

# REST APIs

## 1. PrivateServer REST APIs

PrivateServer provides some web services in a RESTful way.

### 1.1. REST Request specification

Base request url: [https://server.com/rest/{api\\_version}/](https://server.com/rest/{api_version}/)

Only HTTPS protocol is allowed.

The “api\_version” is a number (integer) that specify the API version used by the client. This document is about Api version 1.

### 1.2. REST Request authentication

REST APIs are available under strict access contro. Users of REST APIs should have REST role (ADMIN role is not required and discouraged).

Administrator should create a specific user/password: this credential are required to authenticate REST requests. PrivateServer use a simplified version of Amazon S3 REST authentication protocol (<http://docs.amazonwebservices.com/AmazonS3/latest/dev/RESTAuthentication.html>).

For every request the REST client must calculate an HMAC-SHA1 of the request body, using the password provided. For example, using a pseudo-code:

```
Signature = Base64( HMAC-SHA1(UTF-8-Encoding-Of(PrivateServer Rest Password, Request body)) );
```

PrivateServer Rest password must be sent with SHA-1 hash, in HEX (lowercase) format, for example “a94a8fe5ccb19ba61c4c0873d391e987982fbbd3” for password “test”

This signature must be placed in an HTTP header named “x-privateserver-auth” with this format:

```
x-privateserver-auth = PrivateServer Rest username : Signature
```

Every request body to sign must include the Date HTTP header, as the first body line.

Request	Request body to sign	HTTP request example	Request body to sign example
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HTTP POST	Date HTTP header + HTTP post request	POST /rest/1/account/ HTTP/1.1  Host: server.com  Date: Tue, 27 Mar 2007 19:42:41 +0000  x-privateserver-auth: <a href="#">restUser:hcicpDDvL9SsO6AkvxqmIWkmOuQ=</a>  owner=Mario Rossi  description=Mario Rossi personal account  phone_number=%2B393334455678  <a href="#">email=mario.rossi@privatewave.com</a>  security_model=s	Tue, 27 Mar 2007 19:42:41 +0000\n  owner=Mario Rossi\n  description=Mario Rossi personal account\n  phone_number=+393334455678\n  <a href="#">email=mario.rossi@privatewave.com</a> \n  security_model=s
HTTP GET with parameters	Date HTTP header + HTTP get parameters, printed out as a list	GET /rest/1/account/?params=1&foo=3 HTTP/1.1  Host: server.com  Date: Tue, 27 Mar 2007 19:42:41 +0000  x-privateserver-auth: <a href="#">restUser:hcicpDDvL9SsO6AkvxqmIWkmOuQ=</a>	Tue, 27 Mar 2007 19:42:41 +0000\n  params=1\n  foo=3
HTTP GET without parameters	Empty string	GET /rest/1/account/ HTTP/1.1  Host: server.com  Date: Tue, 27 Mar 2007 19:42:41 +0000  x-privateserver-auth: <a href="#">restUser:hcicpDDvL9SsO6AkvxqmIWkmOuQ=</a>	Tue, 27 Mar 2007 19:42:41 +0000

### 1.3. Error response format

JSON format of error response

```
{
  "rest_errors":
  [
    {
      "error_code"    : 1,
      "error_message" : "Unable to find user"
    }
    {
      "error_code"    : 5,
      "error_message" : "Invalid email"
    }
  ]
}
```

Error\_code: a numeric error code identifier - for future use

Error\_message: a human-readable error description

### 1.4. Date-Time format

The timestamp that PrivateServer sent to the REST client must have the following format:

"YYYY-MM-DD HH:MM:SS" UTC time

## 2. Web Services

### 2.1. Account creation

HTTP POST {base request}account/create

#### 2.1.1. HTTP POST PARAMETERS

Parameter name	Validation	Min length	Max length	Example
owner	Alphanumerical string with spaces and underscore - hyphen  Regexp : [a-z0-9_- ]*(4,50)	4	50	owner=Mario Rossi
description	Free text	10	100	description=Mario Rossi personal account
phone_number	Phone number in international format, without spaces and brackets. The phone number must start with a "+" followed by international code and by the number.  Regexp : +[0-9]*(8,20)	8	20	phone_number=+393334455678
email	Only valid email (see RFC 2822)	(see RFC 2822)	(see RFC 2822)	<a href="mailto:mario.rossi@privatewave.com">email=mario.rossi@privatewave.com</a>
security_model=s	"security_model" acceptable value: <ul style="list-style-type: none"><li>• "s" - SDES protocol</li><li>• "z" - ZRTP protocol</li><li>• "sz" - Double protocol, SDES have higher priority</li><li>• "zs" - Double protocol, ZRTP have higher priority</li></ul>	1	2	security_model=s

#### 2.1.2. HTTP RESPONSE

- JSON representation of user data
- [MANDATORY] "provisioning\_data" contain the provisioning link token and validity.

