

# Package ‘ACEsearch’

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**Type** Package

**Title** 'ACE' Search Engine API

**Version** 1.0.0

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## Description

'ACE' (Advanced Cohort Engine) is a powerful tool that allows constructing cohorts of patients extremely quickly and efficiently. This package is designed to interface directly with an instance of 'ACE' search engine and facilitates API queries and data dumps. Prerequisite is a good knowledge of the temporal language to be able to efficiently construct a query. More information available at <<https://shahlab.stanford.edu/start>>.

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**URL** <https://shahlab.stanford.edu/start>

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ACEsearch.connect      *Connects to ACE instance*

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**Description**

Attempts to connect to ACE instance using URL:PORT

**Usage**

```
ACEsearch.connect(url)
```

**Arguments**

url                      url address of a running ACE instance, usually containing port information

**Value**

data frame containing connection information used for all other accessory functions

**Examples**

```
ACEsearch.connect("http://localhost:8080")
```

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ACEsearch.contains      *Returns whether patient with the specified patient\_id exists*

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**Description**

Returns the statistics information

**Usage**

```
ACEsearch.contains(connection, patient_id)
```

**Arguments**

connection              connection object returned from connect(url) function  
patient\_id               numerical id of the patient

**Value**

TRUE or FALSE

**Examples**

```
ACEsearch.contains(ACEsearch.connect('http://localhost:8080'), 123)
```

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ACEsearch.csv	<i>Queries ACE with a CSV() command and imports the contents of the csv into a data frame</i>
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**Description**

Queries ACE with a CSV() command and imports the contents of the csv into a data frame

**Usage**

```
ACEsearch.csv(connection, query, file_name = NULL)
```

**Arguments**

connection	connection object returned from connect(url) function
query	ACE CSV query
file_name	if specified, stores the csv into the file_name, otherwise the temporary file used to download the data will be deleted after the data.frame is generated

**Value**

data frame containing CSV file

**Examples**

```
ACEsearch.csv(ACEsearch.connect('http://localhost:8080'), 'CSV(ICD9=250.50, CPT, LABS, ICD9)')
ACEsearch.csv(ACEsearch.connect('http://localhost:8080'), 'CSV(ICD9=250.50, CPT, LABS, ICD9)',
              '/output.csv')
```

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ACEsearch.dump	<i>Dumps patient from ACE to a file on disk</i>
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**Description**

Dumps patient from ACE to a file on disk

**Usage**

```
ACEsearch.dump(connection, patient_id, path, selection_query = NULL,
               contains_start = FALSE, contains_end = FALSE)
```

**Arguments**

connection	connection object returned from connect(url) function
patient_id	numerical id of the patient
path	path where to store the generated files
selection_query	returns only the part of patient's data that intersects with the result of the selection_query
contains_start	the dumped time interval's start has to be intersecting the selection_query
contains_end	the dumped time interval's end has to be intersecting the selection_query

**Value**

data frame containing patient IDs and time intervals (optional)

**Examples**

```
ACEsearch.dump(ACEsearch.connect('http://localhost:8080'), 123, '/path/to/dump/files/')
ACEsearch.dump(ACEsearch.connect('http://localhost:8080'), 123, '/path/', 'ICD9=250.50', TRUE, TRUE)
```

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ACEsearch.query	<i>Queries ACE and returns a list of patient IDs</i>
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**Description**

Queries ACE and returns a list of patient IDs

**Usage**

```
ACEsearch.query(connection, query, output_time = FALSE)
```

**Arguments**

connection	connection object returned from connect(url) function
query	ACE query
output_time	equivalent to wrapping the query in OUTPUT() command. Together with patient IDs outputs each time interval in patient's timeline when the query was evaluated as true

**Value**

data frame containing patient IDs and time intervals (optional)

**Examples**

```
ACEsearch.query(ACEsearch.connect('http://localhost:8080'), 'ICD9=250.50')  
ACEsearch.query(ACEsearch.connect('http://localhost:8080'), 'ICD9=250.50', TRUE)
```

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ACEsearch.status	<i>Returns the status of the ACE search engine</i>
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**Description**

Returns the status of the ACE search engine

**Usage**

```
ACEsearch.status(connection)
```

**Arguments**

connection      connection object returned from connect(url) function

**Value**

data frame containing patient IDs and time intervals (optional)

**Examples**

```
ACEsearch.status(ACEsearch.connect('http://localhost:8080'))
```

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