

# Centroid Lab Quick Guide

## Start Hardware

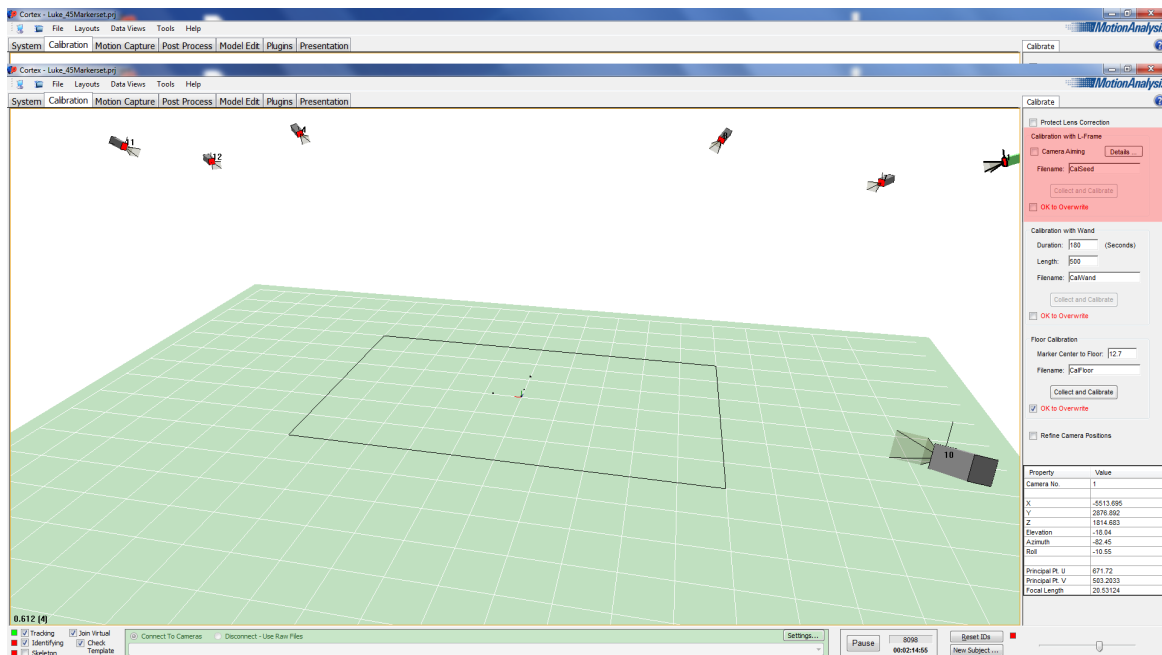
1. Switch on HUBs



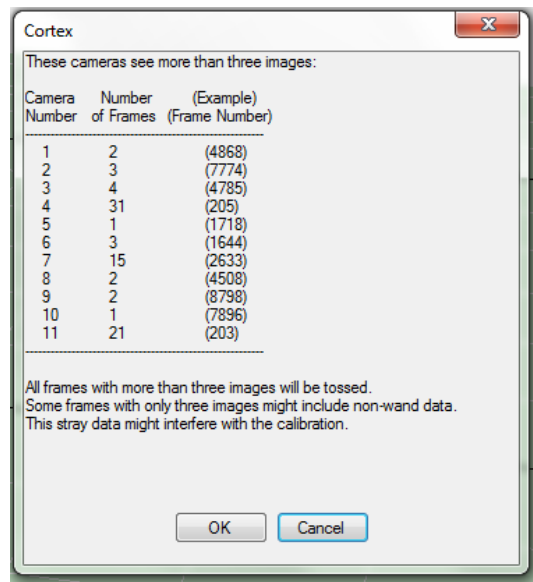
2. Switch on Computers

## Calibrate System

1. Start Cortex
2. Load Template Project, depend what you are going to use, e.g. Template 45 Markers
3. Click on "Connect To Cameras". The red leds on each camera should switch on.
4. Place L-Frame in Center of Capture Area with short part in x (parallel to desk), and long part in z (what is in our case away from the operating desk)

