

Keeping track of Silverstripe

Trying to reduce the headache of managing multiple
Silverstripe installations

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github.com/DorsetDigital

Community Forum
Slack

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github.com/BiffBangPow
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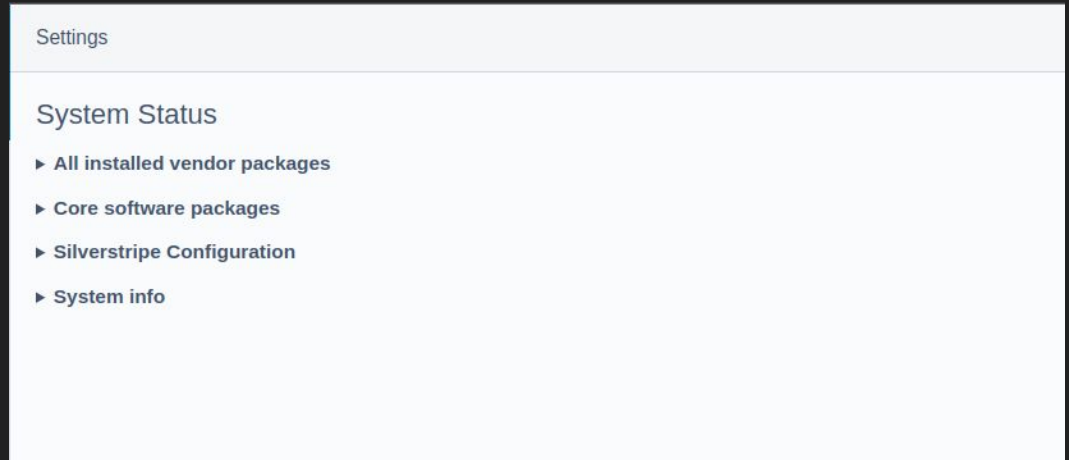
So, what's the problem?

What version is that site running?

- Version upgrade frequency
- Differing levels of support contract
- Variety of packages
- Clients

Basic module requirements

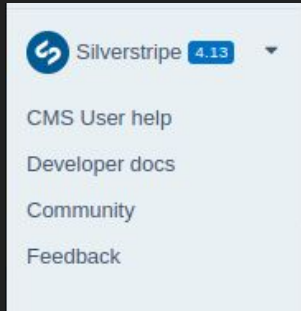
- Displays information in the CMS
- Useful blocks of data
- Simple, modular code



<https://github.com/BiffBangPow/silverstripe-monitoring-client>

What do we want to know, and what can we discover?

VersionProvider class to the rescue!



```
1 <?php
2
3 namespace SilverStripe\Core\Manifest;
4
5 > use ...
6
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```

```
Load composer.lock's contents and return it
Parameters: bool $cache
Returns: array

protected function getComposerLock($cache = true)
{
    $composerLockPath = $this->getComposerLockPath();
    if (ifile_exists( filename: $composerLockPath ?? '' )) {
        return [];
    }

    $lockData = [];
    $jsonData = file_get_contents( filename: $composerLockPath ?? '' );

    if ($cache) {
        $cache = Injector::inst()->get( name: CacheInterface::class . '.VersionProvider_composerLock' );
        $cacheKey = md5( string: $jsonData ?? '' );
        if ($versions = $cache->get($cacheKey)) {
            $lockData = json_decode( json: $versions ?? '', associative: true );
        }
    }

    if (empty($lockData) && $jsonData) {
        $lockData = json_decode( json: $jsonData ?? '', associative: true );
    }

    if ($cache) {
        $cache->set($cacheKey, $jsonData );
    }

    return $lockData;
}
```

Building the module - common functionality

```
1 <?php
2
3 namespace BiffBangPow\SSMonitor\Client\Core;
4
5 interface ClientInterface
6 {
7     public function getResult();
8
9     public function getClientName();
10
11     public function getClientTitle();
12
13     public function forTemplate();
14 }
15
```

