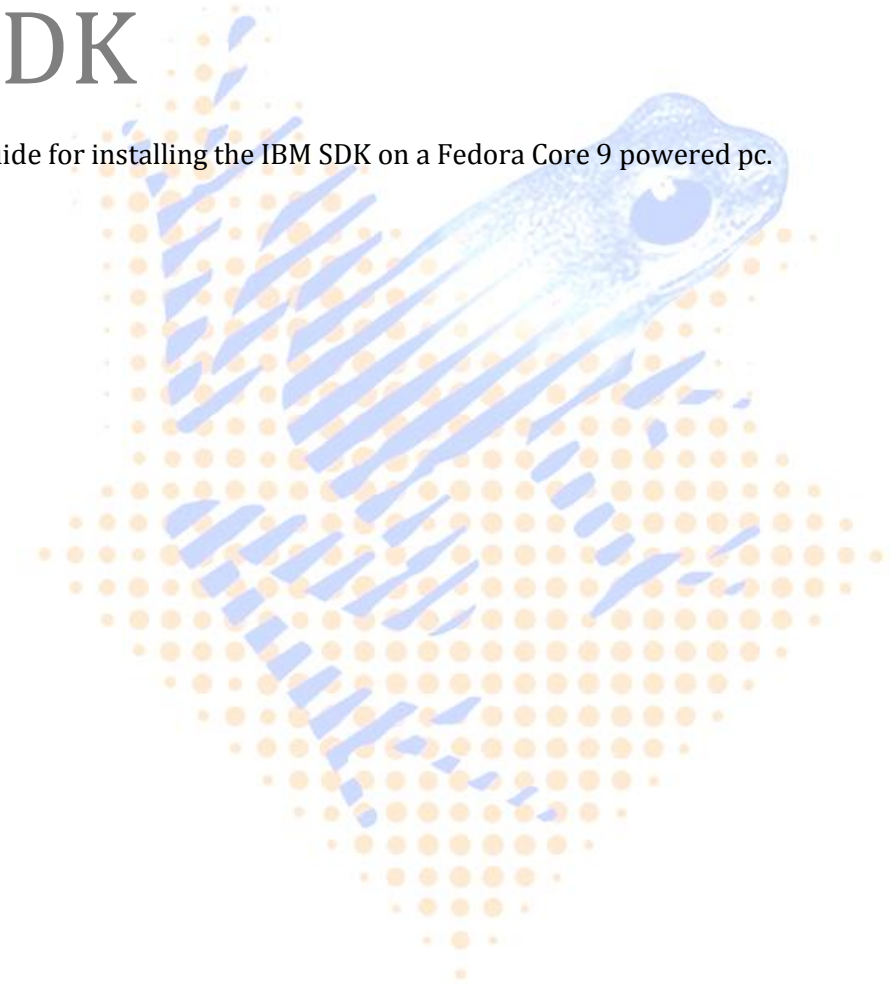
Installing the IBM SDK

A guide for installing the IBM SDK on a Fedora Core 9 powered pc.



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This guide is written for development on the Playstation 3 and describes how to install the IBM SDK on Fedora Core 9. This document was written for the UMCG department Radiology. For this guide the IBM Help guide was used (Section Cell Broadband Engine). This guide can be found on the IBM developer works website.

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This guide and many other guides can be downloaded from: http://code.google.com/p/fedora-cell-project/

If you encounter any errors on using this document, please read the inform us via the google-code page or google-group.

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1. Requirements for installation

Everything you might need for this installation is described below.

1.1 Minimal Requirements.

- ✓ Pc installed with Fedora Core 9 and connected to the internet

1.2 Also Recommended

- ✓ Playstation 3
- ✓ Network cable (for PS3)
- ✓ USB keyboard and mouse (for PS3)

2. The installation

If you have read the requirements, you know you need a PC with a working Fedora Core 9 installation. If you don't have this, we'd like to refer to our guide for installing Fedora Core 9 on a i386 PC. For this guide we assume that you have installed FC9.

2.1 The pre-installation

We start off by installing the yum updates deamon.

1st Install the yum-updates deamon by using the following command.

```
yum install yum-updatesd
```

2nd Start and stop the deamon (just to be sure..)

```
/etc/init.d/yum-updatesd start
```

```
/etc/init.d/yum-updatesd stop
```

3rd Install all the packages needed for the installation.

```
yum install rsync sed tcl wget
```

4th Make a directory to store the SDK-Isos in, and go to that dir.

```
mkdir -p /tmp/cellsdkiso
cd /tmp/cellsdkiso
```

5th Download the SDK iso's from the IBM website, or get them from this disk. If you want to download them from the internet, you should be able to use a browser because the website requires a login, you can download them from:

https://www14.software.ibm.com/webapp/iwm/web/reg/download.do?source=cellsdk&S_PKG=fedora&S_TACT=105AGX16(=en_US&cp=UTF-8

the pre-installing is now done, next step is to install the installer for the SDK.

