

Unit Test Documentation

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0.1 Autoload file for the unit tests

```
lib/autoload.php
```

This file contains the code that initialize the unit tests

0.1.1 Importing namespaces

```
use PHPUnit\Framework\Assert;
```

0.1.2 Main autoloader code

This code emulates the index.php by loading all autoload files except the zindex.php, initialize the timer and the random generator

0.2 Unit test helper functions

```
lib/utestlib.php
```

This file contains the functions used by the web and cli unit tests to get the coverage, too contains the pcov and mime helpers.

0.2.1 Importing namespaces

```
use SebastianBergmann\CodeCoverage\Data\RawCodeCoverageData;
```

0.2.2 Test PCOV start helper

```
function test_pcov_start(): void
```

This function puts the flag needed to enable the pcov feature, to do it, the function creates a void file and puts permissions to allow that other procs can write inside of it

0.2.3 Test PCOV stop helper

```
function test_pcov_stop($index): void
```

This function gets the contents of the coverage file and removes it, too, it does all needed things to append the collected coverage to the current unit test coverage instance

- @index => index used to get the backtrace, it depends from where you are calling this function, generally is 2 but in some cases you need to use another value like 1.

0.2.4 Test WEB helper

```
function test_web_helper($rest, $data, $token, $lang)
```

This function performs the action defined by the rest verb sending the data if it is provided and using the token for authentication actions.

As you can see in the code, the function detects if data is provided and send the request using GET or POST, in addition, an application/json content-type header is send when POST is used.

The token is sent using the TOKEN header to be used in the authentication process.

- @rest => The rest request, like update/customers/3
- @data => The data used as json in the SaltOS app
- @token => The token used if authentication is required

0.2.5 Test CLI helper

```
function test_cli_helper($rest, $data, $token, $lang, $user)
```

This function allow to execute SaltOS using the CLI SAPI, to do it, the function detects if data is provided, and executes the command and getting the output of the execution. If data exists, then the contents are stored in a file and passed the contents of the file to the stdin of the php process to emulate the input channel used by the apache server.

As an example, this functions tries to execute the command using the follow formula:

- 1) php index.php \$rest
- 2) cat /tmp/input | php index.php \$rest

In addition, the token field is used to define the TOKEN environment variable that is used by SaltOS as variable to emulate the TOKEN used by the apache for authenticate the SaltOS app.

- @rest => The rest request, like update/customers/3
- @data => The data used as json in the SaltOS app
- @token => The token used if authentication is required

0.2.6 Get Mime helper

```
function get_mime($buffer): string
```

This function returns the content type of the contents of the buffer

- @buffer => the contents that you want to check

0.2.7 External tests

```
function test_external_exec($test_file, $error_file, $error_words): void
```

This function tries to execute external php that triggers special conditions such as errors, that are not allowed from the phpunit tests

- @test_file => the file that must be executed
- @error_file => the file that must contains the error_words
- @error_words => the words that must exists in the error_file

1 Actions

1.1 Test actions

test_actions.php

This test performs some tests to validate the correctness of the actions functions

1.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

1.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

1.1.3 Main class of this unit test

```
final class test_actions extends TestCase
```

1.1.4 actions test

```
public function test_actions(): void
```

This test performs some tests to validate the correctness of the actions functions

2 Add

2.1 Test addlog

test_add.php

This test performs some tests to validate the correctness of the addlog functions

2.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

2.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

2.1.3 Main class of this unit test

```
final class test_add extends TestCase
```

2.1.4 addlog test

```
public function test_addlog(): void
```

This test performs some tests to validate the correctness of the addlog functions

2.1.5 adderror test

```
public function test_adderror(): void
```

This test performs some tests to validate the correctness of the adderror functions

3 Apache

3.1 Test apache

```
test_apache.php
```

This test performs some tests to validate the correctness of the apache configuration

3.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

3.1.2 Main class of this unit test

```
final class test_apache extends TestCase
```

3.1.3 addlog test

```
public function test_apache(): void
```

This test performs some tests to validate the correctness of the apache configuration, the main idea is that the path saltos/code4 of the web server must point to the web directory.

4 Apps

4.1 Test apps

```
test_apps.php
```

This test performs some tests to validate the correctness of the apps functions

4.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

4.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

4.1.3 Main class of this unit test

```
final class test_apps extends TestCase
```

4.1.4 apps test

```
public function test_apps(): void
```

This test performs some tests to validate the correctness of the apps functions

4.1.5 app test

```
public function test_app(): void
```

This test performs some tests to validate the correctness of the app functions

4.1.6 list test

```
public function test_list(): void
```

This test performs some tests to validate the correctness of the list functions

5 Array

5.1 Test array

```
test_array.php
```

This test performs some tests to validate the correctness of the array functions

5.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

5.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

5.1.3 Main class of this unit test

```
final class test_array extends TestCase
```

5.1.4 array test

```
public function test_array(): void
```

This test performs some tests to validate the correctness of the array functions

6 Ascii

6.1 Test ascii

```
test_ascii.php
```

This test performs some tests to validate the correctness of the ascii functions

6.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

6.1.2 Loading helper function

```
require_once 'php/lib/ascii.php';
```

This file contains the needed function used by the unit tests

6.1.3 Main class of this unit test

```
final class test_ascii extends TestCase
```

6.1.4 ascii test

```
public function test_ascii(): void
```

This test performs some tests to validate the correctness of the ascii functions

7 Authupdate

7.1 Test authupdate

```
test_authupdate.php
```

This test performs some tests to validate the correctness of the authupdate functions