```
1 <?php
2
3 namespace BiffBangPow\SSMonitor\Client\Core;
4
5 trait ClientCommon
6 {
7
8     Get the client name/identifier for this client module
9     Returns: string
10    Throws: Exception
11
12    public function getClientName(): string
13    {
14        if ($this->clientName == '') {
15            throw new \Exception( message: "No client name defined for monitoring client");
16        }
17        return $this->clientName;
18    }
19
20    Get the friendly name for this client module
21    Returns: string
22    Throws: Exception
23
24    public function getClientTitle(): string
25    {
26        if ($this->config()->get( name: 'client_title') {
27            return $this->config()->get( name: 'client_title');
28        }
29        return $this->getClientName();
30    }
31
32 }
33
34
35
```

Core package versions

```
15 class CorePackageVersions implements ClientInterface
16 {
17     use ClientCommon;
18     use Configurable;
19
20     private string $clientName = 'corepackages';
21
22     private static $client_title = 'Core software packages';
23
24     private static $included_modules;
25
26     public function getResult()
27     {
28         $modules = $this->config()->get( name: 'included_modules');
29
30         VersionProvider $versionProvider
31
32         $versionProvider = Injector::inst()->create( name: VersionProvider::class);
33         $packages = $versionProvider->getModuleVersionFromComposer($modules);
34
35         return [
36             $this->getClientName() => $packages
37         ];
38     }
39
40 }
41
```

```
8
9 BiffBangPow\SSMonitor\Client\Module\CorePackageVersions:
10     included_modules:
11         - 'silverstripe/framework'
12         - 'silverstripe/cms'
13         - 'dnadesign/silverstripe-elemental'
14         - 'biffbangpow/silverstripe-monitoring-client'
15
```

▼ Core software packages

PACKAGE	VERSION
biffbangpow/silverstripe-monitoring-client	v1.0.3-beta
dnadesign/silverstripe-elemental	4.11.4
silverstripe/cms	4.13.5
silverstripe/framework	4.13.25

All package versions

```
14 class AllPackageVersions implements ClientInterface
15 {
16
17     use ClientCommon;
18     use Configurable;
19
20     |
21     string
22     Config
23
24     private static $Client_title = 'All installed vendor packages';
25
26     |
27     string
28
29     private string $ClientName = 'allpackages';
30
31     public function getResult()
32     {
33         $packages = [];
34
35         |
36         VersionProvider $versionProvider
37
38         $ref = new \ReflectionClass( objectOrClass: VersionProvider::class);
39         $refMethod = $ref->getMethod( name: 'getComposerLock');
40         $refMethod->setAccessible( accessible: true);
41
42         $lockContents = $refMethod->invoke(new VersionProvider());
43
44         if (isset($lockContents['packages'])) {
45             foreach ($lockContents['packages'] as $package) {
46                 $packageName = $package['name'];
47                 $version = $package['version'];
48                 $packages[$packageName] = $version;
49             }
50         }
51
52         return [
53             $this->getClientName() => $packages
54         ];
55     }
56 }
```

▼ All installed vendor packages

PACKAGE	VERSION
asynctphp/doorman	3.2.0
aws/aws-crt-php	v1.2.1
aws/aws-sdk-php	3.276.2
biffbangpow/silverstripe-monitoring-client	v1.0.1-beta
biffbangpow/silverstripe-webp-detection	v1.0.1
bramus/ansi-php	3.1
bramus/monolog-colored-line-formatter	2.0.3
bummzack/sortablefile	2.2.0
composer/ca-bundle	1.3.6
composer/installers	v1.12.0
composer/semver	3.3.2
doctrine/deprecations	v1.1.1
doctrine/lexer	2.1.0
dorsetdigital/silverstripe-enhanced-requirements	v1.2.0
egullias/email-validator	3.2.6
embed/embed	v4.4.8
guzzlehttp/guzzle	7.7.0
guzzlehttp/promises	1.5.3
guzzlehttp/psr7	2.5.0
intervention/image	2.7.2

<https://github.com/BiffBangPow/silverstripe-monitoring-client>

Silverstripe configuration