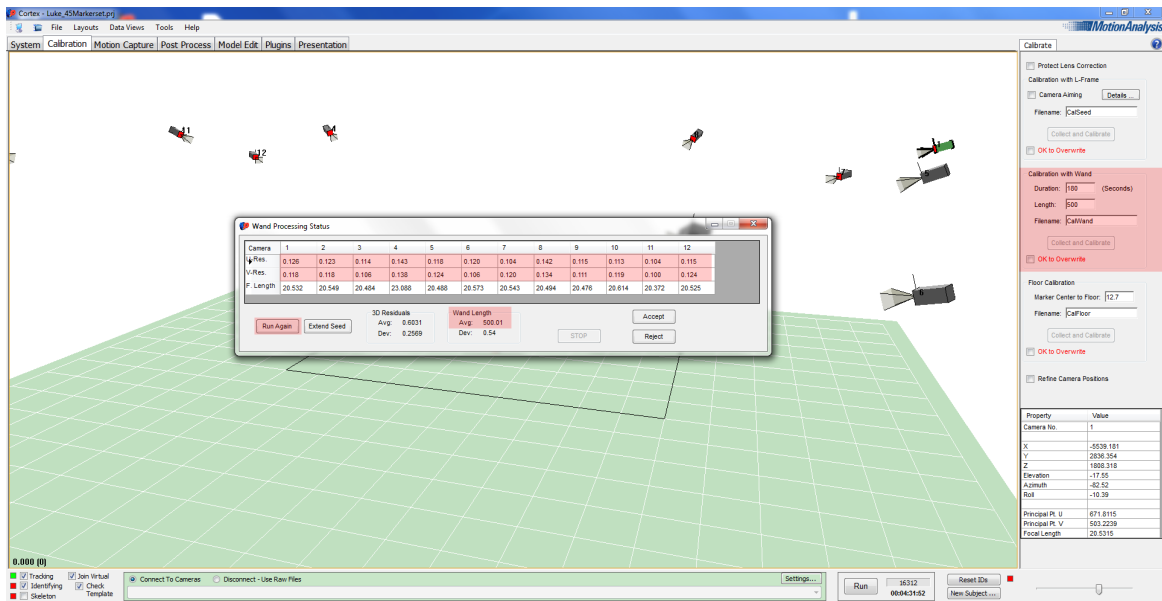


5. In Calibration (Main Windows Menu), go to Calibrate (Right side of Screen), Calibration with L-Frame. Press "OK to Overwrite"
6. Press Collect and Calibrate -> Save Calibration
7. Get the L-Frame out of the Capture area and take the wand.
8. In Calibration, go to Calibrate, Calibration with Wand. Press OK to Overwrite.
9. After pressing Collect and Calibrate, go with the Wand into the Capture area and wave the Wand, first vertically around the area border, then to the middle.  
After this carry on with waving horizontally in Z moves in one half, then the other half, then the middle (along x axis, what is the longer distance in the capture area)
10. After the collection has been done, a table shows the results of your wandling. It shows the count of dropped frames of each camera. Press OK.



11. The results of the Wand Process should have some around 0.1 – 0.2 in resolutions. The average Wand Length should be around 500 (as starting set)

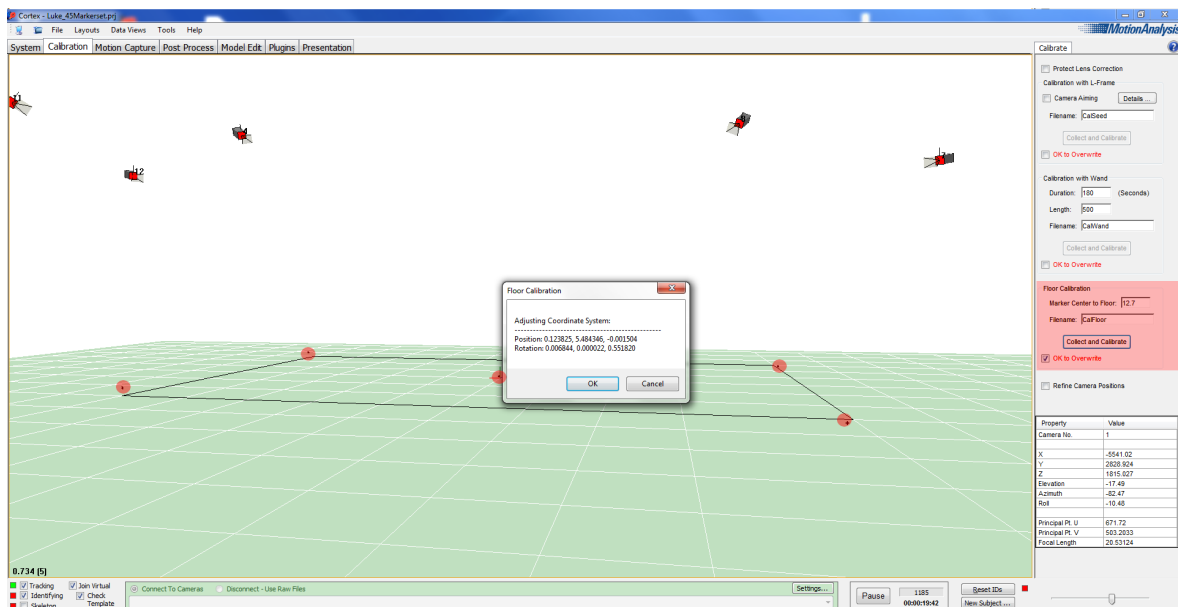
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12. You usually run this process again. After this press "Accept" and save System Calibration.