7.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

7.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

7.1.3 Main class of this unit test

```
final class test_authupdate extends TestCase
```

7.1.4 authupdate test

```
public function test_authupdate(): void
```

This test performs some tests to validate the correctness of the authupdate functions

8 Cli Customers

8.1 Test cli customers

```
test_cli_customers.php
```

This test performs all actions of the customers app such as: create, insert, list, view, edit, update and delete, using the cli sapi interface

8.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

8.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

8.1.3 Main class of this unit test

```
final class test_cli_customers extends TestCase
```

8.1.4 Authtoken

```
public function test_authtoken(): array
```

This function execute the authtoken rest request, and must to get the json with the valid token to continue in the nexts unit tests

8.1.5 Create

```
public function test_create(array $json): array
```

This function execute the creates rest request, and must to get the json with the layout without data

8.1.6 Insert

```
public function test_insert(array $json): array
```

This function execute the insert rest request, to do it send the json with the data that they want to insert and must to get the json with the status and the create_id.

8.1.7 List

```
public function test_list(array $json): array
```

This function execute the list rest request, to do it send the json with the search that they want to use in the list filter and receives the json with the data used to populate the table.

8.1.8 View

```
public function test_view(array $json): array
```

This function execute the view rest request, intended to retrieve the detail of the app with the layout needed to render it.

8.1.9 Edit

```
public function test_edit(array $json): array
```

This function execute the view rest request, intended to retrieve the detail of the app with the layout needed to render it.

8.1.10 Upgrade

```
public function test_update(array $json): array
```

This function execute the update rest request, to do it send the json with the data that they want to update and must to get the json with the status and the updated_id.

8.1.11 Delete

```
public function test_delete(array $json): void
```

This function execute the delete rest request, they must to get the json with the status and the deleted_id.

9 Cli Invoices

9.1 Test cli invoices

```
test_cli_invoices.php
```

This test performs all actions of the invoices app such as: create, insert, list, view, edit, update and delete, using the cli sapi interface

9.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

9.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

9.1.3 Main class of this unit test

```
final class test_cli_invoices extends TestCase
```

9.1.4 Authtoken

```
public function test_authtoken(): array
```

This function execute the authtoken rest request, and must to get the json with the valid token to continue in the nexts unit tests

9.1.5 Create

```
public function test_create(array $json): array
```

This function execute the creates rest request, and must to get the json with the layout without data

9.1.6 Insert

```
public function test_insert(array $json): array
```

This function execute the insert rest request, to do it send the json with the data that they want to insert and must to get the json with the status and the create_id.

9.1.7 List

```
public function test_list(array $json): array
```

This function execute the list rest request, to do it send the json with the search that they want to use in the list filter and receives the json with the data used to populate the table.

9.1.8 View

```
public function test_view(array $json): array
```

This function execute the view rest request, intended to retrieve the detail of the app with the layout needed to render it.

9.1.9 Edit

```
public function test_edit(array $json): array
```

This function execute the view rest request, intended to retrieve the detail of the app with the layout needed to render it.

9.1.10 Upgrade

```
public function test_update(array $json): array
```

This function execute the update rest request, to do it send the json with the data that they want to update and must to get the json with the status and the updated_id.

9.1.11 Delete

```
public function test_delete(array $json): void
```

This function execute the delete rest request, they must to get the json with the status and the deleted_id.

10 Cli Tokens

10.1 Test cli tokens (first part)

```
test_cli_tokens.php
```

This test performs some part of the actions related with the tokens such as authtoken and checktoken, using the cli sapi interface

10.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

10.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

10.1.3 Main class of this unit test

```
final class test_cli_tokens extends TestCase
```

10.1.4 Authtoken

```
public function test_authtoken(): array
```

This function execute the authtoken rest request, and must to get the json with the valid token to continue in the nexts unit tests

10.1.5 Checktoken

```
public function test_checktoken(array $json): array
```

This function execute the checktoken rest request, and must to get the json with the ok about the valid token that you are trying to check

10.1.6 Deauthtoken

```
public function test_deauthtoken(array $json): array
```

This function execute the deauthtoken rest request, and must to get the json with the ok about the valid token that you are deauthenticate

10.1.7 Checktoken ko

```
public function test_checktoken_ko(array $json): void
```

This function execute the checktoken rest request, and must to get the json with the ko about the invalid token that you are trying to check

