

# Package ‘AnVILBilling’

October 11, 2022

**Title** Provide functions to retrieve and report on usage expenses in NHGRI AnVIL ([anvilproject.org](http://anvilproject.org)).

**Date** 2020-09-30

**Version** 1.6.0

**Description** AnVILBilling helps monitor AnVIL-related costs in R, using queries to a BigQuery table to which costs are exported daily. Functions are defined to help categorize tasks and associated expenditures, and to visualize and explore expense profiles over time. This package will be expanded to help users estimate costs for specific task sets.

**License** Artistic-2.0

**Encoding** UTF-8

**LazyData** true

**Depends** R (>= 4.1)

**Imports** methods, DT, shiny, bigrquery, shinytoastr, DBI, magrittr, dplyr, lubridate, plotly, ggplot2

**Suggests** testthat, knitr, BiocStyle, rmarkdown

**RoxygenNote** 7.1.1

**VignetteBuilder** knitr

**biocViews** Infrastructure, Software

**BugReports** <https://github.com/vjcitn/AnVILBilling/issues>

**git\_url** <https://git.bioconductor.org/packages/AnVILBilling>

**git\_branch** RELEASE\_3\_15

**git\_last\_commit** 48e30c6

**git\_last\_commit\_date** 2022-04-26

**Date/Publication** 2022-10-11

**Author** BJ Stubbs [aut],  
Vince Carey [aut, cre]

**Maintainer** Vince Carey <[stvjc@channing.harvard.edu](mailto:stvjc@channing.harvard.edu)>

**R topics documented:**

ab_reckoning . . . . .	2
browse_reck . . . . .	3
browse_reck2 . . . . .	3
demo_rec . . . . .	3
getBilling . . . . .	4
getKeys . . . . .	5
getSkus . . . . .	5
getSubmissionCost . . . . .	6
getSubmissionRam . . . . .	6
getValues . . . . .	7
reckon . . . . .	7
reckoning . . . . .	8
reckoning.avReckoning-method . . . . .	8
setup_billing_request . . . . .	9
subsetByKeyValue . . . . .	10
subsetBySku . . . . .	10
<b>Index</b>	<b>12</b>

---

ab_reckoning	<i>accessor for reckoning element</i>
--------------	---------------------------------------

---

**Description**

accessor for reckoning element

**Usage**

```
ab_reckoning(x)
```

**Arguments**

x                    an instance of avReckoning

**Value**

a tibble with one row for each expense type by time slice

**Examples**

```
dim(ab_reckoning(demo_rec))
```

---

browse\_reck                    *prototypical cost exploring app*

---

**Description**

prototypical cost exploring app

**Usage**

browse\_reck()

**Value**

returns "NULL"

**Examples**

```
if (interactive()) browse_reck()
```

---

browse\_reck2                    *alternate app for AnVIL where htmlwidgets misbehaves*

---

**Description**

alternate app for AnVIL where htmlwidgets misbehaves

**Usage**

browse\_reck2()

---

demo\_rec                        *a demonstration avReckoning object*

---

**Description**

a demonstration avReckoning object

**Usage**

demo\_rec

**Format**

avReckoning instance

**Note**

This is a snapshot of cost data collected for a specific project.

**Examples**

```
demo_rec
```

---

<code>getBilling</code>	<i>request billing data</i>
-------------------------	-----------------------------

---

**Description**

request billing data

**Usage**

```
getBilling(
  startDate,
  endDate,
  bqProject,
  bqDataset,
  bqTable,
  bqBilling_code,
  page_size = 50000
)
```

**Arguments**

<code>startDate</code>	character(1) date of start of reckoning
<code>endDate</code>	character(1) date of end of reckoning
<code>bqProject</code>	character(1) GCP project id
<code>bqDataset</code>	character(1) GCP dataset id for billing data in BQ
<code>bqTable</code>	character(1) GCP table for billing data in BQ
<code>bqBilling_code</code>	character(1) GCP billing code
<code>page_size</code>	numeric(1) passed to dbConnect

**Value**

`tbl_df`

**Note**

On 21 August 2020 VJC changed condition on `endDate` to `<=`

**Examples**

```
if (interactive()) {  
  getBilling(startDate="2020-08-01",  
    endDate="2020-08-15", bqProject="bjbilling",  
    bqTable="gcp_billing_export_v1_015E39_38569D_3CC771",  
    bqDataset="anvilbilling", bqBilling_code="landmarkanvil2")  
}
```

---

getKeys	<i>return keys</i>
---------	--------------------

---

**Description**

return keys

**Usage**

```
getKeys(mybilling)
```

**Arguments**

mybilling      tbl\_df

**Value**

character()

---

getSkus	<i>List the available GCP product skus</i>
---------	--

---

**Description**

List the available GCP product skus

**Usage**

```
getSkus(mybilling)
```

**Arguments**

mybilling      tbl\_df

**Value**

character()

