**Alternate approach 1:**

We can point port to GRCh37 human database (3337) to get same results as (AssemblyConverter.pl).

I have tested this approach and the results are matching (Script attached ConverterByOldDatabase.pl).

use Bio::EnsEMBL::Registry;

my $registry = 'Bio::EnsEMBL::Registry';

$registry->load\_registry\_from\_db(

-host => 'ensembldb.ensembl.org', # alternatively 'useastdb.ensembl.org'

-user => 'anonymous',

-port => 3337 #3306 - GRCh38 human database

);

Disadvantage: Accessing old database to get the results.

Advantage : Accessing database (3337) is very fast compare to new database (3306).

**Alternate approach 2:**

We can use below functions for converting coordinates between assemblies.

# connect to the new database containing the mapping between old and

# new assembly

my $dba\_new = new Bio::EnsEMBL::DBSQL::DBAdaptor(

-host => 'ensembldb.ensembl.org',

-port => 3306,

-user => ensro,

-dbname => 'mus\_musculus\_core\_47\_37',

-group => 'core\_new',

);

my $assembly\_projector = Bio::EnsEMBL::Utils::AssemblyProjector->new(

-OLD\_ASSEMBLY => 'GRCh37',

-NEW\_ASSEMBLY => 'GRCh38',

-ADAPTOR => $dba\_new,

-EXTERNAL\_SOURCE => 1,

-MERGE\_FRAGMENTS => 1,

-CHECK\_LENGTH => 0,

);

my $new\_slice = $assembly\_projector->old\_to\_new($slice);