11 Color

11.1 Test color

```
test_color.php
```

This test performs some tests to validate the correctness of the color feature

11.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

11.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

11.1.3 Main class of this unit test

```
final class test_color extends TestCase
```

11.1.4 color test

```
public function test_color(): void
```

This test performs some tests to validate the correctness of the color feature

12 Common

12.1 Test common

```
test_common.php
```

This test performs some tests to validate the correctness of the common functions

12.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

12.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

12.1.3 Main class of this unit test

```
final class test_common extends TestCase
```

12.1.4 common test

```
public function test_common(): void
```

This test performs some tests to validate the correctness of the common functions

13 Config

13.1 Test config

```
test_config.php
```

This test performs some tests to validate the correctness of the config functions

13.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

13.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

13.1.3 Main class of this unit test

```
final class test_config extends TestCase
```

13.1.4 config test

```
public function test_config(): void
```

This test performs some tests to validate the correctness of the config functions

14 Control

14.1 Test control

```
test_control.php
```

This test performs some tests to validate the correctness of the control functions

14.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

14.1.2 Loading helper function

```
require_once 'php/lib/control.php';
```

This file contains the needed function used by the unit tests

14.1.3 Main class of this unit test

```
final class test_control extends TestCase
```

14.1.4 control test

```
public function test_control(): void
```

This test performs some tests to validate the correctness of the control functions

15 Cron

15.1 Test cron

```
test_cron.php
```

This test performs some tests to validate the correctness of the cron functions

15.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

15.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

15.1.3 Main class of this unit test

```
final class test_cron extends TestCase
```

15.1.4 Wait cron

```
private function wait_cron(): void
```

This function waits 10 seconds until all cron processes are running

15.1.5 cron

```
public function test_cron(): void
```

This test performs some tests to validate the correctness of the cron functions

16 Customers

16.1 Test customers

```
test_customers.php
```

This test performs some tests to validate the correctness of the customers functions

16.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

16.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

16.1.3 Main class of this unit test

```
final class test_customers extends TestCase
```

16.1.4 customers test

```
public function test_customers(): void
```

This test performs some tests to validate the correctness of the customers functions

17 Database

17.1 Test database drivers

```
test_database.php
```

17.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

17.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

17.1.3 Main class of this unit test

```
final class test_database extends TestCase
```

17.1.4 Helper

```
private function test_helper($obj): void
```

This function executes the follow queries and checks the correctness of the driver by comparing the results with the expected results.

The tests that performs are the follow:

- SELECT GROUP_CONCAT(a) test FROM (SELECT 1 a UNION SELECT 2 a UNION SELECT 3 a) a;
- SELECT REPLACE('abc', 'b', 'c') test
- SELECT LPAD('123', '5', '0') test
- SELECT CONCAT('a', 'b', 'c') test
- SELECT CONCAT_WS(',', 'a', 'b', 'c', null, true, false) test

- `SELECT UNIX_TIMESTAMP('2024-02-01 12:34:56') test`
- `SELECT FROM_UNIXTIME(1706787296) test`
- `SELECT YEAR('2024-02-01 12:34:56') test`
- `SELECT MONTH('2024-02-01 12:34:56') test`
- `SELECT WEEK('2024-02-01 12:34:56', 1) test`
- `SELECT TRUNCATE(1.2345, 2) test`
- `SELECT DAY('2024-02-01 12:34:56') test`
- `SELECT DAYOFYEAR('2024-02-01 12:34:56') test`
- `SELECT DAYOFWEEK('2024-02-01 12:34:56') test`
- `SELECT HOUR('2024-02-01 12:34:56') test`
- `SELECT MINUTE('2024-02-01 12:34:56') test`
- `SELECT SECOND('2024-02-01 12:34:56') test`
- `SELECT MD5('fortuna') test`
- `SELECT REPEAT('abc',3) test`
- `SELECT FIND_IN_SET(3,'1,2,3,4,5') test`
- `SELECT FIND_IN_SET(6,'1,2,3,4,5') test`
- `SELECT FIND_IN_SET(3,'12345') test`
- `SELECT IF(true, 'ok', 'ko') test`
- `SELECT IF(false, 'ok', 'ko') test`
- `SELECT IF(null, 'ok', 'ko') test`
- `SELECT POW(2, 8) test`
- `SELECT DATE_FORMAT('2024-02-01 12:34:56', '%Y-%m-%d %H:%i:%s') test`
- `SELECT NOW() test`

17.1.5 PDO MySQL driver

```
public function test_pdo_mysql(): void
```

This function checks the correctness of the sqlite3 driver by creating a database connection, sending queries validating the expected results and closing the connection.

17.1.6 MySQL improved driver

```
public function test_mysql(): void
```

This function checks the correctness of the sqlite3 driver by creating a database connection, sending queries validating the expected results and closing the connection.

17.1.7 PDO SQLite driver

```
public function test_pdo_sqlite(): void
```

This function checks the correctness of the sqlite3 driver by creating a database connection, sending queries validating the expected results and closing the connection.

17.1.8 SQLite3 driver

```
public function test_sqlite3(): void
```

This function checks the correctness of the sqlite3 driver by creating a database connection, sending queries validating the expected results and closing the connection.

