

```
<!DOCTYPE html> <html lang="en"> <head> <meta charset="utf-8"> <link rel="dns-prefetch"
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href="https://avatars0.githubusercontent.com"> <link rel="dns-prefetch"
href="https://avatars1.githubusercontent.com"> <link rel="dns-prefetch"
href="https://avatars2.githubusercontent.com"> <link rel="dns-prefetch"
href="https://avatars3.githubusercontent.com"> <link rel="dns-prefetch" href="https://github-
cloud.s3.amazonaws.com"> <link rel="dns-prefetch" href="https://user-
images.githubusercontent.com/">
```

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<link crossorigin="anonymous" media="all" integrity="sha512-
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052cbe13e4b93c9b8358a7178885c1a0.css" />
<link crossorigin="anonymous" media="all" integrity="sha512-
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==" rel="stylesheet" href="https://github.githubassets.com/assets/github-
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src="https://github.githubassets.com/assets/environment-f0adafb.js"></script>
<script crossorigin="anonymous" defer="defer" integrity="sha512-
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src="https://github.githubassets.com/assets/behaviors-c190ba9a.js"></script>
```

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graph.js" data-src="https://github.githubassets.com/assets/chunk-contributions-spider-
graph-17ff2c34.js"></script>
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src="https://github.githubassets.com/assets/chunk-drag-drop-a1b311f2.js"></script>
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src="https://github.githubassets.com/assets/chunk-jump-to-015b5cff.js"></script>
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src="https://github.githubassets.com/assets/chunk-lib.dev-6e2587e0.js"></script>
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data-src="https://github.githubassets.com/assets/chunk-profile-pins-element-
b5c1f8c4.js"></script>
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==" type="application/javascript" data-module-id="/chunk-runner-groups.js" data-
src="https://github.githubassets.com/assets/chunk-runner-groups-13e1fec0.js"></script>
<script crossorigin="anonymous" defer="defer" integrity="sha512-
rIWotuwSxV+jXNuevOVsuLW2zsw98Gi4j7KXrJZq+bWVf86Y/R75+1jMjt5k1MPgabdtPpWPI/IoESZah9ng
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src="https://github.githubassets.com/assets/chunk-sortable-behavior-
ac85a8b6.js"></script>
<script crossorigin="anonymous" defer="defer" integrity="sha512-
ZBICwPA18KYIghBafqdnTkxoCSnf/39rTlupkrtdpIWizECoux0R0zjAgyAx20Bf27VfshuBqrYwDqOVftyag
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src="https://github.githubassets.com/assets/chunk-tweetsodium-641202c0.js"></script>
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QUtHMb3mxbE2DQSQZb9+tK8ZC2m05FFqZ0a5ju2Sj0GdiQV+ce/bnIK/YwoMdy44NEhEIkZUIyh9DqLMsRedg
==" type="application/javascript" data-module-id="/chunk-user-status-submit.js" data-
src="https://github.githubassets.com/assets/chunk-user-status-submit-
414b4731.js"></script>
```

```
<script crossorigin="anonymous" defer="defer" integrity="sha512-
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==" type="application/javascript"
src="https://github.githubassets.com/assets/repositories-07e4e003.js"></script>
<script crossorigin="anonymous" defer="defer" integrity="sha512-
DL4JXoI2igFuQLn6MCPGgiS7TVx3c0/G8iaIZCNzgGi4Iwg8TC0y4LPT584yJ+r6ZsF5QIFL9uo+nhHdBvflNQ
==" type="application/javascript" src="https://github.githubassets.com/assets/diffs-
0e5e095e.js"></script>
```

```
<meta name="viewport" content="width=device-width">
```

```
<title>sellyoursaas/Documentation SellYourSaas - Master and Deployment Servers -
FR.asciidoc at master · eldy/sellyoursaas · GitHub</title>
<meta name="description" content="Sell-Your-SaaS is an Open Source solution to
automate and sell any application as a SaaS service - eldy/sellyoursaas">
<link rel="search" type="application/opensearchdescription+xml"
href="/opensearch.xml" title="GitHub">
<link rel="fluid-icon" href="https://github.com/fluidicon.png" title="GitHub">
<meta property="fb:app_id" content="1401488693436528">
<meta name="apple-itunes-app" content="app-id=1477376905" />
<meta name="twitter:image:src" content="https://repository-
images.githubusercontent.com/223195062/ae1fe600-b3b5-11ea-8f9c-ad8dee78ab39" /><meta
name="twitter:site" content="@github" /><meta name="twitter:card"
content="summary_large_image" /><meta name="twitter:title" content="eldy/sellyoursaas"
/><meta name="twitter:description" content="Sell-Your-SaaS is an Open Source solution
to automate and sell any application as a SaaS service - eldy/sellyoursaas" />
<meta property="og:image" content="https://repository-
images.githubusercontent.com/223195062/ae1fe600-b3b5-11ea-8f9c-ad8dee78ab39" /><meta
property="og:site_name" content="GitHub" /><meta property="og:type" content="object"
/><meta property="og:title" content="eldy/sellyoursaas" /><meta property="og:url"
content="https://github.com/eldy/sellyoursaas" /><meta property="og:description"
content="Sell-Your-SaaS is an Open Source solution to automate and sell any
application as a SaaS service - eldy/sellyoursaas" />
```

```
<link rel="assets" href="https://github.githubassets.com/">
```

```
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content="c80aee82f79e63d27e16ede39d917704fdd2029969233e67debb0bef2254455a" data-pjax-
transient="true"/><meta name="visitor-payload"
content="eyJyZWZlcnJlcjEiIiIsInJlcXVlc3RfaWQiOiI4RDROjRDMjk6MTcyNjFDOToyMTA0NjNE0jVGR
EYwRUlziIiwidmZlZXRvc09pZCI6IjQ4MDQ2MjI0OTIyMDczNTM1MjMiLCJyZWdpb25fZW50ZSI6ImZyYSIsInJ
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content="7672aa8d528850e81063cb64f881277304153c84dbe0f883ab9b45c07cc5d74a" data-pjax-
transient="true"/>
```

```
<meta name="hovercard-subject-tag" content="repository:223195062" data-pjax-transient>
```

```
<meta name="github-keyboard-shortcuts" content="repository,source-code" data-pjax-
transient="true" />
```

```
<meta name="selected-link" value="repo_source" data-pjax-transient>
```

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<meta name="google-site-verification" content="GXs5KoUUkNCoaAZn7wPN-
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```

```
<meta name="octolytics-host" content="collector.githubapp.com" /><meta
name="octolytics-app-id" content="github" /><meta name="octolytics-event-url"
content="https://collector.githubapp.com/github-external/browser_event" />
```

```
<meta name="analytics-location" content="/&lt;user-name&gt;/&lt;repo-
name&gt;/blob/show" data-pjax-transient="true" />
```

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true, &quot;projectId&quot;: &quot;16737760170&quot;, &quot;variables&quot;: [],
&quot;featureFlags&quot;: [], &quot;experiments&quot;: [{&quot;status&quot;:
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&quot;separate_plans_and_usage&quot;}, {&quot;variables&quot;: [], &quot;id&quot;:
&quot;19509770036&quot;, &quot;key&quot;: &quot;control&quot;}], &quot;id&quot;:
&quot;19509770036&quot;, &quot;key&quot;: &quot;control&quot;}], &quot;id&quot;:
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```

```
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{&quot;entityId&quot;: &quot;19512260014&quot;; &quot;endOfRange&quot;: 7500},
{&quot;entityId&quot;: &quot;&quot;; &quot;endOfRange&quot;: 10000}],
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&quot;separate_plans_and_usage&quot;}}], &quot;audiences&quot;:
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&quot;exact&quot;; \&quot;name&quot;: \&quot;$opt_dummy_attribute&quot;;
&quot;type&quot;: \&quot;custom_attribute&quot;; \&quot;value&quot;:
&quot;$opt_dummy_value&quot;}]&quot;; &quot;id&quot;:
&quot;$opt_dummy_audience&quot;; &quot;name&quot;: &quot;Optimizely-Generated Audience
for Backwards Compatibility&quot;}], &quot;groups&quot;: [], &quot;attributes&quot;:
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{&quot;id&quot;: &quot;18175660309&quot;; &quot;key&quot;:
&quot;organization_plan&quot;}, {&quot;id&quot;: &quot;18813001570&quot;;
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&quot;key&quot;: &quot;geo&quot;}], &quot;botFiltering&quot;: false,
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&quot;key&quot;: &quot;submit.organizations.complete_sign_up&quot;},
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&quot;key&quot;: &quot;no_metric.tracked_outside_of_optimizely&quot;},
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&quot;key&quot;: &quot;submit.repository_imports.create&quot;},
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&quot;key&quot;: &quot;click.help.learn_more_about_repository_creation&quot;},
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&quot;key&quot;: &quot;test_event.do_not_use_in_production&quot;},
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&quot;key&quot;: &quot;click.empty_org_repo_cta.transfer_repository&quot;},
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&quot;key&quot;: &quot;click.empty_org_repo_cta.import_repository&quot;},
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&quot;key&quot;: &quot;click.org_onboarding_checklist.invite_members&quot;},
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&quot;key&quot;: &quot;click.empty_org_repo_cta.create_repository&quot;},
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&quot;key&quot;: &quot;click.org_onboarding_checklist.update_profile&quot;},
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&quot;key&quot;: &quot;click.org_onboarding_checklist.dismiss&quot;},
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&quot;key&quot;: &quot;submit.organization_activation.complete&quot;},
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&quot;key&quot;: &quot;submit.org_repository.create&quot;},
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```

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"id": "19424193129", "key":
"click.open_account_switcher"}, {"experimentIds": [],
"id": "19520330825", "key":
"click.visit_account_profile"}, {"experimentIds": [],
"id": "19540970635", "key":
"click.switch_account_context"}], "revision": "380"}" />
<!-- To prevent page flashing, the optimizely JS needs to be loaded in the
<head> tag before the DOM renders -->
<script crossorigin="anonymous" defer="defer" integrity="sha512-
VJrqSK702Mz19EQxm20vFvKaumGptgVdeJS2rsaLv10dR4HEu3ZFjtV83kMKdYRelUnxxaAFw0wthkpdEUafw
==" type="application/javascript"
src="https://github.githubassets.com/assets/optimizely-549aea48.js"></script>

