**Cloud Foundry Environment Variables**

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Environment variables are the means by which the Cloud Foundry runtime communicates with a deployed application about its environment. This page describes the environment variables that the runtime and buildpacks set for applications.

For information about setting your own application-specific environment variables, refer to the [Set Environment Variable in a Manifest](http://docs.pivotal.io/pivotalcf/1-9/devguide/deploy-apps/manifest.html#env-block) section in the Application Manifests topic.

**View Environment Variables**

Install the Cloud Foundry Command Line Interface (cf CLI), and use the [cf env](http://cli.cloudfoundry.org/en-US/cf/env.html) command to view the Cloud Foundry environment variables for your application. The cf env command displays the following environment variables:

* The VCAP\_APPLICATION and VCAP\_SERVICES variables provided in the container environment
* The user-provided variables set using the [cf set-env](http://cli.cloudfoundry.org/en-US/cf/set-env.html) command

$ cf env my-app

Getting env variables for app my-app in org my-org / space my-space as

admin...

OK

System-Provided:

{

"VCAP\_APPLICATION": {

"application\_id": "fa05c1a9-0fc1-4fbd-bae1-139850dec7a3",

"application\_name": "my-app",

"application\_uris": [

"my-app.192.0.2.34.xip.io"

],

"application\_version": "fb8fbcc6-8d58-479e-bcc7-3b4ce5a7f0ca",

"limits": {

"disk": 1024,

"fds": 16384,

"mem": 256

},

"name": "my-app",

"space\_id": "06450c72-4669-4dc6-8096-45f9777db68a",

"space\_name": "my-space",

"uris": [

"my-app.192.0.2.34.xip.io"

],

"users": null,

"version": "fb8fbcc6-8d58-479e-bcc7-3b4ce5a7f0ca"

}

User-Provided:

MY\_DRAIN: http://drain.example.com

MY\_ENV\_VARIABLE: 100

**Application-Specific System Variables**

The subsections that follow describe the environment variables that Cloud Foundry makes available to your application container. Some of these variables are the same across instances of a single application, and some vary from instance to instance.

You can access environment variables programmatically, including variables defined by the buildpack. For more information, refer to the buildpack documentation for [Java](http://docs.pivotal.io/pivotalcf/1-9/buildpacks/java/java-tips.html#env-var), [Node.js](http://docs.pivotal.io/pivotalcf/1-9/buildpacks/node/node-tips.html#env-var), and[Ruby](http://docs.pivotal.io/pivotalcf/1-9/buildpacks/ruby/ruby-tips.html#env-var).

**CF\_INSTANCE\_ADDR**

The [CF\_INSTANCE\_IP](http://docs.pivotal.io/pivotalcf/1-9/devguide/deploy-apps/environment-variable.html#CF-INSTANCE-IP) and [CF\_INSTANCE\_PORT](http://docs.pivotal.io/pivotalcf/1-9/devguide/deploy-apps/environment-variable.html#CF-INSTANCE-PORT) of the app instance in the format IP:PORT.

CF\_INSTANCE\_ADDR=1.2.3.4:5678

**CF\_INSTANCE\_GUID**

The UUID of the particular instance of the app. Available only to instances on Diego Cells.

CF\_INSTANCE\_GUID=41653aa4-3a3a-486a-4431-ef258b39f042

**CF\_INSTANCE\_INDEX**

The index number of the app instance.

CF\_INSTANCE\_INDEX=0

**CF\_INSTANCE\_IP**

The external IP address of the host running the app instance.

CF\_INSTANCE\_IP=1.2.3.4

**CF\_INSTANCE\_INTERNAL\_IP**

The internal IP address of the container running the app instance.

CF\_INSTANCE\_INTERNAL\_IP=1.2.3.4

**CF\_INSTANCE\_PORT**

The external (host-side) port corresponding to the internal (container-side) port with value [PORT](http://docs.pivotal.io/pivotalcf/1-9/devguide/deploy-apps/environment-variable.html#PORT). For instances on Diego, this value is generally different from the [PORT](http://docs.pivotal.io/pivotalcf/1-9/devguide/deploy-apps/environment-variable.html#PORT) of the app instance.

CF\_INSTANCE\_PORT=61045

**CF\_INSTANCE\_PORTS**

The list of mappings between internal (container-side) and external (host-side) ports allocated to the instance’s container. Not all of the internal ports are necessarily available for the application to bind to, as some of them may be used by system-provided services that also run inside the container. On the DEAs, these internal and external values are the same, but on Diego Cells they may differ.

CF\_INSTANCE\_PORTS=[{external:61045,internal:5678},{external:61046,internal:2222}]

**HOME**

Root folder for the deployed application.