17.1.9 PDO mssql driver

```
private function test_pdo_mssql(): void
```

This function checks the correctness of the sqlserver driver by creating a database connection, sending queries validating the expected results and closing the connection.

17.1.10 Database driver

```
public function test_database(): void
```

This function checks the correctness of the database driver by creating a database connection, sending queries validating the expected results and closing the connection.

18 Datetime

18.1 Test datetime

```
test_datetime.php
```

This test performs some tests to validate the correctness of the datetime functions

18.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

18.1.2 Main class of this unit test

```
final class test_datetime extends TestCase
```

18.1.3 datetime test

```
public function test_datetime(): void
```

This test performs some tests to validate the correctness of the datetime functions

19 Dbschema

19.1 Test dbschema

```
test_dbschema.php
```

This test performs some tests to validate the correctness of the dbschema functions

19.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

19.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

19.1.3 Main class of this unit test

```
final class test_dbschema extends TestCase
```

19.1.4 dbschema test

```
public function test_dbschema(): void
```

This test performs some tests to validate the correctness of the dbschema functions

19.1.5 sql test

```
public function test_sql(): void
```

This test performs some tests to validate the correctness of the sql functions

20 Emails

20.1 Test emails

```
test_emails.php
```

This test performs some tests to validate the correctness of the emails functions

20.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

20.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

20.1.3 Main class of this unit test

```
final class test_emails extends TestCase
```

20.1.4 emails test

```
public function test_emails(): void
```

This test performs some tests to validate the correctness of the emails functions

21 Error

21.1 Test error

```
test_error.php
```

This test performs some tests to validate the correctness of the error functions

21.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

21.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

21.1.3 Main class of this unit test

```
final class test_error extends TestCase
```

21.1.4 error function test

```
public function test_error(): void
```

This test performs some tests to validate the correctness of the error functions

22 Exec

22.1 Test exec

```
test_exec.php
```

This test performs some tests to validate the correctness of the exec functions

22.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

22.1.2 Main class of this unit test

```
final class test_exec extends TestCase
```

22.1.3 exec test

```
public function test_exec(): void
```

This test performs some tests to validate the correctness of the exec functions

23 Export

23.1 Test export

```
test_export.php
```

This test performs some tests to validate the correctness of the export functions

23.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

23.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

23.1.3 Main class of this unit test

```
final class test_export extends TestCase
```

23.1.4 Get data

```
private function get_data($nohead, $length): array
```

This function tries to create an array with rows using the numbers.csv file as source, it is able to add or remove the head row and to select the size of the result array of rows

- @nohead => the nohead field used in the import_file function
- @length => the size of the rows array

23.1.5 export xml test

```
public function test_export_xml(): void
```

This test performs some tests to validate the correctness of the export functions

23.1.6 export csv test

```
public function test_export_csv(): void
```

This test performs some tests to validate the correctness of the export functions

23.1.7 export xlsx test

```
public function test_export_xlsx(): void
```

This test performs some tests to validate the correctness of the export functions

23.1.8 export xls test

```
public function test_export_xls(): void
```

This test performs some tests to validate the correctness of the export functions

23.1.9 export ods test

```
public function test_export_ods(): void
```

This test performs some tests to validate the correctness of the export functions

23.1.10 //~ * export bytes test

```
//~ public function test_export_bytes(): void
```

//~ * This test performs some tests to validate the correctness //~ * of the export functions

23.1.11 export edi test

```
public function test_export_edi(): void
```

This test performs some tests to validate the correctness of the export functions

23.1.12 export json test

```
public function test_export_json(): void
```

This test performs some tests to validate the correctness of the export functions

23.1.13 tree2array test

```
public function test_export_tree2array(): void
```

This test performs some tests to validate the correctness of the tree2array function

23.1.14 getkeys test

```
public function test_export_getkeys(): void
```

This test performs some tests to validate the correctness of the getkeys function

23.1.15 external exec

```
public function test_export_external(): void
```

This test performs some tests to validate the correctness of the external exec

24 File

24.1 Test file

```
test_file.php
```

This test performs some tests to validate the correctness of the file functions

24.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

24.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

24.1.3 Main class of this unit test

```
final class test_file extends TestCase
```

24.1.4 file test

```
public function test_file(): void
```

This test performs some tests to validate the correctness of the file functions

24.1.5 Authtoken

```
public function test_authtoken(): array
```

This function execute the authtoken rest request, and must to get the json with the valid token to continue in the nexts unit tests

24.1.6 Addfiles

```
public function test_addfiles(array $json): array
```

This function execute the addfiles rest request, and must to get the json with the correct data

24.1.7 Delfiles

```
public function test_delfiles(array $json): void
```

This function execute the delfiles rest request, and must to get the json with the correct data