```

```
<meta name="hostname" content="github.com">
<meta name="user-login" content="">
```

```
<meta name="expected-hostname" content="github.com">
```

```
<meta name="enabled-features"
content="MARKETPLACE_PENDING_INSTALLATIONS,ACTIONS_ENVIRONMENTS,ACTIONS_ENVIRONMENTS">
```

```
<meta http-equiv="x-pjax-version"
content="72da585936cb4f0f8e579bc15c2e733ed8e2169930cee94d77bccfac85971673">
```

```
<link href="https://github.com/eldy/sellyoursaas/commits/master.atom" rel="alternate"
title="Recent Commits to sellyoursaas:master" type="application/atom+xml">
```

```
<meta name="go-import" content="github.com/eldy/sellyoursaas git
https://github.com/eldy/sellyoursaas.git">
```

```
<meta name="octolytics-dimension-user_id" content="883887" /><meta name="octolytics-
dimension-user_login" content="eldy" /><meta name="octolytics-dimension-repository_id"
content="223195062" /><meta name="octolytics-dimension-repository_nwo"
content="eldy/sellyoursaas" /><meta name="octolytics-dimension-repository_public"
content="true" /><meta name="octolytics-dimension-repository_is_fork" content="false"
/><meta name="octolytics-dimension-repository_network_root_id" content="223195062"
/><meta name="octolytics-dimension-repository_network_root_nwo"
content="eldy/sellyoursaas" /><meta name="octolytics-dimension-
repository_explore_github_marketplace_ci_cta_shown" content="false" />
```

```
<link rel="canonical"
href="https://github.com/eldy/sellyoursaas/blob/master/doc/Documentation%20SellYourSaa
s%20-%20Master%20and%20Deployment%20Servers%20-%20FR.asciidoc" data-pjax-transient>
```

```
<meta name="browser-stats-url"
content="https://api.github.com/_private/browser/stats">
```

```
<meta name="browser-errors-url"
content="https://api.github.com/_private/browser/errors">
```

```
<meta name="browser-optimizely-client-errors-url"
content="https://api.github.com/_private/browser/optimizely_client/errors">
```

```
<link rel="mask-icon" href="https://github.githubassets.com/pinned-octocat.svg"
color="#000000">
<link rel="alternate icon" class="js-site-favicon" type="image/png"
href="https://github.githubassets.com/favicons/favicon.png">
<link rel="icon" class="js-site-favicon" type="image/svg+xml"
href="https://github.githubassets.com/favicons/favicon.svg">
```

```
<meta name="theme-color" content="#1e2327"> <meta name="color-scheme" content="light dark">
```

```
<link rel="manifest" href="/manifest.json" crossOrigin="use-credentials">
```

```
</head>
```

```
<body class="logged-out env-production page-responsive page-blob">
```

```
  <div class="position-relative js-header-wrapper ">
    <a href="#start-of-content" class="px-2 py-4 bg-blue text-white show-on-focus
js-skip-to-content">Skip to content</a>
    <span class="progress-pjax-loader width-full js-pjax-loader-bar Progress
position-fixed">
      <span style="background-color: #79b8ff;width: 0%;" class="Progress-item progress-
pjax-loader-bar "></span>
    </span>
```



```

    <header class="Header-logged-out js-details-container Details
position-relative f4 py-2" role="banner">
<div class="container-xl d-lg-flex flex-items-center p-responsive">
  <div class="d-flex flex-justify-between flex-items-center">
    <a class="mr-4" href="https://github.com/" aria-label="Homepage" data-ga-
click="(Logged out) Header, go to homepage, icon:logo-wordmark">
      <svg height="32" class="octicon octicon-mark-github text-white" viewBox="0 0
16 16" version="1.1" width="32" aria-hidden="true"><path fill-rule="evenodd" d="M8
0C3.58 0 3.58 0 8c0 3.54 2.29 6.53 5.47 7.59.4.07.55-.17.55-.38 0-.19-.01-.82-.01-
1.49-2.01-3.7-2.53-.49-2.69-.94-.09-.23-.48-.94-.82-1.13-.28-.15-.68-.52-.01-.53.63-.01
1.08.58 1.23.82.72 1.21 1.87.87 2.33.66.07-.52.28-.87.51-1.07-1.78-.2-3.64-.89-3.64-
3.95 0-.87.31-1.59.82-2.15-.08-.2-.36-1.02.08-2.12 0 0 .67-.21 2.2.82.64-.18 1.32-.27
2-.27.68 0 1.36.09 2 .27 1.53-1.04 2.2-.82 2.2-.82.44 1.1.16 1.92.08 2.12.51.56.82
1.27.82 2.15 0 3.07-1.87 3.75-3.65 3.95.29.25.54.73.54 1.48 0 1.07-.01 1.93-.01 2.2 0
.21.15.46.55.38A8.013 8.013 0 0016 8c0-4.42-3.58-8-8-8z"></path></svg>
    </a>

```

```

<div class="d-lg-none css-truncate css-truncate-target width-fit p-2">

```

```

</div>

```

```

<div class="d-flex flex-items-center">
  <a
href="/join?ref_cta=Sign+up&ref_loc=header+logged+out&ref_page=%2F%3Cuser-
name%3E%2F%3Crepo-name%3E%2Fblob%2Fshow&source=header-repo"
class="d-inline-block d-lg-none f5 text-white no-underline border border-gray-
dark rounded-2 px-2 py-1 mr-3 mr-sm-5"
data-hydro-
click="{&quot;event_type&quot;:&quot;authentication.click&quot;,&quot;payload&quot;:{&
quot;location_in_page&quot;:&quot;site
header&quot;,&quot;repository_id&quot;:null,&quot;auth_type&quot;:&quot;SIGN_UP&quot;,&
quot;originating_url&quot;:&quot;https://github.com/eldy/sellyoursaas/blob/master/doc
/Documentation%20SellYourSaas%20-%20Master%20and%20Deployment%20Servers%20-
%20FR.asciidoc&quot;,&quot;user_id&quot;:null}}" data-hydro-click-
hmac="49d81ea79a9c02dcd0443ed2093bfe1c39cf40f21c5e6a14e9e4bb7cf3171a2"
data-ga-click="Sign up, click to sign up for account, ref_page:/&lt;user-
name&gt;/&lt;repo-name&gt;/blob/show;ref_cta:Sign up;ref_loc:header logged out">
    Sign&nbsp;up
  </a>

```

```

    <button class="btn-link d-lg-none mt-1 js-details-target" type="button" aria-
label="Toggle navigation" aria-expanded="false">
      <svg height="24" class="octicon octicon-three-bars text-white" viewBox="0 0 16
16" version="1.1" width="24" aria-hidden="true"><path fill-rule="evenodd" d="M1
2.75A.75.75 0 011.75 2h12.5a.75.75 0 110 1.5H1.75A.75.75 0 011 2.75zm0 5A.75.75 0
011.75 7h12.5a.75.75 0 110 1.5H1.75A.75.75 0 011 7.75zM1.75 12a.75.75 0 100
1.5h12.5a.75.75 0 100-1.5H1.75z"></path></svg>
    </button>
  </div>
</div>

```

```

<div class="HeaderMenu HeaderMenu--logged-out position-fixed top-0 right-0 bottom-0
height-fit position-lg-relative d-lg-flex flex-justify-between flex-items-center flex-
auto">
  <div class="d-flex d-lg-none flex-justify-end border-bottom bg-gray-light p-3">
    <button class="btn-link js-details-target" type="button" aria-label="Toggle
navigation" aria-expanded="false">
      <svg height="24" class="octicon octicon-x text-gray" viewBox="0 0 24 24"
version="1.1" width="24" aria-hidden="true"><path fill-rule="evenodd" d="M5.72
5.72a.75.75 0 011.06 0L12 10.9415.22-5.22a.75.75 0 111.06 1.06L13.06 1215.22
5.22a.75.75 0 11-1.06 1.06L12 13.061-5.22 5.22a.75.75 0 01-1.06-1.06L10.94 12 5.72
6.78a.75.75 0 010-1.06z"></path></svg>
    </button>
  </div>

```

```

<nav class="mt-0 px-3 px-lg-0 mb-5 mb-lg-0" aria-label="Global">
  <ul class="d-lg-flex list-style-none">
    <li class="d-block d-lg-flex flex-lg-nowrap flex-lg-items-center border-bottom border-lg-bottom-0 mr-0 mr-lg-3 edge-item-fix position-relative flex-wrap flex-justify-between d-flex flex-items-center ">
      <details class="HeaderMenu-details details-overlay details-reset width-full">
        <summary class="HeaderMenu-summary HeaderMenu-link px-0 py-3 border-0 no-wrap d-block d-lg-inline-block">
          Why GitHub?
          <svg x="0px" y="0px" viewBox="0 0 14 8" xml:space="preserve" fill="none" class="icon-chevron-down-mktg position-absolute position-lg-relative">
            <path d="M1,116.2,6L13,1"></path>
          </svg>
        </summary>
        <div class="dropdown-menu flex-auto rounded-1 bg-white px-0 mt-0 pb-4 p-lg-4 position-relative position-lg-absolute left-0 left-lg-n4">
          <a href="/features" class="py-2 lh-condensed-ultra d-block link-gray-dark no-underline h5 Bump-link--hover" data-ga-click="(Logged out) Header, go to Features">Features <span class="Bump-link-symbol float-right text-normal text-gray-light">&rarr;</span></a>
          <ul class="list-style-none f5 pb-3">
            <li class="edge-item-fix"><a href="/features/code-review/" class="py-2 lh-condensed-ultra d-block link-gray no-underline f5" data-ga-click="(Logged out) Header, go to Code review">Code review</a></li>
            <li class="edge-item-fix"><a href="/features/project-management/" class="py-2 lh-condensed-ultra d-block link-gray no-underline f5" data-ga-click="(Logged out) Header, go to Project management">Project management</a></li>
            <li class="edge-item-fix"><a href="/features/integrations" class="py-2 lh-condensed-ultra d-block link-gray no-underline f5" data-ga-click="(Logged out) Header, go to Integrations">Integrations</a></li>
            <li class="edge-item-fix"><a href="/features/actions" class="py-2 lh-condensed-ultra d-block link-gray no-underline f5" data-ga-click="(Logged out) Header, go to Actions">Actions</a></li>
            <li class="edge-item-fix"><a href="/features/packages" class="py-2 lh-condensed-ultra d-block link-gray no-underline f5" data-ga-click="(Logged out) Header, go to GitHub Packages">Packages</a></li>
            <li class="edge-item-fix"><a href="/features/security" class="py-2 lh-condensed-ultra d-block link-gray no-underline f5" data-ga-click="(Logged out) Header, go to Security">Security</a></li>
            <li class="edge-item-fix"><a href="/features#team-management" class="py-2 lh-condensed-ultra d-block link-gray no-underline f5" data-ga-click="(Logged out) Header, go to Team management">Team management</a></li>
            <li class="edge-item-fix"><a href="/features#hosting" class="py-2 lh-condensed-ultra d-block link-gray no-underline f5" data-ga-click="(Logged out) Header, go to Code hosting">Hosting</a></li>
            <li class="edge-item-fix hide-xl"><a href="/mobile" class="py-2 lh-condensed-ultra d-block link-gray no-underline f5" data-ga-click="(Logged out) Header, go to Mobile">Mobile</a></li>
          </ul>
        </div>
      </li>
  </ul>

