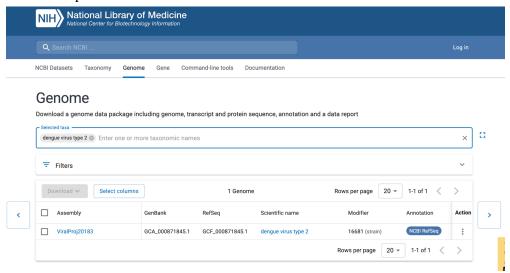**Sourcing of Annotation Files**

The following method was used to download the files for the reference genomes. This method was chosen as it contained direct download links to the gff files which can be used to load annotation tracks into the browsers using just a wget command rather than having the save the file locally.

Steps to access the annotation links
1. Go to NCBI Genome and type in desired virus strain, here Dengue Virus Type 2 is used as an example

2. Click on the available result and it should take you to this page. If you have multiple results, use the entry that matches your needs.

3. Now click on FTP and it will take you to this page

Index of /genomes/all/GCF/000/871/845/GCF_000871845.1_ViralProj20183

```
Name                                                    Last modified      Size

Parent Directory                                                             -
GCF_000871845.1_ViralProj20183_assembly_report.txt      2024-09-03 06:32   1.1K
GCF_000871845.1_ViralProj20183_assembly_stats.txt       2024-09-03 06:32   5.0K
GCF_000871845.1_ViralProj20183_cds_from_genomic.fna.gz  2019-12-18 09:52   3.5K
GCF_000871845.1_ViralProj20183_feature_count.txt        2023-12-13 19:15   373
GCF_000871845.1_ViralProj20183_feature_table.txt.gz     2019-12-18 09:52   727
GCF_000871845.1_ViralProj20183_genomic.fna.gz           2015-05-15 01:55   3.5K
GCF_000871845.1_ViralProj20183_genomic.gbff.gz          2023-07-23 01:22   9.7K
GCF_000871845.1_ViralProj20183_genomic.gff.gz           2023-05-04 18:03   1.7K
GCF_000871845.1_ViralProj20183_genomic.gtf.gz           2022-08-16 01:30   567
GCF_000871845.1_ViralProj20183_protein.faa.gz           2023-07-23 01:22   2.1K
GCF_000871845.1_ViralProj20183_protein.gpff.gz          2023-07-23 01:22   4.6K
GCF_000871845.1_ViralProj20183_rna_from_genomic.fna.gz  2019-12-18 09:52   407
GCF_000871845.1_ViralProj20183_translated_cds.faa.gz    2019-12-18 09:52   2.2K
README.txt                                              2024-08-27 13:56    55K
annotation_hashes.txt                                   2024-02-25 03:26   410
assembly_status.txt                                     2024-11-24 08:00    14
md5checksums.txt                                        2024-09-03 06:32   1.1K
uncompressed_checksums.txt                              2024-08-26 16:58   789
```

HHS Vulnerability Disclosure

4. From this list we need the genomic fna file, the genomic gff file, so hover over the hyperlinks and copy the link addresses. The links will look something like this
   a. https://ftp.ncbi.nlm.nih.gov/genomes/all/GCF/000/871/845/GCF_000871845.1_ViralProj20183/GCF_000871845.1_ViralProj20183_genomic.fna.gz
   b. https://ftp.ncbi.nlm.nih.gov/genomes/all/GCF/000/871/845/GCF_000871845.1_ViralProj20183/GCF_000871845.1_ViralProj20183_genomic.gff.gz

These are the exact links we used:

Dengue Type 1
- https://ftp.ncbi.nlm.nih.gov/genomes/all/GCF/000/862/125/GCF_000862125.1_ViralProj15306/GCF_000862125.1_ViralProj15306_genomic.fna.gz
- https://ftp.ncbi.nlm.nih.gov/genomes/all/GCF/000/862/125/GCF_000862125.1_ViralProj15306/GCF_000862125.1_ViralProj15306_genomic.gff.gz

Dengue Type 2
- https://ftp.ncbi.nlm.nih.gov/genomes/all/GCF/000/871/845/GCF_000871845.1_ViralProj20183/GCF_000871845.1_ViralProj20183_genomic.fna.gz
- https://ftp.ncbi.nlm.nih.gov/genomes/all/GCF/000/871/845/GCF_000871845.1_ViralProj20183/GCF_000871845.1_ViralProj20183_genomic.gff.gz

Dengue Type 3
- https://ftp.ncbi.nlm.nih.gov/genomes/all/GCA/031/099/465/GCA_031099465.1_ASM3109946v1/GCA_031099465.1_ASM3109946v1_genomic.fna.gz
- https://ftp.ncbi.nlm.nih.gov/genomes/all/GCA/031/099/465/GCA_031099465.1_ASM3109946v1/GCA_031099465.1_ASM3109946v1_genomic.gff.gz

Dengue Type 4

- https://ftp.ncbi.nlm.nih.gov/genomes/all/GCF/004/786/575/GCF_004786575.1_ASM478657v1/GCF_004786575.1_ASM478657v1_genomic.fna.gz
- https://ftp.ncbi.nlm.nih.gov/genomes/all/GCF/004/786/575/GCF_004786575.1_ASM478657v1/GCF_004786575.1_ASM478657v1_genomic.gff.gz