25 Files

25.1 Test files

```
test_files.php
```

This test performs some tests to validate the correctness of the files feature

25.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

25.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

25.1.3 Main class of this unit test

```
final class test_files extends TestCase
```

25.1.4 files test

```
public function test_files(): void
```

This test performs some tests to validate the correctness of the files feature

26 Gc

26.1 Test gc

```
test_gc.php
```

This test performs some tests to validate the correctness of the gc functions

26.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

26.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

26.1.3 Main class of this unit test

```
final class test_gc extends TestCase
```

26.1.4 gc exec

```
public function test_gc_exec(): void
```

This test performs some tests to validate the correctness of the gc functions

26.1.5 gc upload

```
public function test_gc_upload(): void
```

This test performs some tests to validate the correctness of the gc functions

27 Gdlib

27.1 Test gdlib

```
test_gdlib.php
```

This test performs some tests to validate the correctness of the gdlib feature

27.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

27.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

27.1.3 Main class of this unit test

```
final class test_gdlib extends TestCase
```

27.1.4 gdlib test

```
public function test_gdlib(): void
```

This test performs some tests to validate the correctness of the gdlib feature

28 Getdata

28.1 Test getdata

```
test_getdata.php
```

This test performs some tests to validate the correctness of the getdata functions

28.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

28.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

28.1.3 Main class of this unit test

```
final class test_getdata extends TestCase
```

28.1.4 getdata test

```
public function test_getdata(): void
```

This test performs some tests to validate the correctness of the getdata functions

29 Gettext

29.1 Test gettext

```
test_gettext.php
```

This test performs some tests to validate the correctness of the gettext functions

29.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

29.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

29.1.3 Main class of this unit test

```
final class test_gettext extends TestCase
```

29.1.4 gettext test

```
public function test_gettext(): void
```

This test performs some tests to validate the correctness of the gettext functions

30 Help

30.1 Test help

```
test_help.php
```

This test performs some tests to validate the correctness of the help functions

30.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

30.1.2 Loading helper function

```
require_once 'php/lib/help.php';
```

This file contains the needed function used by the unit tests

30.1.3 Main class of this unit test

```
final class test_help extends TestCase
```

30.1.4 help test

```
public function test_help(): void
```

This test performs some tests to validate the correctness of the help functions

31 Html

31.1 Test html

```
test_html.php
```

This test performs some tests to validate the correctness of the html functions

31.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

31.1.2 Loading helper function

```
require_once 'php/lib/html.php';
```

This file contains the needed function used by the unit tests

31.1.3 Main class of this unit test

```
final class test_html extends TestCase
```

31.1.4 html test

```
public function test_html(): void
```

This test performs some tests to validate the correctness of the html functions

32 Ids

32.1 Test IDs

```
test_ids.php
```

This test performs some tests to validate the correctness of the check_ids feature

32.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

32.1.2 Main class of this unit test

```
final class test_ids extends TestCase
```

32.1.3 IDs test

```
public function test_ids(): void
```

This test performs some tests to validate the correctness of the check_ids feature

33 Image

33.1 Test image

```
test_image.php
```

This test performs some tests to validate the correctness of the barcode, qrcode, captcha and score features

33.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

33.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

33.1.3 Main class of this unit test

```
final class test_image extends TestCase
```

33.1.4 barcode test

```
public function test_barcode(): void
```

This test performs some tests to validate the correctness of the barcode feature

33.1.5 qrcode test

```
public function test_qrcode(): void
```

This test performs some tests to validate the correctness of the qrcode feature

33.1.6 captcha test

```
public function test_captcha(): void
```

This test performs some tests to validate the correctness of the captcha feature

33.1.7 score test

```
public function test_score(): void
```

This test performs some tests to validate the correctness of the score feature

34 Import

34.1 Test import

```
test_import.php
```

This test performs some tests to validate the correctness of the import functions

34.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

34.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

34.1.3 Main class of this unit test

```
final class test_import extends TestCase
```

34.1.4 import xml test

```
public function test_import_xml(): void
```

This test performs some tests to validate the correctness of the import functions

34.1.5 import csv test

```
public function test_import_csv(): void
```

This test performs some tests to validate the correctness of the import functions

34.1.6 import xlsx test

```
public function test_import_xlsx(): void
```

This test performs some tests to validate the correctness of the import functions

34.1.7 import xls test

```
public function test_import_xls(): void
```

This test performs some tests to validate the correctness of the import functions

34.1.8 import ods test

```
public function test_import_ods(): void
```

This test performs some tests to validate the correctness of the import functions

34.1.9 import bytes test

```
public function test_import_bytes(): void
```

This test performs some tests to validate the correctness of the import functions

34.1.10 import edi test

```
public function test_import_edi(): void
```

This test performs some tests to validate the correctness of the import functions

34.1.11 import json test

```
public function test_import_json(): void
```

This test performs some tests to validate the correctness of the import functions

34.1.12 import helper test

```
public function test_import_helper(): void
```

This test performs some tests to validate the correctness of the import functions

34.1.13 external exec

```
public function test_import_external(): void
```

This test performs some tests to validate the correctness of the external exec

35 Indexing

35.1 Test indexing

```
test_indexing.php
```

This test performs some tests to validate the correctness of the indexing functions

35.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

35.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

35.1.3 Main class of this unit test

```
final class test_indexing extends TestCase
```

35.1.4 indexing test

```
public function test_indexing(): void
```

This test performs some tests to validate the correctness of the indexing functions