HTTP CODE	BODY
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201 CREATED	All ok	<pre>{   "owner"           : "Mario Rossi",   "description"     : "Mario Rossi personal Account",   "phone_number"    : "+393334455678",   "email"           : "mario. rossi@privatewave.com",   "status"          : "enabled",   "security_model"   : "s",   "provisioning_data" :   {     "token"          : "3e29ca992780c",     "creation_time"   : "2012-01-26 18:17:48"     "expiry_time"    : "2012-01-27 18:17:48"   } }</pre>
400 BAD REQUEST	Missing parameter or validation error or account already exists	<pre>{   "rest_errors":   [     {       "error_code"    : 5,       "error_message" : "Invalid email"     }   ] }</pre>
401 UNAUTHORIZED	Bad credential	Empty body
405 METHOD NOT ALLOWED	Not an HTTP POST	Empty body
500 INTERNAL ERROR	Server error	<pre>{   "rest_errors":   [     {       "error_code" : 5,       "error_message" : "Exception..."     }   ] }</pre>

## 2.2. Disable - enable account

HTTP POST {base request}account/status/

### 2.2.1. HTTP POST PARAMETERS

Parameter name	Validation	Min length	Max length	Example
phone_number	Phone number in international format, without spaces and brackets. The phone number must start with a "+" followed by international code and by the number.  Regexp : +[0-9]{8,20}	8	20	phone_number=+393334455678
status	Only "disabled" or "enabled"	N.A.	N.A.	status=disabled
description	Free text	10	100	description=User doesn't work for PrivateWave

## 2.2.2. HTTP RESPONSE

- JSON representation of user data
- [OPTIONAL] "provisioning\_data" contain the provisioning link token and validity, if provisioning link is yet available

HTTP CODE		BODY
200 OK	All ok	<pre>{   "owner"       : "Mario Rossi",   "description" : "Mario Rossi personal Account",   "phone_number" : "+393334455678",   "email"       : "mario.rossi@privatewave.com",   "status"      : "disabled",   "security_model" : "s", }</pre>
400 BAD REQUEST	Missing parameter or validation error	<pre>{   "rest_errors":   [     {       "error_code"    : 1,       "error_message" : "no description data"     }   ] }</pre>
401 UNAUTHORIZED	Bad credential	Empty body
404 NOT FOUND	User not found	Empty body
405 METHOD NOT ALLOWED	Not an HTTP POST	Empty body
500 INTERNAL ERROR	Server error	<pre>{   "rest_errors":   [     {       "error_code"    : 5,       "error_message" : "Exception..."     }   ] }</pre>

## 2.3. Request activation link re-issue

HTTP POST {base request}account/send\_configuration\_link

### 2.3.1. HTTP POST PARAMETERS

Parameter name	Validation	Min length	Max length	Example
phone_number	Phone number in international format, without spaces and brackets. The phone number must start with a "+" followed by international code and by the number.  Regexp : +[0-9]*(8,20)	8	20	phone_number=+393334455678
description	Free text	10	100	description=User doesn't receive activation link

### 2.3.2. HTTP RESPONSE

- JSON representation of user data
- [MANDATORY] "provisioning\_data" contain the new provisioning link token and validity

HTTP CODE		BODY
200 OK	All ok	<pre>{   "owner"           : "Mario Rossi",   "description"      : "Mario Rossi personal Account",   "phone_number"     : "+393334455678",   "email"            : "mario.rossi@privatewave.com",   "status"           : "enabled",   "security_model"   : "s",   "provisioning_data" : {     {       "token"         : "3e29ca992780c",       "creation_time"  : "2012-01-26 18:17:48"       "expiry_time"   : "2012-01-27 18:17:48"     }   } }</pre>
400 BAD REQUEST	Missing parameter or validation error	<pre>{   "rest_errors": [     {       "error_code"    : 1,       "error_message" : "Invalid phone number"     }   ] }</pre>

401 UNAUTHORIZED	Bad credential	Empty body
404 NOT FOUND	User not found	Empty body
405 METHOD NOT ALLOWED	Not an HTTP POST	Empty body
500 INTERNAL ERROR	Server error	<pre>{   "rest_errors":   [     {       "error_code"      : 5,       "error_message"   : "Exception..."     }   ] }</pre>

## 2.4. List users

HTTP GET {base request}account/list

### 2.4.1. HTTP RESPONSE

- JSON representation of user list
- [OPTIONAL] "provisioning\_data" contain the new provisioning link token and validity

HTTP CODE		BODY
200 OK	All ok	<pre>{   "user_list" :   [     {       "owner" : "Mario Rossi",       "description" : "Mario Rossi personal Account",       "phone_number" : "+393334455678",       "email" : "mario.rossi@privatewave.com",       "status" : "enabled",       "security_model" : "s",       "provisioning_data" :       {         "token" : "3e29ca992780c",         "creation_time" : "2012-01-26 18:17:48"         "expiry_time" : "2012-01-27 18:17:48"       }     }     ...   ] }</pre>
401 UNAUTHORIZED	Bad credential	Empty body

405 METHOD NOT ALLOWED	Not an HTTP GET	Empty body
500 INTERNAL ERROR	Server error	<pre>{   "rest_errors":   [     {       "error_code"      : 5,       "error_message"   : "Exception..."     }   ] }</pre>

[Events data SQL views](#)