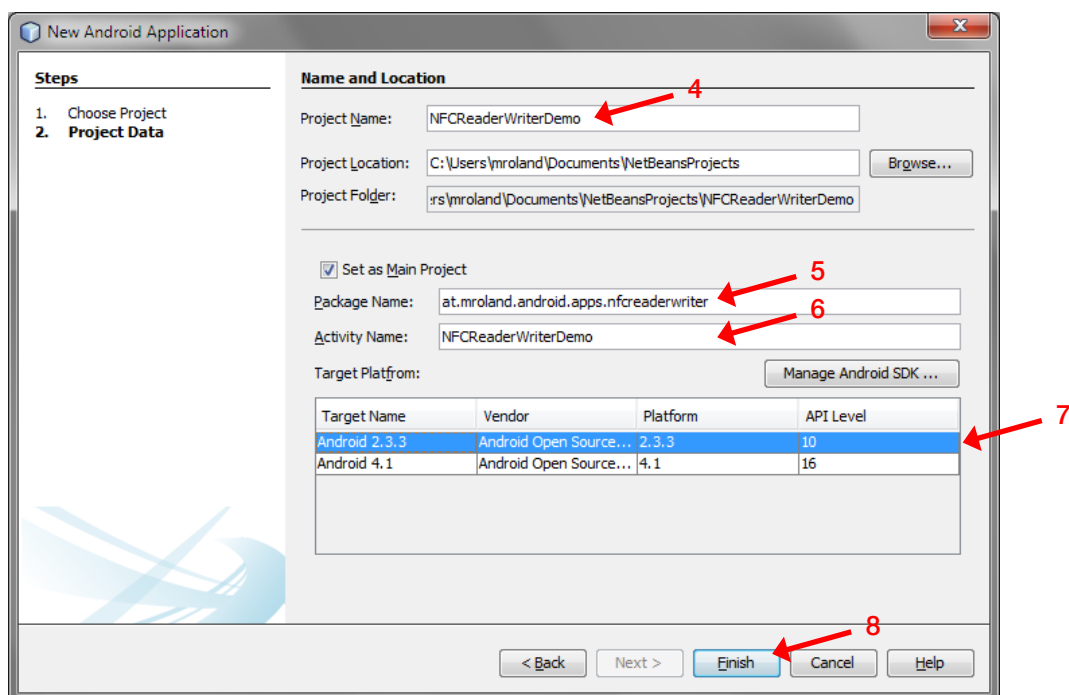www.nfc-research.at · www.mroland.at

Creating a New Android Project

- Goto *File → New Project…*

- Select Category *Android* and Project type *Android Project*

- Choose a project name (and location)

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- Choose a package name
- Choose a name for your main activity (i.e. your app's main window)
- Select the target platform
  - The examples in this workshop will be compatible with Android 2.3.3 (API 10) and later.

Importing an Existing Android Project

- Goto *File → Import Project → From ZIP…*
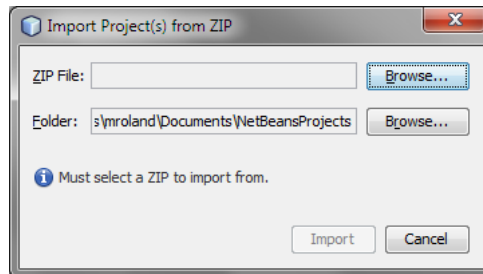
Skeleton Android Project for the Hands-on Workshop

- Download from
  https://www.mroland.at/uploads/2012/09/NFCCongress2012_NFCReaderWriterDemo_full.zip
  - This project already contains the most important project settings.
  - This project contains some useful helper classes.
- A full version of the demo project will be available after the workshop.

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