36 Iniset

36.1 Test iniset

```
test_iniset.php
```

This test performs some tests to validate the correctness of the iniset functions

36.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

36.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

36.1.3 Main class of this unit test

```
final class test_iniset extends TestCase
```

36.1.4 iniset test

```
public function test_iniset(): void
```

This test performs some tests to validate the correctness of the iniset functions

37 Invoices

37.1 Test invoices

```
test_invoices.php
```

This test performs some tests to validate the correctness of the invoices functions

37.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

37.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

37.1.3 Main class of this unit test

```
final class test_invoices extends TestCase
```

37.1.4 invoices test

```
public function test_invoices(): void
```

This test performs some tests to validate the correctness of the invoices functions

38 Log

38.1 Test log

```
test_log.php
```

This test performs some tests to validate the correctness of the log functions

38.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

38.1.2 Main class of this unit test

```
final class test_log extends TestCase
```

38.1.3 log test

```
public function test_log(): void
```

This test performs some tests to validate the correctness of the log functions

39 Math

39.1 Test math

```
test_math.php
```

This test performs some tests to validate the correctness of the math functions

39.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

39.1.2 Loading helper function

```
require_once 'php/lib/math.php';
```

This file contains the needed function used by the unit tests

39.1.3 Main class of this unit test

```
final class test_math extends TestCase
```

39.1.4 math test

```
public function test_math(): void
```

This test performs some tests to validate the correctness of the math functions

40 Memory

40.1 Test memory

```
test_memory.php
```

This test performs some tests to validate the correctness of the memory functions

40.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

40.1.2 Main class of this unit test

```
final class test_memory extends TestCase
```

40.1.3 memory test

```
public function test_memory(): void
```

This test performs some tests to validate the correctness of the memory functions

41 Mime

41.1 Test mime

```
test_mime.php
```

This test performs some tests to validate the correctness of the mime functions

41.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

41.1.2 Loading helper function

```
require_once 'php/lib/html.php';
```

This file contains the needed function used by the unit tests

41.1.3 Main class of this unit test

```
final class test_mime extends TestCase
```

41.1.4 mime test

```
public function test_mime(): void
```

This test performs some tests to validate the correctness of the mime functions

42 Output

42.1 Test output

```
test_output.php
```

This test performs some tests to validate the correctness of the output functions

42.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

42.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

42.1.3 Main class of this unit test

```
final class test_output extends TestCase
```

42.1.4 output test

```
public function test_output(): void
```

This test performs some tests to validate the correctness of the output functions

42.1.5 colorize test

```
public function test_colorize(): void
```

This test performs some tests to validate the correctness of the colorize functions

43 Password

43.1 Test password

```
test_password.php
```

This test performs some tests to validate the correctness of the password functions

43.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

43.1.2 Loading helper function

```
require_once 'php/lib/password.php';
```

This file contains the needed function used by the unit tests

43.1.3 Main class of this unit test

```
final class test_password extends TestCase
```

43.1.4 password test

```
public function test_password(): void
```

This test performs some tests to validate the correctness of the password functions

44 Pdf

44.1 Test pdf

```
test_pdf.php
```

This test performs some tests to validate the correctness of the pdf functions

44.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

44.1.2 Loading helper function

```
require_once 'php/lib/pdf.php';
```

This file contains the needed function used by the unit tests

44.1.3 Main class of this unit test

```
final class test_pdf extends TestCase
```

44.1.4 pdf test

```
public function test_pdf(): void
```

This test performs some tests to validate the correctness of the pdf functions

45 Perms

45.1 Test perms

```
test_perms.php
```

This test performs some tests to validate the correctness of the perms functions

45.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

45.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

45.1.3 Main class of this unit test

```
final class test_perms extends TestCase
```

45.1.4 Authtoken

```
public function test_authtoken(): array
```

This function execute the authtoken rest request, and must to get the json with the valid token to continue in the nexts unit tests

45.1.5 perms test

```
public function test_perms(array $json): void
```

This test performs some tests to validate the correctness of the perms functions

46 Ping

46.1 Test ping

```
test_ping.php
```

This test performs some tests to validate the correctness of the ping functions

46.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

46.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

46.1.3 Main class of this unit test

```
final class test_ping extends TestCase
```

46.1.4 ping test

```
public function test_ping(): void
```

This test performs some tests to validate the correctness of the ping functions

47 Push

47.1 Test push

```
test_push.php
```

This test performs some tests to validate the correctness of the push functions

47.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

47.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

47.1.3 Main class of this unit test

```
final class test_push extends TestCase
```

47.1.4 push

```
public function test_push(): void
```

This test performs some tests to validate the correctness of the push functions

48 Random

48.1 Test random

```
test_random.php
```

This test performs some tests to validate the correctness of the random functions

48.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

48.1.2 Main class of this unit test

```
final class test_random extends TestCase
```

48.1.3 random test

```
public function test_random(): void
```

This test performs some tests to validate the correctness of the random functions

49 Roundcube

49.1 Test roundcube library

```
test_roundcube.php
```

49.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

49.1.2 Main class of this unit test

```
final class test_roundcube extends TestCase
```

49.1.3 html2text

```
public function test_html2text(): void
```

This function checks the correctness of the html2text method provided by the roundcube library.