13. Now, take 5 markers and place them in the center, and in each corner of the capture area.

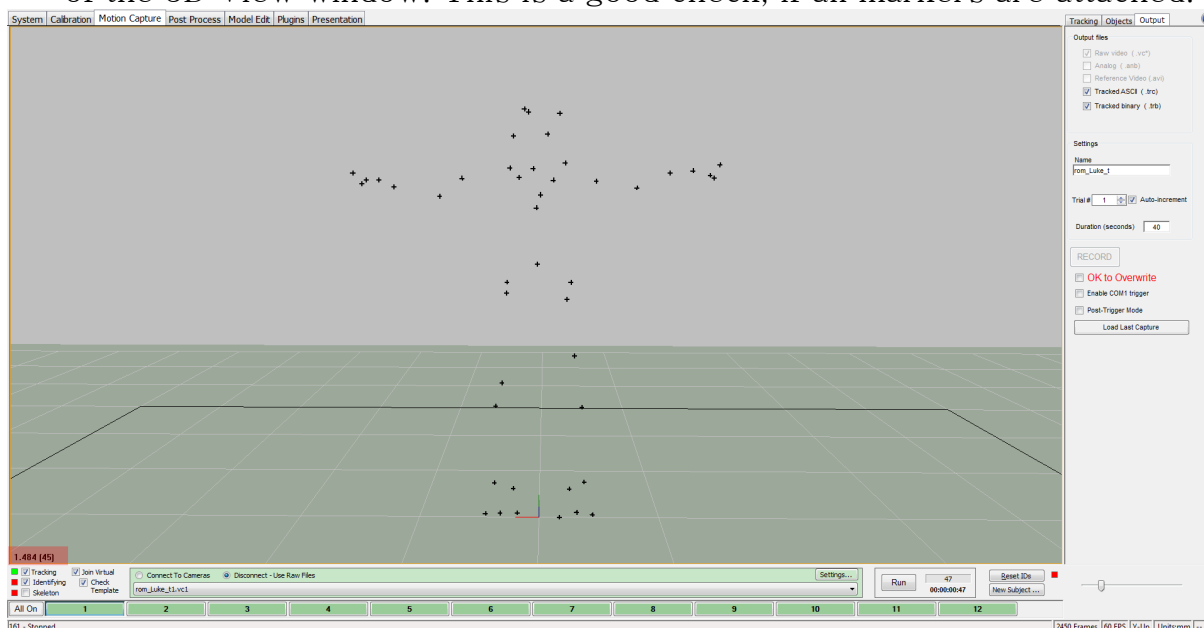
14. Back in Calibration → Floor calibration, press Calibrate and OK. This will level the ground.



15. Now you can save the project and start capturing.

## Update or Create Template with 45 Marker

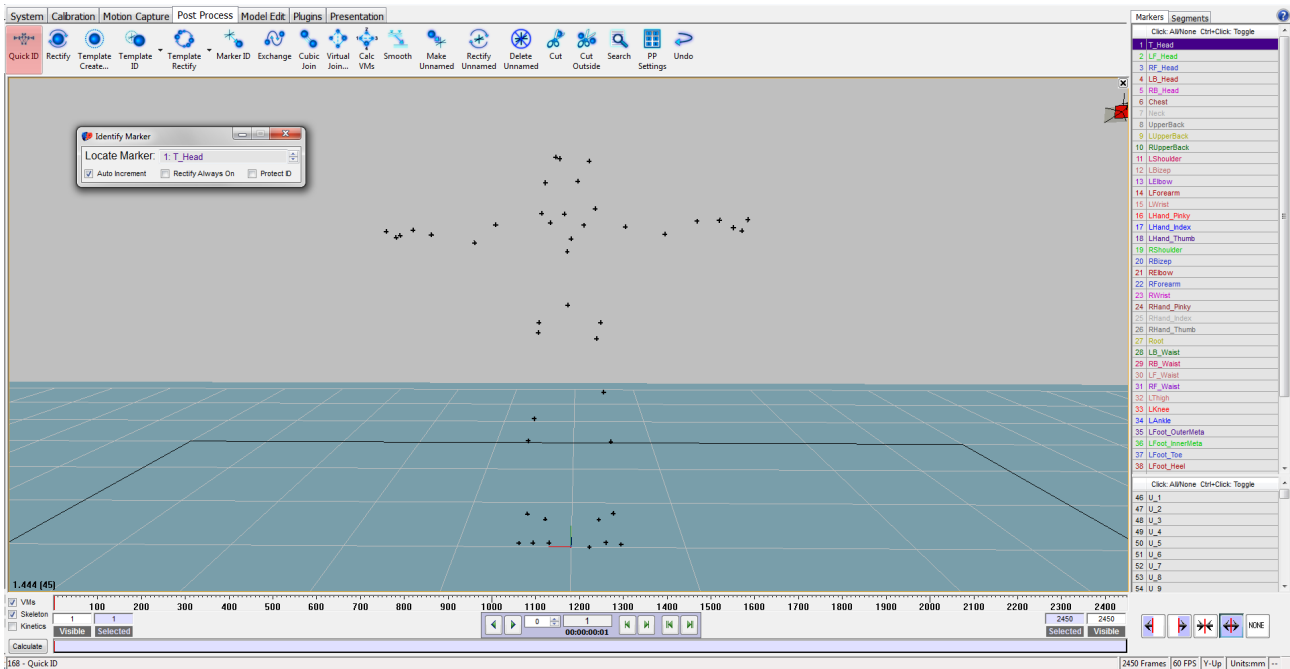
1. Make sure you loaded the 45 Marker Template or the right Actor Template before you calibrated the system.
2. Go to MainWindowMenu "Motion Capture". After you click on it, 3 new options should appear on the right side of the screen. Tracking, Objects, Output.
3. Select in Output Raw video, Tracked ASCII, Tracked binary and later at performer shoots Reference video as well.
4. Under settings type in rom\_nameofperformer\_t
5. A take number will be added any time you start recording. You can switch back and OK to Overwrite, if you want to start over again with the same take number.
6. Now, after the performer got all Markers attached let him/her stand in the center of capture space. You should see the marker count on the left bottom of the 3D View window. This is a good check, if all markers are attached.