```

```

    <ul class="list-style-none mb-0 border-lg-top pt-lg-3">
      <li class="edge-item-fix"><a href="/customer-stories" class="py-2 lh-
condensed-ultra d-block no-underline link-gray-dark no-underline h5 Bump-link--hover"
data-ga-click="(Logged out) Header, go to Customer stories">Customer stories <span
class="Bump-link-symbol float-right text-normal text-gray-
light">&rarr;</span></a></li>
      <li class="edge-item-fix"><a href="/security" class="py-2 lh-condensed-ultra
d-block no-underline link-gray-dark no-underline h5 Bump-link--hover" data-ga-
click="(Logged out) Header, go to Security">Security <span class="Bump-link-symbol
float-right text-normal text-gray-light">&rarr;</span></a></li>
    </ul>
  </div>
</details>
</li>
<li class="border-bottom border-lg-bottom-0 mr-0 mr-lg-3">
  <a href="/team" class="HeaderMenu-link no-underline py-3 d-block d-lg-inline-block"
data-ga-click="(Logged out) Header, go to Team">Team</a>
</li>
<li class="border-bottom border-lg-bottom-0 mr-0 mr-lg-3">
  <a href="/enterprise" class="HeaderMenu-link no-underline py-3 d-block d-lg-inline-
block" data-ga-click="(Logged out) Header, go to Enterprise">Enterprise</a>
</li>

```

```

<li class="d-block d-lg-flex flex-lg-nowrap flex-lg-items-center border-bottom border-
lg-bottom-0 mr-0 mr-lg-3 edge-item-fix position-relative flex-wrap flex-justify-
between d-flex flex-items-center ">
  <details class="HeaderMenu-details details-overlay details-reset width-full">
    <summary class="HeaderMenu-summary HeaderMenu-link px-0 py-3 border-0 no-wrap d-
block d-lg-inline-block">
      Explore
      <svg x="0px" y="0px" viewBox="0 0 14 8" xml:space="preserve" fill="none"
class="icon-chevron-down-mktg position-absolute position-lg-relative">
        <path d="M1,116.2,6L13,1"></path>
      </svg>
    </summary>

```

```

<div class="dropdown-menu flex-auto rounded-1 bg-white px-0 pt-2 pb-0 mt-0 pb-4 p-lg-4
position-relative position-lg-absolute left-0 left-lg-n4">
  <ul class="list-style-none mb-3">
    <li class="edge-item-fix"><a href="/explore" class="py-2 lh-condensed-ultra d-
block link-gray-dark no-underline h5 Bump-link--hover" data-ga-click="(Logged out)
Header, go to Explore">Explore GitHub <span class="Bump-link-symbol float-right text-
normal text-gray-light">&rarr;</span></a></li>
  </ul>

```

```

<h4 class="text-gray-light text-normal text-mono f5 mb-2 border-lg-top pt-lg-3">Learn
& contribute</h4>
<ul class="list-style-none mb-3">
  <li class="edge-item-fix"><a href="/topics" class="py-2 lh-condensed-ultra d-block
link-gray no-underline f5" data-ga-click="(Logged out) Header, go to
Topics">Topics</a></li>
  <li class="edge-item-fix"><a href="/collections" class="py-2 lh-condensed-ultra d-
block link-gray no-underline f5" data-ga-click="(Logged out) Header, go to
Collections">Collections</a></li>
  <li class="edge-item-fix"><a href="/trending" class="py-2 lh-condensed-ultra d-block
link-gray no-underline f5" data-ga-click="(Logged out) Header, go to
Trending">Trending</a></li>
  <li class="edge-item-fix"><a href="https://lab.github.com/" class="py-2 lh-
condensed-ultra d-block link-gray no-underline f5" data-ga-click="(Logged out) Header,
go to Learning lab">Learning Lab</a></li>
  <li class="edge-item-fix"><a href="https://opensource.guide" class="py-2 lh-
condensed-ultra d-block link-gray no-underline f5" data-ga-click="(Logged out) Header,
go to Open source guides">Open source guides</a></li>
</ul>

```

```

<h4 class="text-gray-light text-normal text-mono f5 mb-2 border-lg-top pt-lg-
3">Connect with others</h4>
<ul class="list-style-none mb-0">
  <li class="edge-item-fix"><a href="https://github.com/events" class="py-2 lh-
condensed-ultra d-block link-gray no-underline f5" data-ga-click="(Logged out) Header,
go to Events">Events</a></li>
  <li class="edge-item-fix"><a href="https://github.community" class="py-2 lh-
condensed-ultra d-block link-gray no-underline f5" data-ga-click="(Logged out) Header,
go to Community forum">Community forum</a></li>
  <li class="edge-item-fix"><a href="https://education.github.com" class="py-2
lh-condensed-ultra d-block link-gray no-underline f5" data-ga-click="(Logged out)
Header, go to GitHub Education">GitHub Education</a></li>
  <li class="edge-item-fix"><a href="https://stars.github.com" class="py-2 pb-0
lh-condensed-ultra d-block link-gray no-underline f5" data-ga-click="(Logged out)
Header, go to GitHub Stars Program">GitHub Stars program</a></li>
</ul>
</div>
</details>
</li>

```

```

<li class="border-bottom border-lg-bottom-0 mr-0 mr-lg-3">
  <a href="/marketplace" class="HeaderMenu-link no-underline py-3 d-block d-lg-inline-
block" data-ga-click="(Logged out) Header, go to Marketplace">Marketplace</a>
</li>

```

```

<li class="d-block d-lg-flex flex-lg-nowrap flex-lg-items-center border-bottom border-
lg-bottom-0 mr-0 mr-lg-3 edge-item-fix position-relative flex-wrap flex-justify-
between d-flex flex-items-center ">
  <details class="HeaderMenu-details details-overlay details-reset width-full">
    <summary class="HeaderMenu-summary HeaderMenu-link px-0 py-3 border-0 no-wrap d-
block d-lg-inline-block">
      Pricing
      <svg x="0px" y="0px" viewBox="0 0 14 8" xml:space="preserve" fill="none"
class="icon-chevron-down-mktg position-absolute position-lg-relative">
        <path d="M1,1L6.2,6L13,1"></path>
      </svg>
    </summary>

```

```

<div class="dropdown-menu flex-auto rounded-1 bg-white px-0 pt-2 pb-4 mt-0 p-lg-4
position-relative position-lg-absolute left-0 left-lg-n4">
  <a href="/pricing" class="pb-2 lh-condensed-ultra d-block link-gray-dark no-
underline h5 Bump-link--hover" data-ga-click="(Logged out) Header, go to
Pricing">Plans <span class="Bump-link-symbol float-right text-normal text-gray-
light">&rarr;</span></a>

```

```

<ul class="list-style-none mb-3">
  <li class="edge-item-fix"><a href="/pricing#feature-comparison" class="py-2 lh-
condensed-ultra d-block link-gray no-underline f5" data-ga-click="(Logged out) Header,
go to Compare plans">Compare plans</a></li>
  <li class="edge-item-fix"><a href="https://enterprise.github.com/contact" class="py-
2 lh-condensed-ultra d-block link-gray no-underline f5" data-ga-click="(Logged out)
Header, go to Contact Sales">Contact Sales</a></li>
</ul>

```

```

      <ul class="list-style-none mb-0 border-lg-top pt-lg-3">
        <li class="edge-item-fix"><a href="/nonprofit" class="py-2 lh-condensed-
ultra d-block no-underline link-gray-dark no-underline h5 Bump-link--hover" data-ga-
click="(Logged out) Header, go to Nonprofits">Nonprofit <span class="Bump-link-symbol
float-right text-normal text-gray-light">&rarr;</span></a></li>
        <li class="edge-item-fix"><a href="https://education.github.com"
class="py-2 pb-0 lh-condensed-ultra d-block no-underline link-gray-dark no-underline
h5 Bump-link--hover" data-ga-click="(Logged out) Header, go to Education">Education
<span class="Bump-link-symbol float-right text-normal text-gray-
light">&rarr;</span></a></li>
      </ul>
    </div>
  </details>
</li>
</ul>
</nav>

```

```

    <div class="d-lg-flex flex-items-center px-3 px-lg-0 text-center text-lg-left">
      <div class="d-lg-flex mb-3 mb-lg-0">
        <div class="header-search flex-auto js-site-search position-relative flex-
self-stretch flex-md-self-auto mb-3 mb-md-0 mr-0 mr-md-3 scoped-search site-scoped-
search js-jump-to"
          role="combobox"
          aria-owns="jump-to-results"
          aria-label="Search or jump to"
          aria-haspopup="listbox"
          aria-expanded="false"
        >
          <div class="position-relative">
            <!-- "'` --><!-- </textarea></xmp> --></option></form><form class="js-site-search-
form" role="search" aria-label="Site" data-flagged-in="false" data-scope-
type="Repository" data-scope-id="223195062" data-scoped-search-
url="/eldy/sellyoursaas/search" data-owner-scoped-search-url="/users/eldy/search"
data-unscoped-search-url="/search" action="/eldy/sellyoursaas/search" accept-
charset="UTF-8" method="get">
              <label class="form-control input-sm header-search-wrapper p-0 js-chromeless-
input-container header-search-wrapper-jump-to position-relative d-flex flex-justify-
between flex-items-center">
                <input type="text"
                  class="form-control input-sm header-search-input jump-to-field js-jump-to-
field js-site-search-focus js-site-search-field is-clearable"
                  data-hotkey="s,/"
                  name="q"
                  value=""
                  placeholder="Search"
                  data-unscoped-placeholder="Search GitHub"
                  data-scoped-placeholder="Search"
                  autocapitalize="off"
                  aria-autocomplete="list"
                  aria-controls="jump-to-results"
                  aria-label="Search"
                  data-jump-to-suggestions-path="/_graphql/GetSuggestedNavigationDestinations"
                  spellcheck="false"
                  autocomplete="off"
                >
                  <input type="hidden" data-csrf="true" class="js-data-jump-to-suggestions-
path-csrf"
                    value="6caJ43WgvG5VLsHANAWg3bkm9MovbcniIKtaBRL3fijV9NwKPW8pqydnaiLdkXFChaRs69dmhg1/diG
deT6CUQ==" />
                    <input type="hidden" class="js-site-search-type-field" name="type" >
                      