50 Semaphore

50.1 Test semaphore

```
test_semaphore.php
```

This test performs some tests to validate the correctness of the semaphore functions

50.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

50.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

50.1.3 Main class of this unit test

```
final class test_semaphore extends TestCase
```

50.1.4 semaphore test

```
public function test_semaphore(): void
```

This test performs some tests to validate the correctness of the semaphore functions

51 Server

51.1 Test server

```
test_server.php
```

This test performs some tests to validate the correctness of the server functions

51.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

51.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

51.1.3 Main class of this unit test

```
final class test_server extends TestCase
```

51.1.4 server test

```
public function test_server(): void
```

This test performs some tests to validate the correctness of the server functions

52 Sql

52.1 Test sql

```
test_sql.php
```

This test performs some tests to validate the correctness of the sql functions

52.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

52.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

52.1.3 Main class of this unit test

```
final class test_sql extends TestCase
```

52.1.4 SQL test

```
public function test_sql(): void
```

This function performs some tests to validate the correctness of the sql functions

53 Strings

53.1 Test strings

```
test_strings.php
```

This test performs some tests to validate the correctness of the strings functions

53.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

53.1.2 Main class of this unit test

```
final class test_strings extends TestCase
```

53.1.3 strings test

```
public function test_strings(): void
```

This test performs some tests to validate the correctness of the strings functions

54 Strtr

54.1 Test mime

```
test_strtr.php
```

This test performs some tests to validate the correctness of the `str_replace_assoc` instead of the `strtr` function

54.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

54.1.2 Main class of this unit test

```
final class test_strtr extends TestCase
```

54.1.3 strtr test

```
public function test_strtr(): void
```

This test performs some tests to validate the correctness of the `str_replace_assoc` instead of the `strtr` function

55 System

55.1 Test system

```
test_system.php
```

This test performs some tests to validate the correctness of the system functions

55.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

55.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

55.1.3 Main class of this unit test

```
final class test_system extends TestCase
```

55.1.4 system test

```
public function test_system(): void
```

This test performs some tests to validate the correctness of the system functions

56 Tokens

56.1 Test tokens

```
test_tokens.php
```

This test performs some tests to validate the correctness of the token generator and the token format checker

56.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

56.1.2 Main class of this unit test

```
final class test_tokens extends TestCase
```

56.1.3 Tokens test

```
public function test_tokens(): void
```

This function performs some tests to validate the correctness of the token generator and the token format checker

57 Unoconv

57.1 Test unoconv

```
test_unoconv.php
```

This test performs some tests to validate the correctness of the unoconv functions

57.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

57.1.2 Loading helper function

```
require_once 'php/lib/unoconv.php';
```

This file contains the needed function used by the unit tests

57.1.3 Main class of this unit test

```
final class test_unoconv extends TestCase
```

57.1.4 Pdf test helper

```
private function test_pdf($input): void
```

This function tries to do the test with unoconv2pdf, checks that the input not exists and the output exists to validate the correctness of the function

- @input => the input file to use in the test

57.1.5 Txt test helper

```
private function test_txt($input): void
```

This function tries to do the test with unoconv2txt, checks that the input not exists and the output exists to validate the correctness of the function

- @input => the input file to use in the test

57.1.6 unoconv test

```
public function test_unoconv(): void
```

This test performs some tests to validate the correctness of the unoconv functions

57.1.7 ocr test

```
public function test_ocr(): void
```

This test performs some tests to validate the correctness of the ocr functions

57.1.8 commands test

```
public function test_commands(): void
```

This test performs some tests to validate the correctness of the commands functions

58 User

58.1 Test users

```
test_user.php
```

This test performs some tests to validate the correctness of the users functions

58.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

58.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

58.1.3 Main class of this unit test

```
final class test_user extends TestCase
```

58.1.4 Authtoken

```
public function test_authtoken(): array
```

This function execute the authtoken rest request, and must to get the json with the valid token to continue in the nexts unit tests

58.1.5 users test

```
public function test_user(array $json): void
```

This test performs some tests to validate the correctness of the users functions

59 Users

59.1 Test users

```
test_users.php
```

This test performs some tests to validate the correctness of the users functions

59.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

59.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

59.1.3 Main class of this unit test

```
final class test_users extends TestCase
```

59.1.4 days test

```
public function test_days(): void
```

This test performs some tests to validate the correctness of the days functions

59.1.5 users test

```
public function test_users(): void
```

This test performs some tests to validate the correctness of the users functions

59.1.6 groups test

```
public function test_groups(): void
```

This test performs some tests to validate the correctness of the groups functions

60 Version

60.1 Test version

```
test_version.php
```

This test performs some tests to validate the correctness of the version related functions