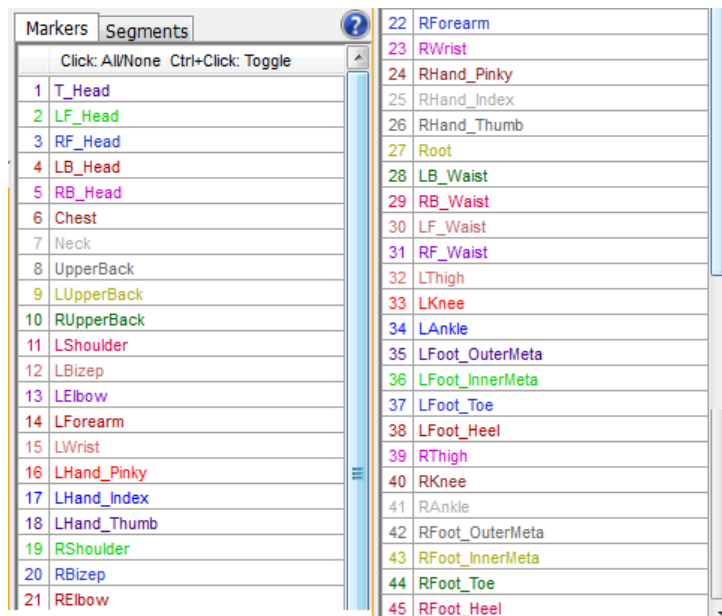
7. Start recording following moves:

- |                      |  |
|----------------------|--|
| 1. T-Pose stand      | 8. Torso in T-Pose to left and right       |
| 2. Wrists rotation   | 9. Hips rotation                           |
| 3. Elbows rotation   | 10. Left leg lift, to the side, then down  |
| 4. Arms rotation     | 11. Right leg lift, to the side, then down |
| 5. Arms bending      | 12. Left Leg step forward and lunge        |
| 6. Shoulder rotation | 13. Right Leg step forward and lunge       |
| 7. Head rotation     | 14. Two hops/jumps                         |
|                      | 15. T-Pose                                 |

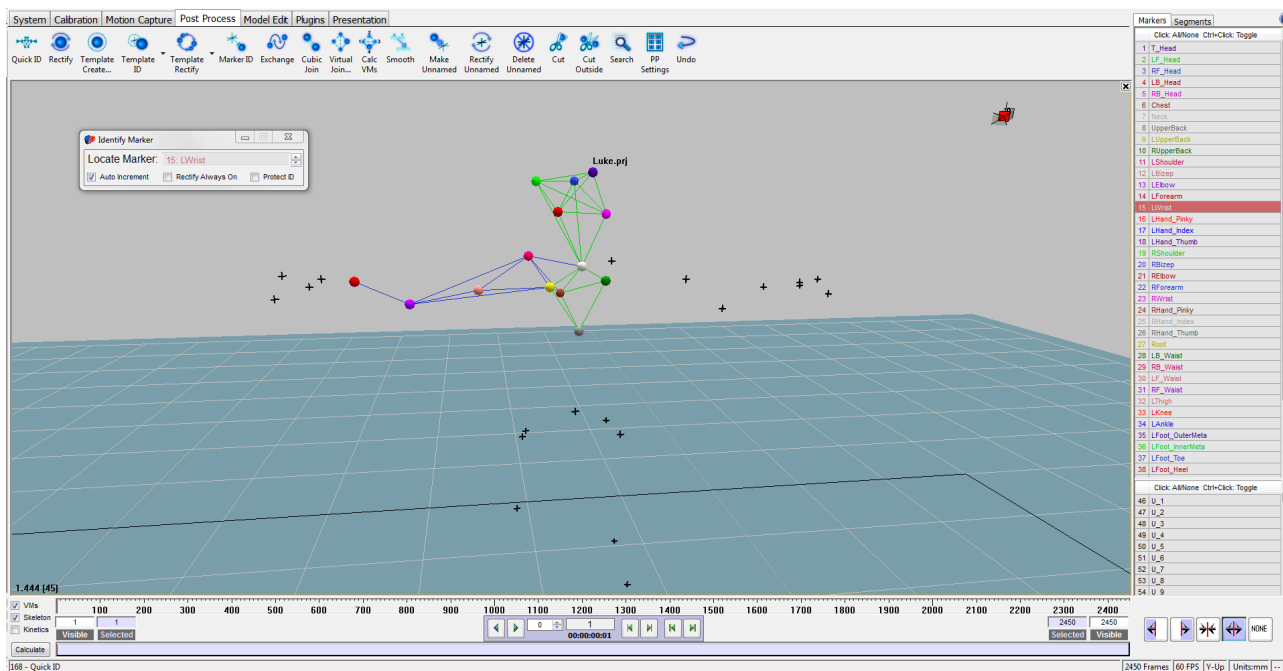
8. Press stop and press "Load Last Capture"
9. Go to MainWindowMenu -> PostProcess. You should see the record.
10. On top of the window you see different icons. Click the first on the left labelled "QuickID"