HOME=/home/vcap/app

**MEMORY\_LIMIT**

The maximum amount of memory that each instance of the application can consume. You specify this value in an application manifest or with the cf CLI when pushing an application. The value is limited by space and org quotas.

If an instance goes over the maximum limit, it will be restarted. If it has to be restarted too often, it will be terminated.

MEMORY\_LIMIT=512m

**PORT**

The port on which the application should listen for requests. The Cloud Foundry runtime allocates a port dynamically for each instance of the application, so code that obtains or uses the application port should refer to it using the PORT environment variable.

PORT=61857

**PWD**

Identifies the present working directory, where the buildpack that processed the application ran.

PWD=/home/vcap/app

**TMPDIR**

Directory location where temporary and staging files are stored.

TMPDIR=/home/vcap/tmp

**USER**

The user account under which the application runs.

USER=vcap

**VCAP\_APP\_HOST**

The IP address of the host. Deprecated: the DEAs set this to be 0.0.0.0, and Diego Cells do not provide this environment variable.

VCAP\_APP\_HOST=0.0.0.0

**VCAP\_APP\_PORT**

Deprecated name for the [PORT](http://docs.pivotal.io/pivotalcf/1-9/devguide/deploy-apps/environment-variable.html#PORT) variable defined above.

**VCAP\_APPLICATION**

This variable contains the associated attributes for a deployed application. Results are returned in JSON format. The table below lists the attributes that are returned.

|  |  |
| --- | --- |
| **Attribute** | **Description** |
| application\_id | GUID identifying the application. |
| application\_name | The name assigned to the application when it was pushed. |
| application\_uris | The URIs assigned to the application. |
| application\_version | GUID identifying a version of the application. Each time an application is pushed or restarted, this value is updated. |
| host | Deprecated. IP address of the application instance. |
| instance\_id | Unique ID that identifies the application instance. For instances running on Diego, this is identical to the [CF\_INSTANCE\_GUID](http://docs.pivotal.io/pivotalcf/1-9/devguide/deploy-apps/environment-variable.html" \l "CF-INSTANCE-GUID)variable. |
| instance\_index | Index number of the instance. Identical to the [CF\_INSTANCE\_INDEX](http://docs.pivotal.io/pivotalcf/1-9/devguide/deploy-apps/environment-variable.html" \l "CF-INSTANCE-INDEX)variable. |
| limits | The memory, disk, and number of files permitted to the instance. Memory and disk limits are supplied when the application is deployed, either on the command line or in the application manifest. The number of files allowed is operator-defined. |
| name | Identical to application\_name. |
| port | Port of the application instance. Identical to the [PORT](http://docs.pivotal.io/pivotalcf/1-9/devguide/deploy-apps/environment-variable.html#PORT) variable. |
| space\_id | GUID identifying the application’s space. |
| start | Human-readable timestamp for the time the instance was started. Not provided on Diego Cells. |
| started\_at | Identical to start. Not provided on Diego Cells. |
| started\_at\_timestamp | Unix epoch timestamp for the time the instance was started. Not provided on Diego Cells. |
| state\_timestamp | Identical to started\_at\_timestamp. Not provided on Diego Cells. |
| uris | Identical to application\_uris. You must ensure that both application\_uris and uris are set to the same value. |
| users | Deprecated. Not provided on Diego Cells. |
| version | Identical to application\_version. |

The following example shows how to set the VCAP\_APPLICATION environment variable:

VCAP\_APPLICATION={"instance\_id":"fe98dc76ba549876543210abcd1234",

"instance\_index":0,"host":"0.0.0.0","port":61857,"started\_at":"2013-08-12

00:05:29 +0000","started\_at\_timestamp":1376265929,"start":"2013-08-12 00:05:29

+0000","state\_timestamp":1376265929,"limits":{"mem":512,"disk":1024,"fds":16384}

,"application\_version":"ab12cd34-5678-abcd-0123-abcdef987654","application\_name"

:"styx-james","application\_uris":["my-app.example.com"],"version":"ab1

2cd34-5678-abcd-0123-abcdef987654","name":"my-app","uris":["my-app.example.com"]

,"users":null}

**VCAP\_SERVICES**

For [bindable services](http://docs.pivotal.io/pivotalcf/1-9/devguide/services/), Cloud Foundry adds connection details to the VCAP\_SERVICES environment variable when you restart your application, after binding a service instance to your application.

The results are returned as a JSON document that contains an object for each service for which one or more instances are bound to the application. The service object contains a child object for each service instance of that service that is bound to the application. The attributes that describe a bound service are defined in the table below.