60.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

60.1.2 Main class of this unit test

```
final class test_version extends TestCase
```

60.1.3 version test

```
public function test_version(): void
```

This function performs some tests to validate the correctness of the version related functions

61 Web Customers

61.1 Test web customers

```
test_web_customers.php
```

This test performs all actions of the customers app such as: create, insert, list, view, edit, update and delete, using the apache sapi interface

61.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

61.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

61.1.3 Main class of this unit test

```
final class test_web_customers extends TestCase
```

61.1.4 Authtoken

```
public function test_authtoken(): array
```

This function execute the authtoken rest request, and must to get the json with the valid token to continue in the nexts unit tests

61.1.5 Create

```
public function test_create(array $json): array
```

This function execute the creates rest request, and must to get the json with the layout without data

61.1.6 Insert

```
public function test_insert(array $json): array
```

This function execute the insert rest request, to do it send the json with the data that they want to insert and must to get the json with the status and the create_id.

61.1.7 List

```
public function test_list(array $json): array
```

This function execute the list rest request, to do it send the json with the search that they want to use in the list filter and receives the json with the data used to populate the table.

61.1.8 View

```
public function test_view(array $json): array
```

This function execute the view rest request, intended to retrieve the detail of the app with the layout needed to render it.

61.1.9 Edit

```
public function test_edit(array $json): array
```

This function execute the view rest request, intended to retrieve the detail of the app with the layout needed to render it.

61.1.10 Upgrade

```
public function test_update(array $json): array
```

This function execute the update rest request, to do it send the json with the data that they want to update and must to get the json with the status and the updated.id.

61.1.11 Delete

```
public function test_delete(array $json): void
```

This function execute the delete rest request, they must to get the json with the status and the deleted.id.

62 Web Invoices

62.1 Test web invoices

```
test_web_invoices.php
```

This test performs all actions of the invoices app such as: create, insert, list, view, edit, update and delete, using the apache sapi interface

62.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

62.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

62.1.3 Main class of this unit test

```
final class test_web_invoices extends TestCase
```

62.1.4 Authtoken

```
public function test_authtoken(): array
```

This function execute the authtoken rest request, and must to get the json with the valid token to continue in the nexts unit tests

62.1.5 Create

```
public function test_create(array $json): array
```

This function execute the creates rest request, and must to get the json with the layout without data

62.1.6 Insert

```
public function test_insert(array $json): array
```

This function execute the insert rest request, to do it send the json with the data that they want to insert and must to get the json with the status and the create_id.

62.1.7 List

```
public function test_list(array $json): array
```

This function execute the list rest request, to do it send the json with the search that they want to use in the list filter and receives the json with the data used to populate the table.

62.1.8 View

```
public function test_view(array $json): array
```

This function execute the view rest request, intended to retrieve the detail of the app with the layout needed to render it.

62.1.9 Edit

```
public function test_edit(array $json): array
```

This function execute the view rest request, intended to retrieve the detail of the app with the layout needed to render it.

62.1.10 Upgrade

```
public function test_update(array $json): array
```

This function execute the update rest request, to do it send the json with the data that they want to update and must to get the json with the status and the updated_id.

62.1.11 Delete

```
public function test_delete(array $json): void
```

This function execute the delete rest request, they must to get the json with the status and the deleted_id.

63 Web Tokens

63.1 Test web tokens (first part)

```
test_web_tokens.php
```

This test performs some part of the actions related with the tokens such as authtoken and checktoken, using the apache sapi interface

63.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

63.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

63.1.3 Main class of this unit test

```
final class test_web_tokens extends TestCase
```

63.1.4 Authtoken

```
public function test_authtoken(): array
```

This function execute the authtoken rest request, and must to get the json with the valid token to continue in the next unit tests

63.1.5 Checktoken

```
public function test_checktoken(array $json): array
```

This function execute the checktoken rest request, and must to get the json with the ok about the valid token that you are trying to check

63.1.6 Deauthtoken

```
public function test_deauthtoken(array $json): array
```

This function execute the deauthtoken rest request, and must to get the json with the ok about the valid token that you are deauthenticate

63.1.7 Checktoken ko

```
public function test_checktoken_ko(array $json): void
```

This function execute the checktoken rest request, and must to get the json with the ko about the invalid token that you are trying to check

64 Xml

64.1 Test XML

```
test_xml.php
```

This test performs some tests to validate the correctness of the xml related functions

64.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

64.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

64.1.3 Main class of this unit test

```
final class test_xml extends TestCase
```

64.1.4 XML test

```
public function test_xml(): void
```

This function performs some tests to validate the correctness of the xml related functions

65 Zindex

65.1 Test zindex

```
test_zindex.php
```

This test performs some tests to validate the correctness of the zindex functions

65.1.1 Importing namespaces

```
use PHPUnit\Framework\TestCase;
```

65.1.2 Loading helper function

```
require_once 'lib/utestlib.php';
```

This file contains the needed function used by the unit tests

65.1.3 Main class of this unit test

```
final class test_zindex extends TestCase
```

65.1.4 zindex test

```
public function test_zindex(): void
```

This test performs some tests to validate the correctness of the zindex functions