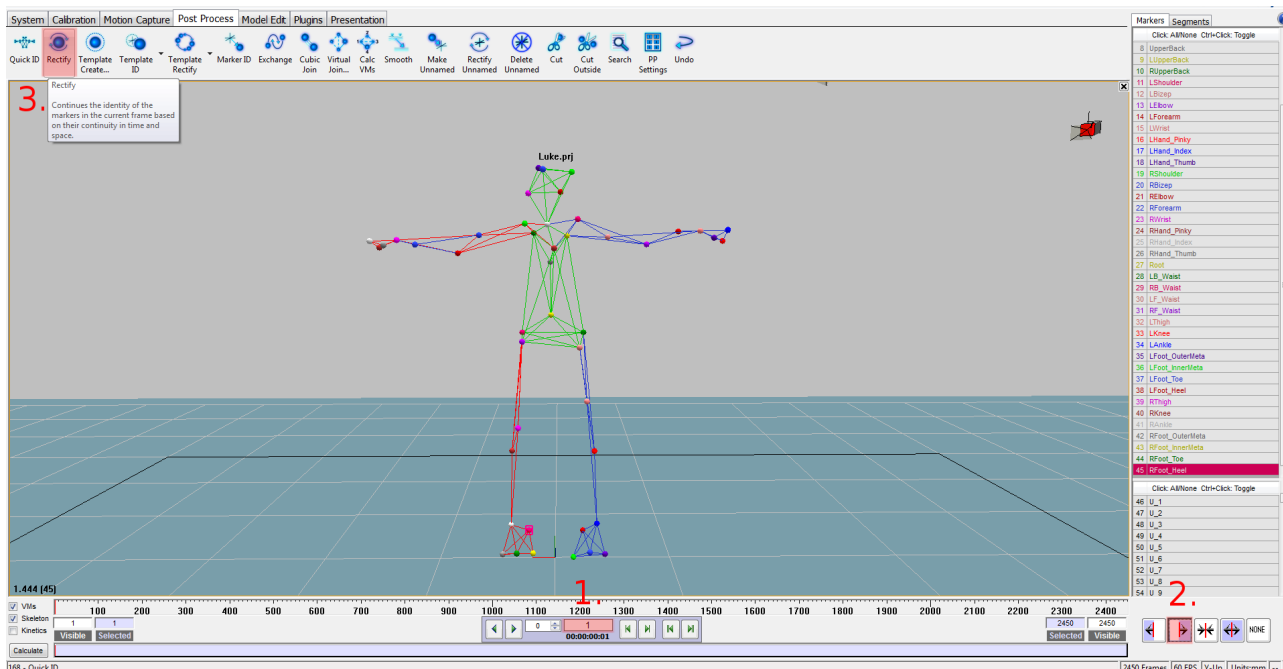
11. A little menu appears and gives you the name of the marker you have to click to identify on the markers of the record. I mostly starts on the top of the head.
12. Follow the calls of the menu, or check the selection in the list on the right side of the screen.



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13. In case you selected a wrong marker. Go back in this list and identify the marker again.
14. After you finished, select Frame 1 in the timeline, go to the right bottom of the screen and press the second icon to select forward.
15. Now press Rectify, what set the ID for all frames in this track.

