

---

# How to Build and Run a CODA Configuration

---

## 1 Building a CODA Configuration

1. In a terminal, type

```
jcedit
```

2. Drag components from left onto the blank white screen
  - (a) For this configuration: ROC, PEB, and OUT (shows up as FILE)
  - (b) It is a good idea to use either PEB 1 or PEB 2 instead of creating a new PEB for each configuration
  - (c) Also a good idea to use the same ROC for multiple configurations instead of creating a new one each time

3. Check the link mode box, and link ROC to PEB, and PEB to FILE

4. Uncheck the link mode box

5. Click on the ROC, and check that the Master Roc option is selected

6. Next to where it says ROC1, type the file path and what .so file you would like to use

- (a) For this configuration:

```
/home/sbs-on1/ro1/[name]/.so
```

7. Click OK to exit the ROC box and save the changes

8. Click on FILE, and change the type from Et to File

9. Set the file path and name

- (a) For this configuration:

```
/home/compton/data/comptona_%d.dat.%d
```

- First % is the run number
- Second % is the split number

10. Click OK to save changes.

11. Click File, then Save As. Give the configuration a name and click save. It is okay to overwrite the existing configuration.

## 2 Initialize ROC and PEB

### To initialize ROC

1. Open a new terminal window
2. Connect to the board
3. Switch from bash to tcsh (type tcsh)
4. Source setup

```
ssh sbs-on1@[NameOfBoard]
```

```
source setup_eel126
```

5. Start the ROC

```
coda_roc -name [NameOfROC]
```

### To initialize PEB

1. Open a new terminal window (separate from the one used to initialize ROC)
2. Initialize PEB

```
coda_emu_peb [NameOfPEB]
```

## 3 Run a CODA Configuration

1. Open the GUI (type rcgui in the terminal)
2. Click on Configurations, then CODA Configuration, and select the one you would like to run
3. Click on the Configure button, which looks like a screw driver and wrench
4. Click on the Download button directly to the right of the Configure button
5. Click on the Prestart button directly to the right of the Download button
6. Once the prestart is finished, click on the Start button directly to the right of the Prestart button

## 4 Troubleshooting

1. **If PEB is not connected:** check that you remembered to switch the file type from Et to File
2. **If when initializing ROC, the notifications go on forever:** You may have multiple ROCs running. To check this:

```
ps aux | grep coda
```

```
kill [PID from ps]
```

First command will list all processes with coda in the name  
PID is the number in the first column