2.2 Installing the installer

When the SDK download has finished, it's time to install the installer for it, do that using this command. (it's necessary to be in the /tmp/cellsdkiso directory)

rpm -ivh cell-install-3.1.0.0.0.noarch.rpm

If during the installation the following warning pop's up

"warning: cell-install: Header V3 DSA signature: NOKEY, key ID 9ac02885"

The Cell SDK RPM GPG key is not installed, but don't worry, the script will install it automatically for you.

2.3 Installing the Cell SDK

All the preparations have now finished, it's now time to install the SDK.

1st Install the Cell SDK using the following command:

/opt/cell/cellsdk --iso /tmp/cellsdkiso install

The installation will now start.

2nd After a while installing, a license agreement will pop-up (GPL and LGPL), reed it and answer yes if you agree to it.

yes

3rd After this agreement, two other agreements will appear, read them and look in the on-screen menu for what you should do.

4th After you have agreed to both licenses, yum will install the last RPM files, answer Y to the package install from yum

y

5th Verify the SDK installation with the following command:

/opt/cell/cellsdk verify

You will now get a list with all installed components.
The standard installation is now complete, we'll now do the configuration for the SDK.

2.4 Configuring the Cell SDK / post-installation

The SDK is has now been installed and is ready to be configured. For this we start with downloading a few packages, after that we will install the plugins we might need for developing and we'll install Java to run eclipse on.

1st Download the *"numactl"*, *"numactl-devel"* and *"netpbm-devel"* packages/RPMs. You can get these packages from the following web-sites:

http://rpmfind.net/linux/rpm2html/search.php?query=numactl

http://rpmfind.net/linux/rpm2html/search.php?query=numactl-devel⊂mit=Search+...&system=&arch=

http://rpmfind.net/linux/rpm2html/search.php?query=netpbm-devel⊂mit=Search+...&system=&arch=

You should download the following :

Numactl:
numactl-<version>.ppc *numactl-<version>.ppc64*
Numactl-devel:
numactl-devel-<version>.ppc *numactl-devel-<version>.ppc64*
Netpbm-devel
netpbm-devel-<version>.ppc

and install them using the following command:

```
rpm -Uvh --force --nodeps --noscript --ignorearch \ --root /opt/cell/sysroot <RPM name>
```

These packages are also included in this file.

2nd Execute the next command, this will make sure yum update will not update some of the packages you have just installed (and mess everything up).

```
echo "exclude=blas kernel numactl oprofile" >> /etc/yum.conf
```

3rd Restart the yum updates deamon

```
/etc/init.d/yum-updatesd start
```

The SDK installation is now completed. We'll now continue configuring and installing the IES Eclipse SDK for the Cell/B.E. IDE. For developping on the Cell B.E we recommend installing the following packages as well.

1st Mount the Cell SDK Isos.

/opt/cell/cellsdk --iso /tmp/cellsdkiso mount

2nd Install JAVA on the machine.

yum install ibm-java2-i386-jre

For some reason this java wasn't enough for us, so we had to install the regular Java as well, to check if your java does work, use the following command

java -version

If this command's doesn't return anything or returns an error message, install the standard Java package.

yum install java

java -version should now return the installed version of Java.

3rd Now were going to install the cellide and alf-ide-template. Use yum to download the cellide and alf-ide-template (note: it will be downloaded from the mounted ISO).

yum install cellide

yum install alf-ide-template

Eclipse is now working and ready to use. However, a bug in Eclipse/Firefox causes the program to crash, in this package a fix is included. If this doesn't won't work, look in the Tips & Tricks section of this manual and try that.

To start eclipse, execute the following command:

/opt/cell/ide/eclipse/eclipse

If this doesn't work the way it should work, try running eclipse in the IBM-JavaVM:

/opt/cell/ide/eclipse/eclipse –vm /opt/ibm/java2-i386-50/jre/bin

It is possible your console (where eclipse is running from) return's a Fatal Error (premature end of file), this should not cause any problems.

Your eclipse IDE is now ready to use.

3. Tips & Tricks

3.1 Eclipse Bug.

If your eclipse crashes at about 90% on startup, try the following steps.

1st Download a backlevel xulrunner version from

http://releases.mozilla.org/pub/mozilla.org/xulrunner/releases/1.8.1.3/contrib/linux-i686/xulrunner-1.8.1.3.en-US.linux-i686-20080128.tar.gz

2nd Extract its contents into an accessible directory such as /opt/xulrunner.

tar -x xulrunner-1.8.1.3.en-US.linux-i686-20080128.tar.gz

3rd Edit the file /opt/cell/ide/eclipse/eclipse.ini to read:

...
-vmargs
-Dorg.eclipse.swt.browser.XULRunnerPath=/opt/xulrunner/
...

4th Make sure you have the -vmargs argument prior to the -Dorg.eclipse... argument, also if you have executed the xulrunnerfix.sh, this file's last line should be:

-Dorg.eclipse.swt.browser.XULRunnerPath=/opt/xulrunner/

Delete this line.

5th you can now start eclipse

/opt/cell/ide/eclipse/eclipse

Your Eclipse IDE is now ready to use.
If Eclipse still crashes, or doesn't work like it should work, try running eclipse in the IBM Java VM:

/opt/cell/ide/eclipse/eclipse –vm /opt/ibm/java2-i386-50/jre/bin

Your Eclipse IDE should now work properly.