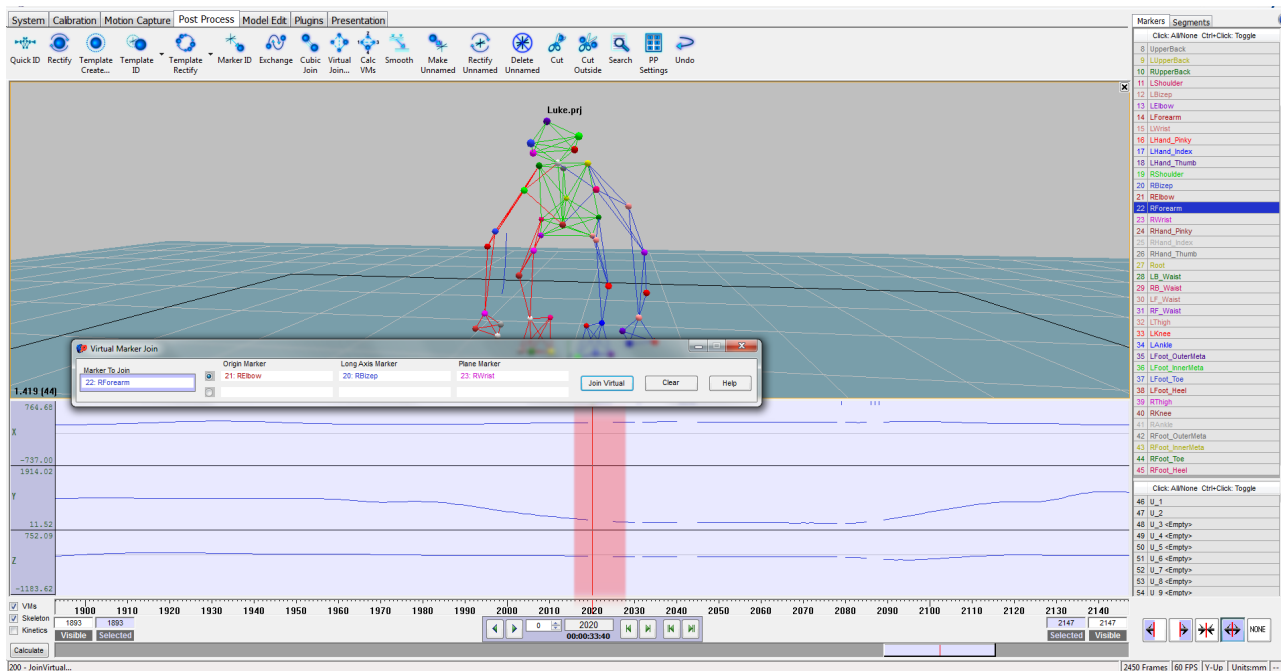


16. If you got just the 3D view open, press SPACE to switch to MultiWindow, or if not set yet, go to in MainMenu and select under Layouts -> 2 Panes: Top/Bottom.

17. Click on the bottom window and press F4 to activate the Fcurve window.

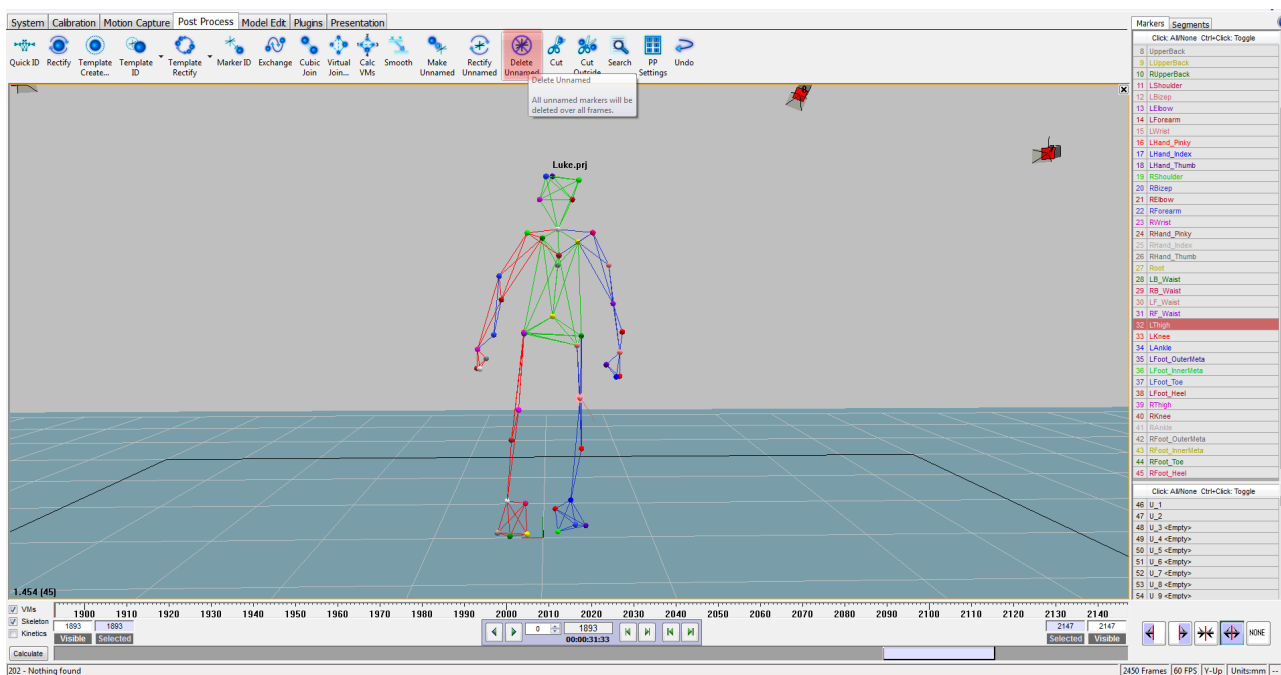
18. Back on Frame 1 press N on the keyboard to start searching for gaps. It will hold on any gap of any marker. You can fill gaps by pressing L for linear, C for curved and V for virtual join, depend on what is the best for that particular situation.

19.