The key for each service in the JSON document is the same as the value of the “label” attribute.

|  |  |
| --- | --- |
| **Attribute** | **Description** |
| name | The name assigned to the service instance by the user |
| label | The name of the service offering |
| tags | An array of strings an app can use to identify a service instance |
| plan | The service plan selected when the service instance was created |
| credentials | A JSON object containing the service-specific credentials needed to access the service instance. |

To see the value of VCAP\_SERVICES for an application pushed to Cloud Foundry, see [View Environment Variable Values](http://docs.pivotal.io/pivotalcf/1-9/devguide/deploy-apps/environment-variable.html#view-env).

The example below shows the value of VCAP\_SERVICES for bound instances of several services available in the [Pivotal Web Services](http://run.pivotal.io/) Marketplace.

VCAP\_SERVICES=

{

"elephantsql": [

{

"name": "elephantsql-c6c60",

"label": "elephantsql",

"tags": [

"postgres",

"postgresql",

"relational"

],

"plan": "turtle",

"credentials": {

"uri": "postgres://exampleuser:examplepass@babar.elephantsql.com:5432/exampleuser"

}

}

],

"sendgrid": [

{

"name": "mysendgrid",

"label": "sendgrid",

"tags": [

"smtp"

],

"plan": "free",

"credentials": {

"hostname": "smtp.sendgrid.net",

"username": "QvsXMbJ3rK",

"password": "HCHMOYluTv"

}

}

]

}

**Environment Variable Groups**

Environment variable groups are system-wide variables that enable operators to apply a group of environment variables to all running applications and all staging applications separately.

An environment variable group consists of a single hash of name-value pairs that are later inserted into an application container at runtime or at staging. These values can contain information such as HTTP proxy information. The values for variables set in an environment variable group are case-sensitive.

When creating environment variable groups, consider the following:

* Only the Cloud Foundry operator can set the hash value for each group.
* All authenticated users can get the environment variables assigned to their application.
* All variable changes take effect after the operator restarts or restages the applications.
* Any user-defined variable takes precedence over environment variables provided by these groups.

The table below lists the commands for environment variable groups.

|  |  |
| --- | --- |
| **CLI Command** | **Description** |
| running-environment-variable-group or revg | Retrieves the contents of the running environment variable group |
| staging-environment-variable-group or sevg | Retrieves the contents of the staging environment variable group |
| set-staging-environment-variable-group or ssevg | Passes parameters as JSON to create a staging environment variable group |
| set-running-environment-variable-group or srevg | Passes parameters as JSON to create a running environment variable group |

The following examples demonstrate how to retrieve the environment variables:

$ cf revg

Retrieving the contents of the running environment variable group as

sampledeveloper@example.com...

OK

Variable Name Assigned Value

HTTP Proxy 198.51.100.130

$ cf sevg

Retrieving the contents of the staging environment variable group as

sampledeveloper@example.com...

OK

Variable Name Assigned Value

HTTP Proxy 203.0.113.105

EXAMPLE-GROUP 2001

$ cf apps

Getting apps in org SAMPLE-ORG-NAME / space dev as

sampledeveloper@example.com...

OK

name requested state instances memory disk urls

my-app started 1/1 256M 1G my-app.com

$ cf env APP-NAME

Getting env variables for app APP-NAME in org SAMPLE-ORG-NAME / space dev as

sampledeveloper@example.com...

OK

System-Provided:

{

"VCAP\_APPLICATION": {

"application\_name": "APP-NAME",

"application\_uris": [

"my-app.example.com"

],

"application\_version": "7d0d64be-7f6f-406a-9d21-504643147d63",

"limits": {

"disk": 1024,

"fds": 16384,

"mem": 256

},

"name": "APP-NAME",

"space\_id": "37189599-2407-9946-865e-8ebd0e2df89a",

"space\_name": "dev",

"uris": [

"my-app.example.com"

],

"users": null,

"version": "7d0d64be-7f6f-406a-9d21-504643147d63"

}

}

Running Environment Variable Groups:

HTTP Proxy: 198.51.100.130

Staging Environment Variable Groups:

EXAMPLE-GROUP: 2001

HTTP Proxy: 203.0.113.105

The following examples demonstrate how to set environment variables:

$ cf ssevg '{"test":"198.51.100.130","test2":"203.0.113.105"}'

Setting the contents of the staging environment variable group as admin...

OK

$ cf sevg

Retrieving the contents of the staging environment variable group as admin...

OK

Variable Name Assigned Value

test 198.51.100.130

test2 203.0.113.105

$ cf srevg '{"test3":"2001","test4":"2010"}'

Setting the contents of the running environment variable group as admin...

OK

$ cf revg

Retrieving the contents of the running environment variable group as admin...

OK

Variable Name Assigned Value

test3 2001

test4 2010