Package 'hubR'

June 27, 2022

Title Build UCSC track hubs

Version 0.1.5

URL

Description Takes a list of bigwig file names, Amazon S3 bucket info and generates a UCSC genome browser track hub along with neccessary hmac signatures.

License GPL-3

Depends openssl,
digest,
RCurl,
aws.s3,
RColorBrewer

Suggests knitr,
rmarkdown,
testthat

Encoding UTF-8

LazyData true

VignetteBuilder knitr

Roxygen list(markdown = TRUE)

RoxygenNote 7.1.2

R topics documented:

---

hubR   *Builds a track hub for the UCSC genome browser*

Description

This builds the track hub and handles all uploading to AWS S3 buckets as named in track.bucket and hub.bucket. Any changes to the bigwig file names or 'track.bucket' will require the regeneration of HMAC signatures and the hub file.

Usage

```
hubR(
  track.bucket,
  hub.bucket,
  hub.type = "multiwig",
  bigwigs = NULL,
  pseudo.names = NULL,
  long.labels = NULL,
  colors = NULL,
  species,
  region,
  type,
  cluster,
  genome,
  data.dir,
  output.track.file = "trackDB.txt",
  email = ""
)
```

Arguments

`track.bucket`	Amazon S3 bucket name that stores the .bw files
`hub.bucket`	Amazon S3 bucket name that stores the track hub .txt file
`hub.type`	Format of the track hub: multiwig or composite
`bigwigs`	Either a directory or vector of file names for bigwigs. If a vector, then the order of the vector will define the order of the tracks.
`pseudo.names`	Short labels to give each track. If NULL the function attemps to gather from .bw file name: pseudo.names-*.bw
`long.labels`	Detailed labels to give each track. If NULL the function attemps to gather from .bw file name: long.labels-*.bw
`colors`	Colors (in R, G, B format) to give the tracks. If NULL colors will be auto-generated.
`species`	Species information
`region`	Brain region information
`type`	Data type (ATAC, Multiome, etc.)
`cluster`	Cluster label information
`genome`	Genome information, must be a valid UCSC genome browser genome.
`data.dir`	Location of the bigwig files and where the trackDB.txt will be saved locally
`output.track.file`	
	Output track hub filename. Default: trackDB.txt
`email`	Correspondence email

Value

Hub URL

---

setup.aws *Setup aws.s3*

Description

This function takes in the users AWS credentials and primes aws.s3.

Usage

```
setup.aws(access.key, secret.key, region = "us-west-2")
```

Arguments

access.key   Amazon S3 access key ID

secret.key   Amazon S3 access key ID

region   Amazon S3 region: default 'us-west-2'

---

setup.awscli *Setup awscli2*

Description

This function adds an awscli2 install to the users PATH

Usage

```
setup.awscli(
  awscli.path = "/allen/programs/celltypes/workgroups/hct/NelsonJ/Home/v2/2.4.9/bin"
)
```

Arguments

awscli.path   directory where awscli2 was installed

Index