```
15 class SSConfiguration implements ClientInterface
16 {
17     use ClientCommon;
18     use Configurable;
19
20     string
21
22     private string $clientName = 'silverstripeconfig';
23
24     string
25     Config
26
27     private static $client_title = 'Silverstripe Configuration';
28
29
30
31
32 public function getResult($config = null)
33 {
34     $admin_user = Environment::getEnv( name: 'SS_DEFAULT_ADMIN_USERNAME');
35     $admin_pass = Environment::getEnv( name: 'SS_DEFAULT_ADMIN_PASSWORD');
36
37     $res = [
38         'sitename' => [
39             'label' => _t( entity: __CLASS__ . '.sitename', arg: 'Site Name'),
40             'value' => SiteConfig::current_site_config()->Title
41         ],
42         'envtype' => [
43             'label' => _t( entity: __CLASS__ . '.envtype', arg: 'Environment Type'),
44             'value' => Environment::getEnv( name: 'SS_ENVIRONMENT_TYPE')
45         ],
46         'baseurl' => [
47             'label' => _t( entity: __CLASS__ . '.baseurl', arg: 'Base URL'),
48             'value' => Director::absoluteBaseURL()
49         ],
50         'defaultadmin' => [
51             'label' => _t( entity: __CLASS__ . '.defaultadmin', arg: 'Default admin set'),
52             'value' => ($admin_pass || $admin_user)
53         ]
54     ];
55
56     return [
```

▼ Silverstripe Configuration

VARIABLE	VALUE
Site Name	example.com
Environment Type	live
Base URL	http://192.168.0.2:47465/
Default admin set	Yes

<https://github.com/BiffBangPow/silverstripe-monitoring-client>

System configuration

```
46 $conn = DB::get_conn();
47 // Assumes database class is like "MySQLDatabase" or "MSQLDatabase" (eg. suffixed with "Database")
48 $dbType = substr(strrchr(get_class($conn), 'needle: '\\'), 'offset: 1, length: -8);
49 $dbVersion = $conn->getVersion();
50 $databaseName = $conn->getSelectedDatabase();
51
52 $info = [
53     'php' => [
54         'label' => _t( entity: __CLASS__ . '.phpversion', arg: 'PHP version'),
55         'value' => phpversion()
56     ],
57     'hostip' => [
58         'label' => _t( entity: __CLASS__ . '.hostip', arg: 'IP address'),
59         'value' => $_SERVER['SERVER_ADDR']
60     ],
61     'memorylimit' => [
62         'label' => _t( entity: __CLASS__ . '.memorylimit', arg: 'Memory limit'),
63         'value' => ini_get( option: 'memory_limit')
64     ],
65     'uploadlimit' => [
66         'label' => _t( entity: __CLASS__ . '.uploadlimit', arg: 'Upload limit'),
67         'value' => ini_get( option: 'upload_max_filesize')
68     ],
69     'maxscripttime' => [
70         'label' => _t( entity: __CLASS__ . '.scripttime', arg: 'Script execution time limit'),
71         'value' => ini_get( option: 'max_execution_time')
72     ],
73     'dbengine' => [
74         'label' => _t( entity: __CLASS__ . '.dbengine', arg: 'Database engine'),
75         'value' => $dbType
76     ],
77     'dbversion' => [
78         'label' => _t( entity: __CLASS__ . '.dbversion', arg: 'Database version'),
79         'value' => $dbVersion
80     ],
81     'databasename' => [
82         'label' => _t( entity: __CLASS__ . '.dbname', arg: 'Database name'),
83         'value' => $databaseName
84     ]
85 ];
```