---

getSubmissionCost	<i>Calculate costs for a workflow submission by ID</i>
-------------------	--

---

**Description**

Calculate costs for a workflow submission by ID

**Usage**

```
getSubmissionCost(mybilling, submissionID)
```

**Arguments**

mybilling	tbl_df
submissionID	character(1) Terra submission ID

**Value**

numeric()

**Examples**

```
data(demo_rec) # makes rec
v = getValues(demo_rec@reckoning, "terra-submission-id")[1] # for instance
getSubmissionCost(demo_rec@reckoning,v)
```

---

getSubmissionRam	<i>Calculate ram usage for a workflow submission by ID</i>
------------------	--

---

**Description**

Calculate ram usage for a workflow submission by ID

**Usage**

```
getSubmissionRam(mybilling, submissionID)
```

**Arguments**

mybilling	tbl_df
submissionID	character(1) Terra submission ID

**Value**

data.frame

**Examples**

```
data(demo_rec) # makes rec
v = getValues(demo_rec@reckoning, "terra-submission-id")[1] # for instance
getSubmissionRam(demo_rec@reckoning,v)
```

---

getValues	<i>deal with nested tables in a reckoning</i>
-----------	---

---

**Description**

deal with nested tables in a reckoning

**Usage**

```
getValues(mybilling, mykey)
```

**Arguments**

mybilling	tbl_df from reckon()
mykey	character(1) key

**Value**

character()

**Examples**

```
if (interactive()) getValues(reckoning(demo_rec), "security")
```

---

reckon	<i>perform reckoning</i>
--------	--------------------------

---

**Description**

perform reckoning

**Usage**

```
reckon(obj)
```

**Arguments**

obj	instance of avReckoningRequest
-----	--------------------------------

**Value**

instance of avReckoning

**Examples**

```
data(demo_rec)
if (interactive()) reckon(demo_rec)
```

---

reckoning	<i>generic for accessor for reckoning component</i>
-----------	---

---

**Description**

generic for accessor for reckoning component

**Usage**

```
reckoning(x)
```

**Arguments**

x                    object inheriting from avReckoning

**Value**

tbl\_df

**Examples**

```
if (interactive()) reckoning(reckon(demo_rec))
```

---

reckoning, avReckoning-method	<i>accessor for reckoning component</i>
-------------------------------	---

---

**Description**

accessor for reckoning component

**Usage**

```
## S4 method for signature 'avReckoning'
reckoning(x)
```

**Arguments**

x                    instance of avReckoning

**Value**

tbl\_df



**Examples**

```
if (interactive()) reckoning(reckon(demo_rec))
```

---

setup\_billing\_request *set up request object*

---

**Description**

set up request object

**Usage**

```
setup_billing_request(start, end, project, dataset, table, billing_code)
```

**Arguments**

start	character(1) date of start of reckoning
end	character(1) date of end of reckoning
project	character(1) GCP project id
dataset	character(1) GCP dataset id for billing data in BQ
table	character(1) GCP table for billing data in BQ
billing_code	character(1) GCP billing code

**Value**

instance of avReckoningRequest

**Examples**

```
lk1 = setup_billing_request("2020-08-01", "2020-08-15",  
  "bq_scoped_project", "bq_dataset", "bq_table", "billcode")  
lk1
```

---

subsetByKeyValue	<i>filter a reckoning by 'label' retaining records associated with a particular key-value pair</i>
------------------	--

---

**Description**

filter a reckoning by 'label' retaining records associated with a particular key-value pair

**Usage**

```
subsetByKeyValue(mybilling, mykey, myvalue)
```

**Arguments**

mybilling	instance of avReckoning
mykey	character(1)
myvalue	character(1)

**Value**

data.frame

**Examples**

```
example(reckon) # makes rec
v = getValues(ab_reckoning(demo_rec), "terra-submission-id")[1] # for instance
nt = subsetByKeyValue(ab_reckoning(demo_rec), "terra-submission-id", v)
head(nt)
dim(nt)
```

---

subsetBySku	<i>subset a billing object by sku</i>
-------------	---------------------------------------

---

**Description**

subset a billing object by sku

**Usage**

```
subsetBySku(mybilling, mysku)
```

**Arguments**

mybilling	tbl_df
mysku	character(1) GCP product sku

*subsetBySku*

11

**Value**

data.frame

# Index

## \* datasets

demo\_rec, 3

ab\_reckoning, 2

browse\_reck, 3

browse\_reck2, 3

demo\_rec, 3

getBilling, 4

getKeys, 5

getSkus, 5

getSubmissionCost, 6

getSubmissionRam, 6

getValues, 7

reckon, 7

reckoning, 8

reckoning, avReckoning-method, 8

setup\_billing\_request, 9

subsetByKeyValue, 10

subsetBySku, 10