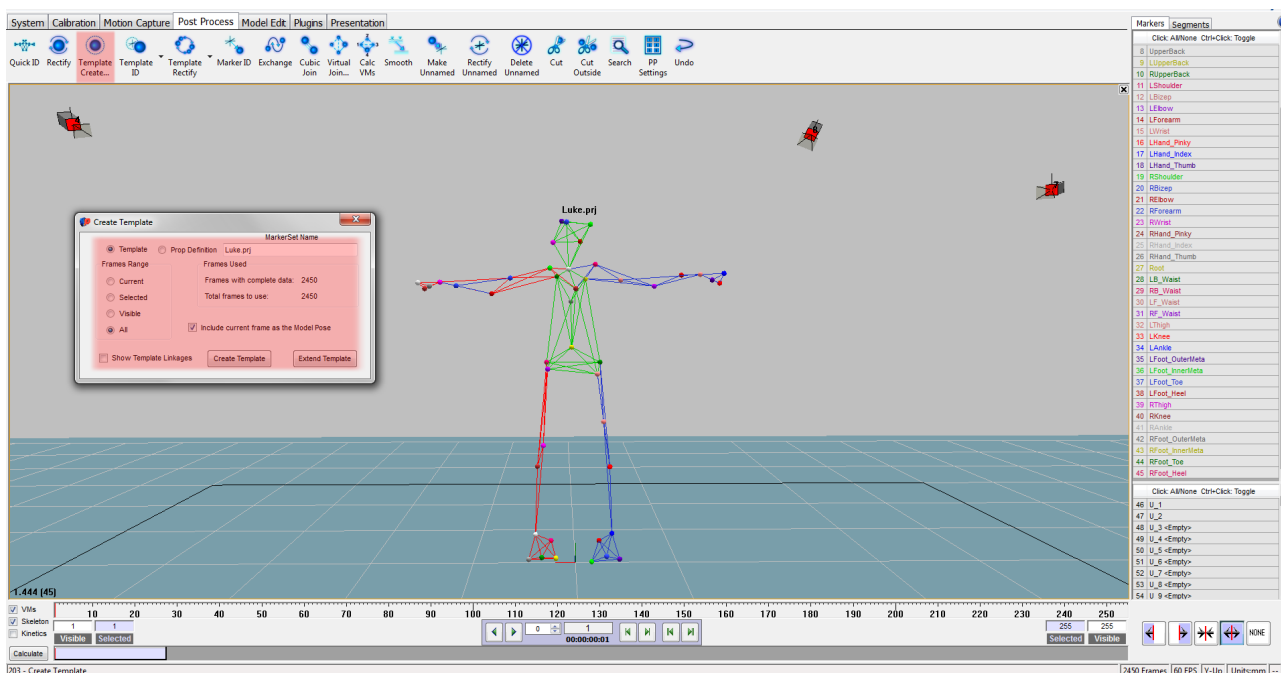


20. The search is finished with a message "Nothing found"

21. Press A to select all markers and press on the top menu the icon "Delete Unnamed"



22. Go back to Frame 1 and press the icon "Template Create" on the top of the window
23. Press Frame Range to "All", name it with the performer's name, select "Include current frame as Model Pose", and press "Create Template"
24. If you already made a template for this performer you can press "Extend Template" to get it updated.



25. Save the project and the track as ROM\_nameofperformer\_tracked
26. Now you can go online again. Make sure Tracking, Identifying, Join Virtual with Check Template is activated.
27. The template and name should appear as soon the performer is fully inside the capture area

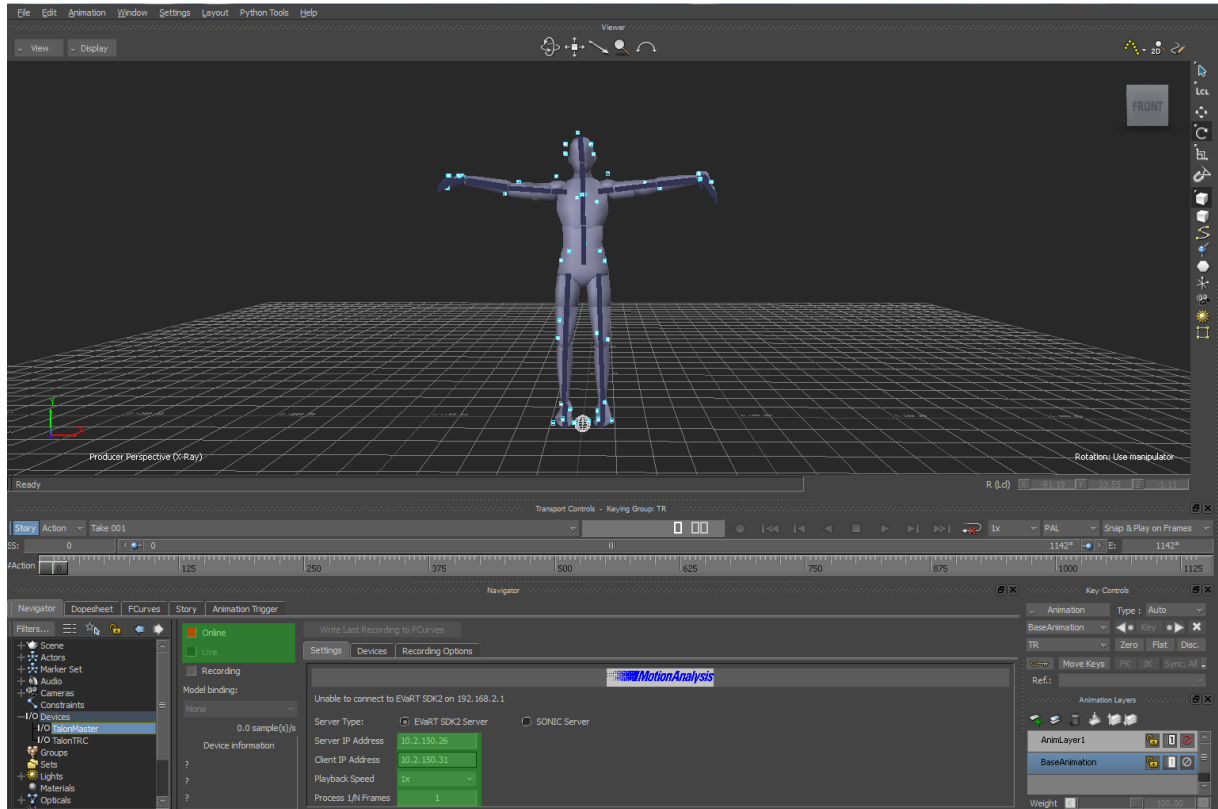
Recording is the same as you did with the RangeOfMotion track. Make sure you keep the naming convention right.