```

```

<div class="Box position-absolute overflow-hidden d-none jump-to-suggestions js-jump-
to-suggestions-container">

```

```
<ul class="d-none js-jump-to-suggestions-template-container">
```

```
<li class="d-flex flex-justify-start flex-items-center p-0 f5 navigation-item js-navigation-item js-jump-to-suggestion" role="option"> <a tabindex="-1" class="no-underline d-flex flex-auto flex-items-center jump-to-suggestions-path js-jump-to-suggestion-path js-navigation-open p-2" href="" data-item-type="suggestion"> <div class="jump-to-octicon js-jump-to-octicon flex-shrink-0 mr-2 text-center d-none"> <svg height="16" width="16" class="octicon octicon-repo flex-shrink-0 js-jump-to-octicon-repo d-none" title="Repository" aria-label="Repository" viewBox="0 0 16 16" version="1.1" role="img"><path fill-rule="evenodd" d="M2 2.5A2.5 2.5 0 014.5 0h8.75a.75.75 0 01.75.75v12.5a.75.75 0 01-.75.75h-2.5a.75.75 0 110-1.5h1.75v-2h-8a1 1 0 00-.714 1.7.75.75 0 01-1.072 1.05A2.495 2.495 0 012 11.5v-9zm10.5-1V9h-8c-.356 0-.694.074-1 .208V2.5a1 1 0 011-1h8zM5 12.25v3.25a.25.25 0 00.4211.45-1.087a.25.25 0 01.3 0L8.6 15.7a.25.25 0 00.4-.2v-3.25a.25.25 0 00-.25-.25z"></path></svg> <svg height="16" width="16" class="octicon octicon-project flex-shrink-0 js-jump-to-octicon-project d-none" title="Project" aria-label="Project" viewBox="0 0 16 16" version="1.1" role="img"><path fill-rule="evenodd" d="M1.75 0A1.75 1.75 0 000 1.75v12.5C0 15.216.784 16 1.75 16h12.5A1.75 1.75 0 0016 14.25V1.75A1.75 1.75 0 0014.25 0H1.75zM1.5 1.75a.25.25 0 01.25-.25h12.5a.25.25 0 01.25.25v12.5a.25.25 0 01-.25.25H1.75a.25.25 0 01-.25-.25V1.75zM11.75 3a.75.75 0 00-.75.75v7.5a.75.75 0 001.5 0v-7.5a.75.75 0 00-.75-.75zm-8.25.75a.75.75 0 011.5 0v5.5a.75.75 0 01-1.5 0v-5.5zM8 3a.75.75 0 00-.75.75v3.5a.75.75 0 001.5 0v-3.5A.75.75 0 008 3z"></path></svg> <svg height="16" width="16" class="octicon octicon-search flex-shrink-0 js-jump-to-octicon-search d-none" title="Search" aria-label="Search" viewBox="0 0 16 16" version="1.1" role="img"><path fill-rule="evenodd" d="M11.5 7a4.499 4.499 0 11-8.998 0A4.499 4.499 0 0111.5 7zm-.82 4.74a6 6 0 11.06-1.06l3.04 3.04a.75.75 0 11-1.06 1.06l-3.04-3.04z"></path></svg> </div>
```

```
<img class="avatar mr-2 flex-shrink-0 js-jump-to-suggestion-avatar d-none" alt="" aria-label="Team" src="" width="28" height="28">
```

```
<div class="jump-to-suggestion-name js-jump-to-suggestion-name flex-auto overflow-hidden text-left no-wrap css-truncate css-truncate-target">  
</div>
```

```
<div class="border rounded-1 flex-shrink-0 bg-gray px-1 text-gray-light ml-1 f6 d-none js-jump-to-badge-search">  
  <span class="js-jump-to-badge-search-text-default d-none" aria-label="in this repository">  
    In this repository  
  </span>  
  <span class="js-jump-to-badge-search-text-global d-none" aria-label="in all of GitHub">  
    All GitHub  
  </span>  
  <span aria-hidden="true" class="d-inline-block ml-1 v-align-middle"> </span>  
</div>
```



```
<div aria-hidden="true" class="border rounded-1 flex-shrink-0 bg-gray px-1 text-
gray-light ml-1 f6 d-none d-on-nav-focus js-jump-to-badge-jump">
  Jump to
  <span class="d-inline-block ml-1 v-align-middle">⌵</span>
</div>
</a>
</li>
```

```
</ul>
```

```
<ul class="d-none js-jump-to-no-results-template-container"> <li class="d-flex flex-justify-center
flex-items-center f5 d-none js-jump-to-suggestion p-2"> <span class="text-gray">No suggested jump
to results</span> </li> </ul>
```

```
<ul id="jump-to-results" role="listbox" class="p-0 m-0 js-navigation-container jump-to-suggestions-
results-container js-jump-to-suggestions-results-container">
```

```
<li class="d-flex flex-justify-start flex-items-center p-0 f5 navigation-item js-navigation-item js-jump-
to-scoped-search d-none" role="option"> <a tabindex="-1" class="no-underline d-flex flex-auto flex-
items-center jump-to-suggestions-path js-jump-to-suggestion-path js-navigation-open p-2" href=""
data-item-type="scoped_search"> <div class="jump-to-octicon js-jump-to-octicon flex-shrink-0 mr-2
text-center d-none"> <svg height="16" width="16" class="octicon octicon-repo flex-shrink-0 js-jump-
to-octicon-repo d-none" title="Repository" aria-label="Repository" viewBox="0 0 16 16"
version="1.1" role="img"><path fill-rule="evenodd" d="M2 2.5A2.5 2.5 0 014.5 0h8.75a.75.75 0
01.75.75v12.5a.75.75 0 01-.75.75h-2.5a.75.75 0 110-1.5h1.75v-2h-8a1 1 0 00-.714 1.7.75.75 0 01-1.072
1.05A2.495 2.495 0 012 11.5v-9zm10.5-1V9h-8c-.356 0-.694.074-1 .208V2.5a1 1 0 01-1.1h8zM5
12.25v3.25a.25.25 0 00.4.211.45-1.087a.25.25 0 01.3 0L8.6 15.7a.25.25 0 00.4-.2v-3.25a.25.25 0 00-.25-
.25h-3.5a.25.25 0 00-.25.25z"></path></svg> <svg height="16" width="16" class="octicon octicon-
project flex-shrink-0 js-jump-to-octicon-project d-none" title="Project" aria-label="Project"
viewBox="0 0 16 16" version="1.1" role="img"><path fill-rule="evenodd" d="M1.75 0A1.75 1.75 0 000
1.75v12.5C0 15.216.784 16 1.75 16h12.5A1.75 1.75 0 0016 14.25V1.75A1.75 1.75 0 0014.25
0H1.75zM1.5 1.75a.25.25 0 01.25-.25h12.5a.25.25 0 01.25.25v12.5a.25.25 0 01-.25.25H1.75a.25.25 0 01-
.25-.25V1.75zM11.75 3a.75.75 0 00-.75.75v7.5a.75.75 0 001.5 0v-7.5a.75.75 0 00-.75-.75zm-
8.25.75a.75.75 0 011.5 0v5.5a.75.75 0 01-1.5 0v-5.5zM8 3a.75.75 0 00-.75.75v3.5a.75.75 0 001.5 0v-
3.5A.75.75 0 008 3z"></path></svg> <svg height="16" width="16" class="octicon octicon-search flex-
shrink-0 js-jump-to-octicon-search d-none" title="Search" aria-label="Search" viewBox="0 0 16 16"
version="1.1" role="img"><path fill-rule="evenodd" d="M11.5 7a4.499 4.499 0 11-8.998 0A4.499 4.499
0 0111.5 7zm-.82 4.74a6 6 0 111.06-1.06l3.04 3.04a.75.75 0 11-1.06 1.06l-3.04-3.04z"></path></svg>
</div>
```

```
<img class="avatar mr-2 flex-shrink-0 js-jump-to-suggestion-avatar d-none" alt=""
aria-label="Team" src="" width="28" height="28">
```

```
<div class="jump-to-suggestion-name js-jump-to-suggestion-name flex-auto overflow-
hidden text-left no-wrap css-truncate css-truncate-target">
</div>
```

```

<div class="border rounded-1 flex-shrink-0 bg-gray px-1 text-gray-light ml-1 f6 d-none
js-jump-to-badge-search">
  <span class="js-jump-to-badg-search-text-default d-none" aria-label="in this
repository">
    In this repository
  </span>
  <span class="js-jump-to-badg-search-text-global d-none" aria-label="in all of
GitHub">
    All GitHub
  </span>
  <span aria-hidden="true" class="d-inline-block ml-1 v-align-middle">⌵</span>
</div>

```

```

<div aria-hidden="true" class="border rounded-1 flex-shrink-0 bg-gray px-1 text-
gray-light ml-1 f6 d-none d-on-nav-focus js-jump-to-badg-jump">
  Jump to
  <span class="d-inline-block ml-1 v-align-middle">⌵</span>
</div>
</a>
</li>