```
1 ---
2 Name: bbf-client-monitor
3 ---
4
5 BiffBangPow\SSMonitor\Client\Module\SystemInfo:
6   env_variables:
7     - APP_SMTP_USERNAME
8     - APP_SMTP_PASSWORD
9
```

System info

VARIABLE	VALUE
PHP version	8.1.13
IP address	192.168.80.4
Memory limit	256M
Upload limit	10M
Script execution time limit	300
Database engine	MySQL
Database version	5.7.34
Database name	MGO
Public IP address	1.1.1.1

Environment Variables

VARIABLE	VALUE
APP_SMTP_USERNAME	example@biffbangpow.com
APP_SMTP_PASSWORD	dkzufysdfy899@ec2tjoklksdfgjiojweriojcsfjsgsdj

Nice info - but it doesn't solve the problem!

System Status

▶ All installed vendor packages

▼ Core software packages

PACKAGE	VERSION
biffangpow/silverstripe-monitoring-client	v1.0.3-beta
dnadesign/silverstripe-elemental	4.11.4
silverstripe/cms	4.13.5
silverstripe/framework	4.13.25

▼ Silverstripe Configuration

VARIABLE	VALUE
Site Name	My Website
Environment Type	dev
Base URL	http://0.0.0.0:63071/
Default admin set	Yes

▼ System info

VARIABLE	VALUE
PHP version	8.1.13
IP address	192.168.80.4
Memory limit	256M
Upload limit	10M
Script execution time limit	300
Database engine	MySQL
Database version	5.7.34
Database name	MGO
Public IP address	1.1.1.1

Environment Variables

VARIABLE	VALUE
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THE MISSION OF BUSINESS IS TO TRANSFORM

Monitoring Client Admin

SITE #	BASE URL #	CLIENT ID #	ACTIVE	LAST DOMAIN	STATUS
MPG	https://mpg.kingstongroup.com/	0343301e-0301-46e0-8836-03030606050a	No	Aug 06, 2023, 2:13 PM	●
Renewed Main	https://renewed.com	643c1b7f-087c-4142-800f-649f53c79578	No	Aug 06, 2023, 2:14 PM	●
Renewed PSL	https://psl.renewed.com	6a2030a6-0504-4409-8306-c0596c226945	No	Aug 06, 2023, 2:14 PM	●
Link 'Share	https://linkshare.com	71363478-a26a-4953-8343-8623703d3146	No	Aug 06, 2023, 2:13 PM	● ⚠
Connect Flight Club	https://www.secretflight.club/	1809e54c75e1-031e-031e-805c38603d4e	No	Aug 06, 2023, 2:13 PM	● ⚠
System Link	https://www.system-link.com/	69e41307-1181-4974-89a1-432c18950a6c	No	Aug 06, 2023, 1:39 PM	● ⚠
Code Jones	https://codejonesconsultants.co.uk/	68225052-9389-47fc-8396-ae0950617055	No		●

CLAIMS SIGN IN

Connecting. Sustaining. Renewing.

UNLOCKING AMBITION

What if top SaaS started a recruitment agency?

Journey towards science.

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FROM THE CARIBBEAN

25

COVENTRY

PLOTTING THE RISE OF 2-TONE

JANUARY 12TH TO MAY 25TH 2024

BAROCCO MUSIC LIBRARY, LEVON

SHARE YOUR MEMORIES WITH US

Central monitoring server

- Get data from the clients
- Report failures
- Show warnings / status reports

Push or pull?

Push

- More secure - no need to expose data

Pull

- Simpler deployments
- Simpler updates to reporting frequency, etc.
- Allows for basic uptime monitoring

A bit of client exposure

- Custom route on the client to provide the data
- Data supplied in a common format, JSON encoded, with a unique module key
- All client modules included by default

Woah, there Nelly!

What about security?

- Client endpoint can be IP-limited
 - Each client has a unique API key, pre-shared with the server
 - Each client has a UUID assigned, as a checksum against bad requests
 - All data sent to the server is encrypted (using the Sodium package)
 - Every client has a unique encryption key and salt
-
- Client configuration data is encrypted in the server database
 - Incoming client data is stored in its encrypted format, and only decoded at run-time

Central monitoring server - main dashboard

Monitoring Client Admin Clients

[+ Add Client](#) [Export to CSV](#) [Print](#) [Import CSV](#) 🔍

View 1-7 of 7

SITE	BASE URL	CLIENT ID	ACTIVE	LAST COMMS	STATUS	
RPG	https://radioplanetgroup.com/	[REDACTED]	Yes	Sep 12, 2023, 3:42 PM	●	...
Enerveo Main	https://enerveo.com	[REDACTED]	Yes	Sep 12, 2023, 3:42 PM	●	...
Enerveo PSL	https://ppf.enerveo.com	[REDACTED]	Yes	Sep 12, 2023, 3:42 PM	●	...
Link Talent	https://linktalent.careers	[REDACTED]	Yes	Sep 12, 2023, 3:42 PM	● ⚠️	...
Secret Flight Club	https://secretflightclub.com/	[REDACTED]	Yes	Sep 12, 2023, 3:42 PM	● ⚠️	...
Boston Link	https://www.boston-link.com/	[REDACTED]	No	Aug 30, 2023, 1:39 PM	● ⚠️	...
Cobb Jones	https://cobbjonesrecruitment.co.uk/	[REDACTED]	No		●	...

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Central monitoring server - Configuring warnings