## Stream Data to MotionBuilder

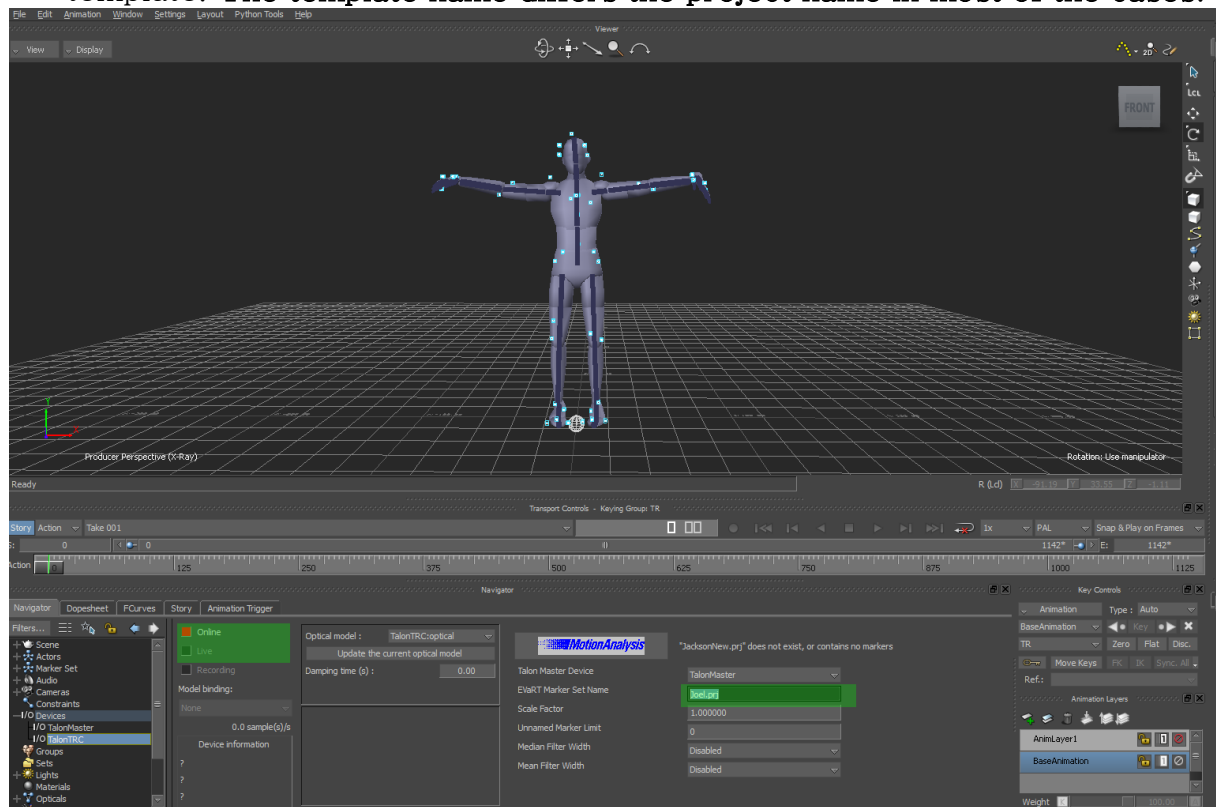
1. Start MotionBuilder
2. Open prepared .fbx file with character, or use a template version ActorTemp\_45Marker.fbx
3. Check under Devices -> TalonMaster, if IP is Server 10.2.150.26 and Client 10.2.150.31. Click on the square beside Online, it should be green. Make sure Live beneath is checked.



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4. Under TalonTRC change the MarkerSetName to the name of cortex template. The template name differs the project name in most of the cases!



5. Check square beside Online and click on live. As soon Cortex recognize a template MotionBuilder will receive data.