```

```

<li class="d-flex flex-justify-start flex-items-center p-0 f5 navigation-item js-navigation-item js-jump-
to-global-search d-none" role="option"> <a tabindex="-1" class="no-underline d-flex flex-auto flex-
items-center jump-to-suggestions-path js-jump-to-suggestion-path js-navigation-open p-2" href=""
data-item-type="global_search"> <div class="jump-to-octicon js-jump-to-octicon flex-shrink-0 mr-2
text-center d-none"> <svg height="16" width="16" class="octicon octicon-repo flex-shrink-0 js-jump-
to-octicon-repo d-none" title="Repository" aria-label="Repository" viewBox="0 0 16 16"
version="1.1" role="img"><path fill-rule="evenodd" d="M2 2.5A2.5 2.5 0 014.5 0h8.75a.75.75 0
01.75.75v12.5a.75.75 0 01-.75.75h-2.5a.75.75 0 110-1.5h1.75v-2h-8a1 1 0 00-.714 1.7.75.75 0 01-1.072
1.05A2.495 2.495 0 012 11.5v-9zm10.5-1V9h-8c-.356 0-.694.074-1 .208V2.5a1 1 0 01-1h8zM5
12.25v3.25a.25.25 0 00.4.211.45-1.087a.25.25 0 01.3 0L8.6 15.7a.25.25 0 00.4-.2v-3.25a.25.25 0 00-.25-
.25h-3.5a.25.25 0 00-.25.25z"></path></svg> <svg height="16" width="16" class="octicon octicon-
project flex-shrink-0 js-jump-to-octicon-project d-none" title="Project" aria-label="Project"
viewBox="0 0 16 16" version="1.1" role="img"><path fill-rule="evenodd" d="M1.75 0A1.75 1.75 0 000
1.75v12.5C0 15.216.784 16 1.75 16h12.5A1.75 1.75 0 0016 14.25V1.75A1.75 1.75 0 0014.25
0H1.75zM1.5 1.75a.25.25 0 01.25-.25h12.5a.25.25 0 01.25.25v12.5a.25.25 0 01-.25.25H1.75a.25.25 0 01-
.25-.25V1.75zM11.75 3a.75.75 0 00-.75.75v7.5a.75.75 0 001.5 0v-7.5a.75.75 0 00-.75-.75zm-
8.25.75a.75.75 0 011.5 0v5.5a.75.75 0 01-1.5 0v-5.5zM8 3a.75.75 0 00-.75.75v3.5a.75.75 0 001.5 0v-
3.5A.75.75 0 008 3z"></path></svg> <svg height="16" width="16" class="octicon octicon-search flex-
shrink-0 js-jump-to-octicon-search d-none" title="Search" aria-label="Search" viewBox="0 0 16 16"
version="1.1" role="img"><path fill-rule="evenodd" d="M11.5 7a4.499 4.499 0 11-8.998 0A4.499 4.499
0 0111.5 7zm-.82 4.74a6 6 0 111.06-1.06l3.04 3.04a.75.75 0 11-1.06 1.06l-3.04-3.04z"></path></svg>
</div>

```

```
<img class="avatar mr-2 flex-shrink-0 js-jump-to-suggestion-avatar d-none" alt=""  
aria-label="Team" src="" width="28" height="28">
```

```
<div class="jump-to-suggestion-name js-jump-to-suggestion-name flex-auto overflow-  
hidden text-left no-wrap css-truncate css-truncate-target">  
</div>
```

```
<div class="border rounded-1 flex-shrink-0 bg-gray px-1 text-gray-light ml-1 f6 d-none  
js-jump-to-badge-search">  
  <span class="js-jump-to-badge-search-text-default d-none" aria-label="in this  
repository">  
    In this repository  
  </span>  
  <span class="js-jump-to-badge-search-text-global d-none" aria-label="in all of  
GitHub">  
    All GitHub  
  </span>  
  <span aria-hidden="true" class="d-inline-block ml-1 v-align-middle"></span>  
</div>
```

```
  <div aria-hidden="true" class="border rounded-1 flex-shrink-0 bg-gray px-1 text-  
gray-light ml-1 f6 d-none d-on-nav-focus js-jump-to-badge-jump">  
    Jump to  
    <span class="d-inline-block ml-1 v-align-middle"></span>  
  </div>  
</a>  
</li>
```

```
</ul>
```

```
    </div>  
  </label>  
</form> </div>  
</div>
```

```
</div>
```

```

    <a
href="/login?return_to=%2Feldy%2Fsellyoursaas%2Fblob%2Fmaster%2Fdoc%2FDocumentation%25
20SellYourSaas%2520-%2520Master%2520and%2520Deployment%2520Servers%2520-
%2520FR.asciidoc"
    class="HeaderMenu-link no-underline mr-3"
    data-hydro-
click="{&quot;event_type&quot;:&quot;authentication.click&quot;,&quot;payload&quot;:{&
quot;location_in_page&quot;:&quot;site header
menu&quot;,&quot;repository_id&quot;:null,&quot;auth_type&quot;:&quot;SIGN_UP&quot;,&
uot;originating_url&quot;:&quot;https://github.com/eldy/sellyoursaas/blob/master/doc/D
ocumentation%20SellYourSaas%20-%20Master%20and%20Deployment%20Servers%20-
%20FR.asciidoc&quot;,&quot;user_id&quot;:null}}" data-hydro-click-
hmac="dfc5d381eeaf5c737f1d43441fc2d1bae0f2c1ec833725ca7d24ea23cfa7de89"
    data-ga-click="(Logged out) Header, clicked Sign in, text:sign-in">
    Sign&nbsp;in
    </a>
    <a
href="/join?ref_cta=Sign+up&amp;ref_loc=header+logged+out&amp;ref_page=%2F%3Cuser-
name%3E%2F%3Crepo-name%3E%2Fblob%2Fshow&amp;source=header-
repo&amp;source_repo=eldy%2Fsellyoursaas"
    class="HeaderMenu-link d-inline-block no-underline border border-gray-
dark rounded-1 px-2 py-1"
    data-hydro-
click="{&quot;event_type&quot;:&quot;authentication.click&quot;,&quot;payload&quot;:{&
quot;location_in_page&quot;:&quot;site header
menu&quot;,&quot;repository_id&quot;:null,&quot;auth_type&quot;:&quot;SIGN_UP&quot;,&
uot;originating_url&quot;:&quot;https://github.com/eldy/sellyoursaas/blob/master/doc/D
ocumentation%20SellYourSaas%20-%20Master%20and%20Deployment%20Servers%20-
%20FR.asciidoc&quot;,&quot;user_id&quot;:null}}" data-hydro-click-
hmac="dfc5d381eeaf5c737f1d43441fc2d1bae0f2c1ec833725ca7d24ea23cfa7de89"
    data-ga-click="Sign up, click to sign up for account,
ref_page:/&lt;user-name&gt;/&lt;repo-name&gt;/blob/show;ref_cta:Sign up;ref_loc:header
logged out">
    Sign&nbsp;up
    </a>
    </div>
    </div>
    </div>
</header>

```

```
</div>
```

```
<div id="start-of-content" class="show-on-focus"></div>
```

```
<div data-pjax-replace id="js-flash-container">
```

```
<template class="js-flash-template">
  <div class="flash flash-full {{ className }}">
<div class=" px-2" >
  <button class="flash-close js-flash-close" type="button" aria-label="Dismiss this
message">
  <svg class="octicon octicon-x" viewBox="0 0 16 16" version="1.1" width="16"
height="16" aria-hidden="true"><path fill-rule="evenodd" d="M3.72 3.72a.75.75 0 011.06
0L8 6.94L3.22-3.22a.75.75 0 111.06 1.06L9.06 8L3.22 3.22a.75.75 0 11-1.06 1.06L8
9.06L-3.22 3.22a.75.75 0 01-1.06-1.06L6.94 8 3.72 4.78a.75.75 0 010-
1.06z"></path></svg>
  </button>
```

```
<div>{{ message }}</div>
```

```
</div>
</div>
</template>
</div>
```

```
<include-fragment class="js-notification-shelf-include-fragment" data-base-
src="https://github.com/notifications/beta/shelf"></include-fragment>
```

```
<div
  class="application-main "
  data-commit-hovercards-enabled
  data-discussion-hovercards-enabled
  data-issue-and-pr-hovercards-enabled
>
  <div itemscope itemtype="http://schema.org/SoftwareSourceCode" class="">
  <main id="js-repo-pjax-container" data-pjax-container >
```

```
<div class="bg-gray-light pt-3 hide-full-screen mb-5">
```

```
<div class="d-flex mb-3 px-3 px-md-4 px-lg-5">
```

```
<div class="flex-auto min-width-0 width-fit mr-3">
  <h1 class=" d-flex flex-wrap flex-items-center break-word f3 text-normal">
    <svg class="octicon octicon-repo text-gray mr-2" viewBox="0 0 16 16" version="1.1"
width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M2 2.5A2.5 2.5
0 014.5 0h8.75a.75.75 0 01.75.75v12.5a.75.75 0 01-.75.75h-2.5a.75.75 0 10-1.5h1.75v-
2h-8a1 1 0 00-.714 1.7.75.75 0 01-1.072 1.05A2.495 2.495 0 012 11.5v-9zm10.5-1V9h-8c-
.356 0-.694.074-1 .208V2.5a1 1 0 011-1h8zM5 12.25v3.25a.25.25 0 00.4.211.45-
1.087a.25.25 0 01.3 0L8.6 15.7a.25.25 0 00.4-.2v-3.25a.25.25 0 00-.25-.25h-3.5a.25.25
0 00-.25.25z"></path></svg>
    <span class="author flex-self-stretch" itemprop="author">
      <a class="url fn" rel="author" data-hovercard-type="user" data-hovercard-
url="/users/eldy/hovercard" data-octo-click="hovercard-link-click" data-octo-
dimensions="link_type:self" href="/eldy">eldy</a>
    </span>
    <span class="mx-1 flex-self-stretch color-text-secondary"></span>
<strong itemprop="name" class="mr-2 flex-self-stretch">
  <a data-pjax="#js-repo-pjax-container" class=""
href="/eldy/sellyoursaas">sellyoursaas</a>
</strong>
```

```
</h1>
```

```
</div>
```

```
<ul class="pagehead-actions flex-shrink-0 d-none d-md-inline" style="padding: 2px 0;">
```



```
<a class="tooltipped tooltipped-s btn btn-sm btn-with-count" aria-label="You
must be signed in to watch a repository" rel="nofollow" data-hydro-
click="{&quot;event_type&quot;:&quot;authentication.click&quot;,&quot;payload&quot;:,{&
quot;location_in_page&quot;:&quot;notification subscription menu
watch&quot;,&quot;repository_id&quot;:null,&quot;auth_type&quot;:&quot;LOG_IN&quot;,&
quot;originating_url&quot;:&quot;https://github.com/eldy/sellyoursaas/blob/master/doc/D
ocumentation%20SellYourSaas%20-%20Master%20and%20Deployment%20Servers%20-
%20FR.asciidoc&quot;,&quot;user_id&quot;:null}}" data-hydro-click-
hmac="b328483a6a6d86cfc959eba9023c8b4d43cf9bbeae9af14a7c418b065cfa2240"
href="/login?return_to=%2Feldy%2Fsellyoursaas">
```

```
<svg class="octicon octicon-eye" height="16" viewBox="0 0 16 16" version="1.1"
width="16" aria-hidden="true"><path fill-rule="evenodd" d="M1.679 7.932c.412-.621
1.242-1.75 2.366-2.717C5.175 4.242 6.527 3.5 8 3.5c1.473 0 2.824.742 3.955 1.715
1.124.967 1.954 2.096 2.366 2.717a.119.119 0 010 .136c-.412.621-1.242 1.75-2.366
2.717C10.825 11.758 9.473 12.5 8 12.5c-1.473 0-2.824-.742-3.955-1.715C2.92 9.818 2.09
8.69 1.679 8.068a.119.119 0 010-.136zM8 2c-1.981 0-3.67.992-4.933 2.078C1.797 5.169.88
6.423.43 7.1a1.619 1.619 0 000 1.798c.45.678 1.367 1.932 2.637 3.024C4.329 13.008
6.019 14 8 14c1.981 0 3.67-.992 4.933-2.078 1.27-1.091 2.187-2.345 2.637-3.023a1.619
1.619 0 000-1.798c-.45-.678-1.367-1.932-2.637-3.023C11.671 2.992 9.981 2 8 2zm0 8a2 2
0 100-4 2 2 0 000 4z"></path></svg>
```