```
1 <?php
2
3 namespace BiffBangPow\SSMonitor\Server\Client;
4
5 interface MonitoringClientInterface
6 {
7     public function getClientTitle();
8
9     public function getWarnings($data);
10
11    public function getClientName();
12
13    public function getReport($data);
14 }
15
```

```
1 ---
2 Name: bbp-monitoring-silverstripeconfig
3 ---
4
5 BiffBangPow\SSMonitor\Server\Client\SSConfiguration:
6   data_config:
7     warnings:
8       min_php_version: 1
9       min_memory: 2
10
11 ---
12 Name: bbp-monitoring-systeminfo
13 ---
14
15 BiffBangPow\SSMonitor\Server\Client\SystemInfo:
16   data_config:
17     warnings:
18       min_php_version: 1
19       min_memory: 2
20
21 ---
22 Name: bbp-monitoring-corepackages
23 ---
24
25 BiffBangPow\SSMonitor\Server\Client\CorePackages:
26   data_config:
27     warnings:
28       dev_packages: true
29       min_versions:
30         silverstripe/cms: 5.0 | 4.13
31         silverstripe/framework: 5.0 | 4.12
32         dorsetdigital/silverstripe-enhanced-requirements: 1.2
33
```

Central monitoring server - client detail

The screenshot displays a web interface for monitoring a client. At the top left, there is a breadcrumb trail: '< Clients / Naughty Website'. At the top right, there is a 'Main' link. The main content area is divided into several sections:

- Title:** A text input field containing 'Bad Example'.
- Base URL:** A text input field containing 'https://example.com'.
- Active:** A checkbox that is checked, labeled 'Active'.
- Connection status:** A section with the text 'Client OK - Last connection at Sep 12, 2023 3:50:06 PM'.
- Warnings are present:** A light gray box containing a list of warnings:
 - silverstripe/cms is below the required version. Required: 5.0 | 4.13, Actual: 4.12.1
 - PHP version is below the required value. Required: 8.1, Actual: 8.0.26
 - Development packages are present in the code
 - Default admin credentials are set
 - Site is in dev mode
- Vendor Packages:** A light blue box containing four expandable sections:
 - ▶ All installed vendor packages
 - ▶ Core software packages
 - ▶ Silverstripe Configuration
 - ▶ System info

Central monitoring server - adding a client

< Clients / Example

Saved Client "Example"

Title

Base URL

Active

Client Credentials

Warning! These will not be displayed again! Make sure you make a note of them, you will need them for the client machine.

Copy and paste these environment variables into your client configuration:

```
MONITORING_ENC_SECRET=Bp0Bs58KjJc0tA6CxK6jw6vKePjRgHTSI8wM1s1svZRms42l9UZK9VdFguuB8F19
MONITORING_ENC_SALT=fKbDaBvFwIpbFGIUER3iuJIBPnBSRemh
MONITORING_API_KEY=S7nFYP3tdvKk5E02bJFXgCOLrEkxx8IgomEo538lkVDDr7DZE
MONITORING_UUID=30d28116-f2de-43e7-aa73-3d1b39f9d641
```


A few last things:

At the time of writing, this code is still in development and should be considered for testing purposes only! Please don't install it if you don't understand the risks!

- Biff Bang Pow: <https://biffbangpow.com>
- Client software: <https://github.com/BiffBangPow/silverstripe-monitoring-client>
- Server software: <https://github.com/BiffBangPow/silverstripe-monitoring-server>
- Sodium library: <https://www.php.net/manual/en/book.sodium.php>
- Tim's Github: <https://github.com/DorsetDigital>

Thank you!