

UCSC Genome Browser ASHG 2014 Workshop

Part 2: Hubs and Genome Browser in a Box

1. Remotely hosted data formats

Custom track examples

See <http://genome.ucsc.edu/cgi-bin/hgCustom> for links to info on each format.

For more info on formats:

http://genomewiki.ucsc.edu/index.php/Selecting_a_graphing_track_data_format

bigBED example:

```
track type=bigBed name="bigBed Example One" description="A bigBed file"
bigDataUrl=http://genome.ucsc.edu/goldenPath/help/examples/bigBedExample.bb
```

bigWig example:

```
track type=bigWig name="Example One" description="A bigWig file"
bigDataUrl=http://genome.ucsc.edu/goldenPath/help/examples/bigWigExample.bw
```

BAM example:

```
#BAM Custom Track Example One browser position chr21:33,038,946-
33,039,092 track type=bam name="BAM Example One" description="Bam Ex.
1: 1000 Genomes read alignments (individual NA12878)" pairEndsByName=.
pairSearchRange=10000 chromosomes=chr21 bamColorMode=gray
maxWindowToDraw=200000 db=hg18 visibility=pack
bigDataUrl=http://genome.ucsc.edu/goldenPath/help/examples/bamExample.bam
```

VCF example:

```
# VCF+tabix Custom Track Example One browser position chr21:33,034,804-
33,037,719 track type=vcfTabix name="VCF Example One" description="VCF
Ex. 1: 1000 Genomes phase 1 interim SNVs" chromosomes=chr21
maxWindowToDraw=200000 db=hg19 visibility=pack
bigDataUrl=http://genome.ucsc.edu/goldenPath/help/examples/vcfExample.vcf.gz
```

2. Track Hubs

Resources:

<http://genome.ucsc.edu/goldenPath/help/hgTrackHubHelp.html>
<http://genome.ucsc.edu/goldenPath/help/hubQuickStart.html>
<http://genome.ucsc.edu/goldenPath/help/hubQuickStartGroups.html>
http://genomewiki.ucsc.edu/index.php/Assembly_Hubs

An example:

1. Go to the track hub page here:

<http://genome.ucsc.edu/cgi-bin/hgHubConnect>

2. In the “My Hubs” tab input this hub url:

<http://genome-test.cse.ucsc.edu/~pauline/hubs/Plants/hub.txt>

3. Then view the directory structure by pasting this url into an internet browser window:

<http://genome-test.cse.ucsc.edu/~pauline/hubs/Plants>

3. Genome Browser in a Box

Resources:

<http://genome.ucsc.edu/goldenPath/help/gbib.html>

Setting up and using GBiB:

1. Go to <https://www.virtualbox.org/> to download virtualbox
2. Once VirtualBox is installed download GBiB from UCSC
3. In VirtualBox: Machine -> Add -> browserbox
4. (if necessary) Start browserbox
5. go to 127.0.0.1:1234 in an internet browser