Watch

```
</a> <a class="social-count" href="/eldy/sellyoursaas/watchers"
aria-label="8 users are watching this repository">
8
</a>
```



```
<li>
```

```
  <a class="btn btn-sm btn-with-count tooltiped tooltiped-s" aria-label="You must be signed in to star a repository" rel="nofollow" data-hydro-click="{&quot;event_type&quot;:&quot;authentication.click&quot;,&quot;payload&quot;:{&quot;location_in_page&quot;:&quot;star button&quot;,&quot;repository_id&quot;:223195062,&quot;auth_type&quot;:&quot;LOG_IN&quot;,&quot;originating_url&quot;:&quot;https://github.com/eldy/sellyoursaas/blob/master/doc/Documentation%20SellYourSaas%20-%20Master%20and%20Deployment%20Servers%20-%20FR.asciidoc&quot;,&quot;user_id&quot;:null}}" data-hydro-click-hmac="14e561d113ad571b26c95971a4d98fa5ac66e06d4c068211af95b33d824917a9" href="/login?return_to=%2Feldy%2Fsellyoursaas">
    <svg class="octicon octicon-star v-align-text-bottom mr-1" height="16" viewBox="0 0 16 16" version="1.1" width="16" aria-hidden="true"><path fill-rule="evenodd" d="M8 .25a.75.75 0 01.673.418l1.882 3.815 4.216 12.612a.75.75 0 01.416 1.279l-3.046 2.977 4.192a.75.75 0 01-1.088.791L8 12.347l-3.766 1.98a.75.75 0 01-1.088-.791l-.72-4.194L.818 6.374a.75.75 0 01.416-1.281L4.21-.611L7.327.668A.75.75 0 018 .25zm0 2.445L6.615 5.5a.75.75 0 01-.564.411l-3.097 4.5 2.24 2.184a.75.75 0 01.216.664l-.528 3.084 2.769-1.456a.75.75 0 01.698 0l2.77 1.456-.53-3.084a.75.75 0 01.216-.664l2.24-2.183-3.096-.45a.75.75 0 01-.564-.411L8 2.694v.001z"></path></svg>
    <span>
      Star
    </span></a>
    <a class="social-count js-social-count" href="/eldy/sellyoursaas/stargazers" aria-label="34 users starred this repository">
      34
    </a>
```

```
</li>
```



```

<li>
  <a class="btn btn-sm btn-with-count tooltipped tooltipped-s" aria-label="You
  must be signed in to fork a repository" rel="nofollow" data-hydro-
  click="{&quot;event_type&quot;:&quot;authentication.click&quot;,&quot;payload&quot;:{&
  quot;location_in_page&quot;:&quot;repo details fork
  button&quot;,&quot;repository_id&quot;:223195062,&quot;auth_type&quot;:&quot;LOG_IN&qu
  ot;,&quot;originating_url&quot;:&quot;https://github.com/eldy/sellyoursaas/blob/master
  /doc/Documentation%20SellYourSaas%20-%20Master%20and%20Deployment%20Servers%20-
  %20FR.asciidoc&quot;,&quot;user_id&quot;:null}}" data-hydro-click-
  hmac="a20e87bf2006740671a5e94e8cb13b87cafcca426d7fc809aa7e0eb89535c52a"
  href="/login?return_to=%2Feldy%2Fsellyoursaas">
    <svg class="octicon octicon-repo-forked" viewBox="0 0 16 16" version="1.1"
    width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M5 3.25a.75.75
    0 11-1.5 0 .75.75 0 011.5 0zm0 2.122a2.25 2.25 0 10-1.5 0v.878a2.25 2.25 0 005.75
    8.5h1.5v2.128a2.251 2.251 0 101.5 0V8.5h1.5a2.25 2.25 0 002.25-2.25v-.878a2.25 2.25 0
    10-1.5 0v.878a.75.75 0 01-.75.75h-4.5A.75.75 0 015 6.25v-.878zm3.75 7.378a.75.75 0 11-
    1.5 0 .75.75 0 011.5 0zm3-8.75a.75.75 0 100-1.5.75.75 0 000 1.5z"></path></svg>
    Fork
  </a>
  <a href="/eldy/sellyoursaas/network/members" class="social-count"
  aria-label="20 users forked this repository">
    20
  </a>
</li>
</ul>

```

```

</div>

```

```

<nav aria-label="Repository" data-pjax="#js-repo-pjax-container" class="js-repo-nav js-sidenav-
container-pjax js-responsive-underlinenav overflow-hidden UnderlineNav px-3 px-md-4 px-lg-5 bg-
gray-light"> <ul class="UnderlineNav-body list-style-none "> <li class="d-flex"> <a class="js-selected-
navigation-item selected UnderlineNav-item hx_underlinenav-item no-wrap js-responsive-
underlinenav-item" data-tab-item="i0code-tab" data-hotkey="g c" data-ga-click="Repository,
Navigation click, Code tab" aria-current="page" data-selected-links="repo_source repo_downloads
repo_commits repo_releases repo_tags repo_branches repo_packages repo_deployments
/eldy/sellyoursaas" href="/eldy/sellyoursaas"> <svg class="octicon octicon-code UnderlineNav-
octicon d-none d-sm-inline" height="16" viewBox="0 0 16 16" version="1.1" width="16" aria-
hidden="true"><path fill-rule="evenodd" d="M4.72 3.22a.75.75 0 011.06 1.06L2.06 8l3.72 3.72a.75.75
0 11-1.06 1.06L4.7 8.53a.75.75 0 010-1.06l4.25-4.25zm6.56 0a.75.75 0 10-1.06 1.06L13.94 8l-3.72
3.72a.75.75 0 101.06 1.06l4.25-4.25a.75.75 0 000-1.06l-4.25-4.25z"></path></svg> <span data-
content="Code">Code</span> <span title="Not available" class="Counter "></span> </a>

```

```

</li>
<li class="d-flex">
  <a class="js-selected-navigation-item UnderlineNav-item hx_underlinenav-item
no-wrap js-responsive-underlinenav-item" data-tab-item="i1issues-tab" data-hotkey="g
i" data-ga-click="Repository, Navigation click, Issues tab" data-selected-
links="repo_issues repo_labels repo_milestones /eldy/sellyoursaas/issues"
href="/eldy/sellyoursaas/issues">
    <svg class="octicon octicon-issue-opened UnderlineNav-octicon d-none d-
sm-inline" height="16" viewBox="0 0 16 16" version="1.1" width="16" aria-
hidden="true"><path fill-rule="evenodd" d="M8 1.5a6.5 6.5 0 10 13 6.5 6.5 0 00-13zM0
8a8 8 0 116 0A8 8 0 010 8zm9 3a1 1 0 11-2 0 1 1 0 012 0zm-.25-6.25a.75.75 0 00-1.5
0v3.5a.75.75 0 001.5 0v-3.5z"></path></svg>
    <span data-content="Issues">Issues</span>
    <span title="3" class="Counter ">3</span>
</a>

```

```

</li>
<li class="d-flex">
  <a class="js-selected-navigation-item UnderlineNav-item hx_underlinenav-item
no-wrap js-responsive-underlinenav-item" data-tab-item="i2pull-requests-tab" data-
hotkey="g p" data-ga-click="Repository, Navigation click, Pull requests tab" data-
selected-links="repo_pulls checks /eldy/sellyoursaas/pulls"
href="/eldy/sellyoursaas/pulls">
    <svg class="octicon octicon-git-pull-request UnderlineNav-octicon d-none
d-sm-inline" height="16" viewBox="0 0 16 16" version="1.1" width="16" aria-
hidden="true"><path fill-rule="evenodd" d="M7.177 3.073L9.573.677A.25.25 0 0110
.854v4.792a.25.25 0 01-.427.177L7.177 3.427a.25.25 0 010-.354zM3.75 2.5a.75.75 0 100
1.5.75.75 0 000-1.5zm-2.25.75a2.25 2.25 0 113 2.122v5.256a2.251 2.251 0 11-1.5
0V5.372A2.25 2.25 0 011.5 3.25zM11 2.5h-1V4h1a1 1 0 011 1v5.628a2.251 2.251 0 101.5
0V5A2.5 2.5 0 0011 2.5zm1 10.25a.75.75 0 111.5 0 .75.75 0 01-1.5 0zM3.75 12a.75.75 0
100 1.5.75.75 0 000-1.5z"></path></svg>
    <span data-content="Pull requests">Pull requests</span>
    <span title="5" class="Counter ">5</span>
</a>

```

```

</li>
<li class="d-flex">
  <a class="js-selected-navigation-item UnderlineNav-item hx_underlinenav-item
no-wrap js-responsive-underlinenav-item" data-tab-item="i3actions-tab" data-hotkey="g
a" data-ga-click="Repository, Navigation click, Actions tab" data-selected-
links="repo_actions /eldy/sellyoursaas/actions" href="/eldy/sellyoursaas/actions">
    <svg class="octicon octicon-play UnderlineNav-octicon d-none d-sm-
inline" height="16" viewBox="0 0 16 16" version="1.1" width="16" aria-
hidden="true"><path fill-rule="evenodd" d="M1.5 8a6.5 6.5 0 113 0 6.5 6.5 0 01-13
0zM8 0a8 8 0 100 16A8 8 0 008 0zM6.379 5.227A.25.25 0 006 5.442v5.117a.25.25 0
00.379.21414.264-2.559a.25.25 0 000-.428L6.379 5.227z"></path></svg>
    <span data-content="Actions">Actions</span>
    <span title="Not available" class="Counter "></span>
</a>

```

```

</li>
<li class="d-flex">
  <a class="js-selected-navigation-item UnderlineNav-item hx_underlinenav-item
no-wrap js-responsive-underlinenav-item" data-tab-item="i4projects-tab" data-hotkey="g
b" data-ga-click="Repository, Navigation click, Projects tab" data-selected-
links="repo_projects new_repo_project repo_project /eldy/sellyoursaas/projects"
href="/eldy/sellyoursaas/projects">
    <svg class="octicon octicon-project UnderlineNav-octicon d-none d-sm-
inline" height="16" viewBox="0 0 16 16" version="1.1" width="16" aria-
hidden="true"><path fill-rule="evenodd" d="M1.75 0A1.75 1.75 0 00 1.75v12.5C0
15.216.784 16 1.75 16h12.5A1.75 1.75 0 0016 14.25V1.75A1.75 1.75 0 0014.25 0H1.75z
M1.5 1.75a.25.25 0 01.25-.25h12.5a.25.25 0 01.25.25v12.5a.25.25 0 01-.25.25H1.75a.25.25
0 01-.25-.25V1.75zM11.75 3a.75.75 0 00-.75.75v7.5a.75.75 0 001.5 0v-7.5a.75.75 0 00-.75-
.75zm-8.25.75a.75.75 0 011.5 0v5.5a.75.75 0 01-1.5 0v-5.5zM8 3a.75.75 0 00-
.75.75v3.5a.75.75 0 001.5 0v-3.5A.75.75 0 008 3z"></path></svg>
    <span data-content="Projects">Projects</span>
    <span title="0" hidden="hidden" class="Counter ">0</span>
</a>

```

```

</li>
<li class="d-flex">
  <a class="js-selected-navigation-item UnderlineNav-item hx_underlinenav-item
no-wrap js-responsive-underlinenav-item" data-tab-item="i5security-tab" data-hotkey="g
s" data-ga-click="Repository, Navigation click, Security tab" data-selected-
links="security overview alerts policy token_scanning code_scanning
/eldy/sellyoursaas/security" href="/eldy/sellyoursaas/security">
  <svg class="octicon octicon-shield UnderlineNav-octicon d-none d-sm-
inline" height="16" viewBox="0 0 16 16" version="1.1" width="16" aria-
hidden="true"><path fill-rule="evenodd" d="M7.467.133a1.75 1.75 0 011.066 0.15.25
1.68A1.75 1.75 0 0115 3.48V7c0 1.566-.32 3.182-1.303 4.682-.983 1.498-2.585 2.813-
5.032 3.855a1.7 1.7 0 01-1.33 0c-2.447-1.042-4.049-2.357-5.032-3.855C1.32 10.182 1
8.566 1 7V3.48a1.75 1.75 0 011.217-1.667l5.25-1.68zm.61 1.429a.25.25 0 00-.153 0l-5.25
1.68a.25.25 0 00-.174.238V7c0 1.358.275 2.666 1.057 3.86.784 1.194 2.121 2.34 4.366
3.297a.2.2 0 00.154 0c2.245-.956 3.582-2.104 4.366-3.298C13.225 9.666 13.5 8.36 13.5
7V3.48a.25.25 0 00-.174-.237l-5.25-1.68zM9 10.5a1 1 0 11-2 0 1 1 0 012 0zm-.25-
5.75a.75.75 0 10-1.5 0v3a.75.75 0 001.5 0v-3z"></path></svg>
  <span data-content="Security">Security</span>
  <include-fragment src="/eldy/sellyoursaas/security/overall-count"
accept="text/fragment+html"></include-fragment>
</a>

```

```

</li>
<li class="d-flex">
  <a class="js-selected-navigation-item UnderlineNav-item hx_underlinenav-item
no-wrap js-responsive-underlinenav-item" data-tab-item="i6insights-tab" data-ga-
click="Repository, Navigation click, Insights tab" data-selected-links="repo_graphs
repo_contributors dependency_graph dependabot_updates pulse people
/eldy/sellyoursaas/pulse" href="/eldy/sellyoursaas/pulse">
  <svg class="octicon octicon-graph UnderlineNav-octicon d-none d-sm-
inline" height="16" viewBox="0 0 16 16" version="1.1" width="16" aria-
hidden="true"><path fill-rule="evenodd" d="M1.5 1.75a.75.75 0 00-1.5 0v12.5c0
.414.336.75.75.75h14.5a.75.75 0 00-1.5H1.5V1.75zm14.28 2.53a.75.75 0 00-1.06-1.06L10
7.94 7.53 5.47a.75.75 0 00-1.06 0L3.22 8.72a.75.75 0 001.06 1.06L7 7.06l2.47
2.47a.75.75 0 001.06 0l5.25-5.25z"></path></svg>
  <span data-content="Insights">Insights</span>
  <span title="Not available" class="Counter "></span>
</a>

```

```

</li>

```

```

</ul> <div class="position-absolute right-0 pr-3 pr-md-4 pr-lg-5 js-responsive-underlinenav-
overflow" style="visibility:hidden;"> <details class="details-overlay details-reset position-relative">
<summary role="button"> <div class="UnderlineNav-item mr-0 border-0"> <svg class="octicon
octicon-kebab-horizontal" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-
hidden="true"><path d="M8 9a1.5 1.5 0 100-3 1.5 1.5 0 00 3zM1.5 9a1.5 1.5 0 100-3 1.5 1.5 0 00
3zm13 0a1.5 1.5 0 100-3 1.5 1.5 0 00 3z"></path></svg> <span class="sr-only">More</span> </div>

```

```
</summary> <div> <details-menu role="menu" class="dropdown-menu dropdown-menu-sw ">
```

```
    <ul>
      <li data-menu-item="i0code-tab" hidden>
        <a role="menuitem" class="js-selected-navigation-item dropdown-item"
data-selected-links=" /eldy/sellyoursaas" href="/eldy/sellyoursaas">
          Code
        </a>
      </li>
      <li data-menu-item="i1issues-tab" hidden>
        <a role="menuitem" class="js-selected-navigation-item dropdown-item"
data-selected-links=" /eldy/sellyoursaas/issues" href="/eldy/sellyoursaas/issues">
          Issues
        </a>
      </li>
      <li data-menu-item="i2pull-requests-tab" hidden>
        <a role="menuitem" class="js-selected-navigation-item dropdown-item"
data-selected-links=" /eldy/sellyoursaas/pulls" href="/eldy/sellyoursaas/pulls">
          Pull requests
        </a>
      </li>
      <li data-menu-item="i3actions-tab" hidden>
        <a role="menuitem" class="js-selected-navigation-item dropdown-item"
data-selected-links=" /eldy/sellyoursaas/actions" href="/eldy/sellyoursaas/actions">
          Actions
        </a>
      </li>
      <li data-menu-item="i4projects-tab" hidden>
        <a role="menuitem" class="js-selected-navigation-item dropdown-item"
data-selected-links=" /eldy/sellyoursaas/projects" href="/eldy/sellyoursaas/projects">
          Projects
        </a>
      </li>
      <li data-menu-item="i5security-tab" hidden>
        <a role="menuitem" class="js-selected-navigation-item dropdown-item"
data-selected-links=" /eldy/sellyoursaas/security" href="/eldy/sellyoursaas/security">
          Security
        </a>
      </li>
      <li data-menu-item="i6insights-tab" hidden>
        <a role="menuitem" class="js-selected-navigation-item dropdown-item"
data-selected-links=" /eldy/sellyoursaas/pulse" href="/eldy/sellyoursaas/pulse">
          Insights
        </a>
      </li>
    </ul>
```

```
</details-menu> </div></details> </div>
```

```
</nav> </div>
```

```
<div class="container-xl clearfix new-discussion-timeline px-3 px-md-4 px-lg-5"> <div
class="repository-content " >
```

```
<a class="d-none js-permalink-shortcut" data-hotkey="y"
href="/eldy/sellyoursaas/blob/f567b4e5a967ce7ffc42b94459e8f42ee19bbe72/doc/Documentati
on%20SellYourSaas%20-%20Master%20and%20Deployment%20Servers%20-
%20FR.asciidoc">Permalink</a>
```

```
<!-- blob contrib key:
blob_contributors:v22:a13f7da50760decf83433f33e69dc6f0af7d41ea459be24af4bf44002c85984a
-->
```

```
<div class="d-flex flex-items-start flex-shrink-0 pb-3 flex-wrap flex-md-nowrap flex-
justify-between flex-md-justify-start">
```

```
<div class="position-relative"> <details class="details-reset details-overlay mr-0 mb-0 " id="branch-
select-menu"> <summary class="btn css-truncate" data-hotkey="w" title="Switch branches or tags">
<svg class="octicon octicon-git-branch text-gray" height="16" viewBox="0 0 16 16" version="1.1"
width="16" aria-hidden="true"><path fill-rule="evenodd" d="M11.75 2.5a.75.75 0 100 1.5.75.75 0 000-
1.5zm-2.25.75a2.25 2.25 0 113 2.122V6A2.5 2.5 0 0110 8.5H6a1 1 0 00-1 1v1.128a2.251 2.251 0 11-1.5
0V5.372a2.25 2.25 0 111.5 0v1.836A2.492 2.492 0 016 7h4a1 1 0 001-1v-.628A2.25 2.25 0 019.5
3.25zM4.25 12a.75.75 0 100 1.5.75.75 0 000-1.5zM3.5 3.25a.75.75 0 111.5 0 .75.75 0 01-1.5
0z"></path></svg> <span class="css-truncate-target" data-menu-button>master</span> <span
class="dropdown-caret"></span> </summary>
```

```
<details-menu class="SelectMenu SelectMenu--hasFilter"
src="/eldy/sellyoursaas/refs/master/doc/Documentation%20SellYourSaas%20-
%20Master%20and%20Deployment%20Servers%20-
%20FR.asciidoc?source_action=show&source_controller=blob" preload>
  <div class="SelectMenu-modal">
    <include-fragment class="SelectMenu-loading" aria-label="Menu is loading">
      <svg class="octicon octicon-octoface anim-pulse" height="32" viewBox="0 0 24
24" version="1.1" width="32" aria-hidden="true"><path d="M7.75 11c-.69 0-1.25.56-1.25
1.25v1.5a1.25 1.25 0 102.5 0v-1.5c9 11.56 8.44 11 7.75 11zm1.27 4.5a.469.469 0 01.48-
.5h5a.47.47 0 01.48.5c-.116 1.316-.759 2.5-2.98 2.5s-2.864-1.184-2.98-2.5zm7.23-4.5c-
.69 0-1.25.56-1.25 1.25v1.5a1.25 1.25 0 102.5 0v-1.5c0-.69-.56-1.25-1.25-
1.25z"></path><path fill-rule="evenodd" d="M21.255 3.82a1.725 1.725 0 00-2.141-1.195c-
.557.16-1.406.44-2.264.866-.78.386-1.647.93-2.293 1.677A18.442 18.442 0 0012 5c-.93 0-
1.784.059-2.569.17-.645-.74-1.505-1.28-2.28-1.664a13.876 13.876 0 00-2.265-.866 1.725
1.725 0 00-2.141 1.196 23.645 23.645 0 00-.69 3.292c-.125.97-.191 2.07-.066
3.112C1.254 11.882 1 13.734 1 15.527 1 19.915 3.13 23 12 23c8.87 0 11-3.053 11-7.473
0-1.794-.255-3.647-.99-5.29.127-1.046.06-2.15-.066-3.125a23.652 23.652 0 00-.689-
3.292zM20.5 14c.5 3.5-1.5 6.5-8.5 6.5s-9-3-8.5-6.5c.583-4 3-6 8.5-6s7.928 2 8.5
6z"></path></svg>
    </include-fragment>
  </div>
</details-menu>
</details>
```

</div>

```
<h2 id="blob-path" class="breadcrumb flex-auto min-width-0 text-normal mx-0 mx-md-3
width-full width-md-auto flex-order-1 flex-md-order-none mt-3 mt-md-0">
  <span class="js-repo-root text-bold"><span class="js-path-segment d-inline-block wb-
break-all"><a data-pjax="true"
href="/eldy/sellyoursaas"><span>sellyoursaas</span></a></span></span><span
class="separator"></span><span class="js-path-segment d-inline-block wb-break-all"><a
data-pjax="true"
href="/eldy/sellyoursaas/tree/master/doc"><span>doc</span></a></span><span
class="separator"></span><strong class="final-path">Documentation SellYourSaas -
Master and Deployment Servers - FR.asciidoc</strong>
</h2>
<a href="/eldy/sellyoursaas/find/master"
  class="js-pjax-capture-input btn mr-2 d-none d-md-block"
  data-pjax
  data-hotkey="t">
  Go to file
</a>
```

```

    <details id="blob-more-options-details" class="details-overlay details-reset
position-relative">
    <summary role="button" type="button" class="btn ">
    <svg aria-label="More options" class="octicon octicon-kebab-horizontal"
height="16" viewBox="0 0 16 16" version="1.1" width="16" role="img"><path d="M8 9a1.5
1.5 0 100-3 1.5 1.5 0 000 3zM1.5 9a1.5 1.5 0 100-3 1.5 1.5 0 000 3zm13 0a1.5 1.5 0
100-3 1.5 1.5 0 000 3z"></path></svg>
</summary> <div>
    <ul class="dropdown-menu dropdown-menu-sw">
        <li class="d-block d-md-none">
            <a class="dropdown-item d-flex flex-items-baseline" data-hydro-
click="{&quot;event_type&quot;:&quot;repository.click&quot;,&quot;payload&quot;:{&quot;
;target&quot;:&quot;FIND_FILE_BUTTON&quot;,&quot;repository_id&quot;:223195062,&quot;o
riginating_url&quot;:&quot;https://github.com/eldy/sellyoursaas/blob/master/doc/Docume
ntation%20SellYourSaas%20-%20Master%20and%20Deployment%20Servers%20-
%20FR.asciidoc&quot;,&quot;user_id&quot;:null}}" data-hydro-click-
hmac="6c4e56c0bfe024fb2a70613ab86e155cd0d0378dec446a67c0b0ac48f385860f" data-ga-
click="Repository, find file, location:repo overview" data-hotkey="t" data-pjax="true"
href="/eldy/sellyoursaas/find/master">
                <span class="flex-auto">Go to file</span>
                <span class="text-small text-gray" aria-hidden="true">T</span>
            </a>
        </li>
        <li data-toggle-for="blob-more-options-details">
            <button type="button" data-toggle-for="jumpto-line-details-dialog"
class="btn-link dropdown-item">
                <span class="d-flex flex-items-baseline">
                    <span class="flex-auto">Go to line</span>
                    <span class="text-small text-gray" aria-hidden="true">L</span>
                </span>
            </button>
        </li>
        <li class="dropdown-divider" role="none"></li>
        <li>
            <clipboard-copy value="doc/Documentation SellYourSaas - Master and
Deployment Servers - FR.asciidoc" class="dropdown-item cursor-pointer" data-toggle-
for="blob-more-options-details">
                Copy path
            </clipboard-copy>
        </li>
    </ul>
</div></details>    </div>

```

```

<div class="Box d-flex flex-column flex-shrink-0 mb-3">

```



```

<div class="Box-header Box-header--blue Details js-details-container">
  <div class="d-flex flex-items-center">
    <span class="flex-shrink-0 ml-n1 mr-n1 mt-n1 mb-n1">
      <a rel="author" data-skip-pjax="true" data-hovercard-type="user" data-
hovercard-url="/users/eldy/hovercard" data-octo-click="hovercard-link-click" data-
octo-dimensions="link_type:self" href="/eldy"></a>
    </span>
    <div class="flex-1 d-flex flex-items-center ml-3 min-width-0">
      <div class="css-truncate css-truncate-overflow">
        <a class="text-bold link-gray-dark" rel="author" data-hovercard-type="user"
data-hovercard-url="/users/eldy/hovercard" data-octo-click="hovercard-link-click"
data-octo-dimensions="link_type:self" href="/eldy">eldy</a>
      </div>
    </div>
  </div>

```

```

    <span>
      <a data-pjax="true" title="Fix setup of unix watchdog
Fix repair script" class="link-gray"
href="/eldy/sellyoursaas/commit/4b4ccb815189f2898ade45030dac5ffec45a65aa">Fix setup of
unix watchdog</a>
    </span>
  </div>

```

```

<span class="hidden-text-expander ml-1 flex-shrink-0">
  <button type="button" class="ellipsis-expander js-details-target" aria-
expanded="false">&hellip;</button>
</span>

```

```

<span class="ml-2">
  <include-fragment accept="text/fragment+html"
src="/eldy/sellyoursaas/commit/4b4ccb815189f2898ade45030dac5ffec45a65aa/rollup?directi
on=e" class="d-inline"></include-fragment>
</span>
</div>
<div class="ml-3 d-flex flex-shrink-0 flex-items-center flex-justify-end text-gray no-
wrap">
  <span class="d-none d-md-inline">
    <span>Latest commit</span>
    <a class="text-small text-mono link-gray"
href="/eldy/sellyoursaas/commit/4b4ccb815189f2898ade45030dac5ffec45a65aa" data-
pjax>4b4ccb8</a>
    <span itemprop="dateModified"><relative-time datetime="2020-12-20T02:54:34Z"
class="no-wrap">Dec 20, 2020</relative-time></span>
  </span>

```

```

    <a data-pjax
href="/eldy/sellyoursaas/commits/master/doc/Documentation%20SellYourSaas%20-
%20Master%20and%20Deployment%20Servers%20-%20FR.asciidoc" class="ml-3 no-wrap link-
gray-dark no-underline">
    <svg class="octicon octicon-history text-gray" height="16" viewBox="0 0 16 16"
version="1.1" width="16" aria-hidden="true"><path fill-rule="evenodd" d="M1.643
3.143L4.27 1.927A2.25 2.25 0 00 2.104V5.75c0 .138.112.25.25h3.646a2.25 2.25 0 00.177-
.427L2.715 4.215a6.5 6.5 0 11-1.18 4.458.75.75 0 10-1.493.154 8.001 8.001 0 101.6-
5.684zM7.75 4a.75.75 0 01.75.75v2.992l2.028.812a.75.75 0 01-.557 1.392l-2.5-1A.75.75 0
017 8.25v-3.5A.75.75 0 017.75 4z"></path></svg>
    <span class="d-none d-sm-inline">
    <strong>History</strong>
    </span>
  </a>
</div>
</div>
<div class="Details-content--hidden ml-5 mt-2"><pre class="mt-2 f6 ws-pre-wrap">Fix
repair script</pre></div>

```

```
</div>
```

```

<div class="Box-body d-flex flex-items-center flex-auto border-bottom-0 flex-wrap" >
  <details class="details-reset details-overlay details-overlay-dark lh-default text-
gray-dark float-left mr-3" id="blob_contributors_box">
    <summary class="link-gray-dark">
      <svg class="octicon octicon-people text-gray" height="16" viewBox="0 0 16 16"
version="1.1" width="16" aria-hidden="true"><path fill-rule="evenodd" d="M5.5 3.5a2 2
0 100 4 2 2 0 000-4zM2 5.5a3.5 3.5 0 115.898 2.549 5.507 5.507 0 013.034 4.084.75.75 0
11-1.482.235 4.001 4.001 0 00-7.9 0 .75.75 0 01-1.482-.236A5.507 5.507 0 013.102 8.05
3.49 3.49 0 012 5.5zM11 4a.75.75 0 100 1.5 1.5 0 01.666 2.844.75.75 0 00-
.416.672v.352a.75.75 0 00.574.73c1.2.289 2.162 1.2 2.522 2.372a.75.75 0 101.434-.44
5.01 5.01 0 00-2.56-3.012A3 3 0 0011 4z"></path></svg>
      <strong>3</strong>
    </summary>
  </details>

```

```

    contributors
  </summary>
</details-dialog
class="Box Box--overlay d-flex flex-column anim-fade-in fast"
aria-label="Users who have contributed to this file"
src="/eldy/sellyoursaas/contributors-
list/master/doc/Documentation%20SellYourSaas%20-
%20Master%20and%20Deployment%20Servers%20-%20FR.asciidoc" preload>
  <div class="Box-header">
    <button class="Box-btn-octicon btn-octicon float-right" type="button" aria-
label="Close dialog" data-close-dialog>
      <svg class="octicon octicon-x" viewBox="0 0 16 16" version="1.1"

```

```

width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M3.72
3.72a.75.75 0 011.06 0L8 6.94L3.22-3.22a.75.75 0 111.06 1.06L9.06 8L3.22 3.22a.75.75 0
11-1.06 1.06L8 9.06L-3.22 3.22a.75.75 0 01-1.06-1.06L6.94 8 3.72 4.78a.75.75 0 010-
1.06z"></path></svg>
</button>
<h3 class="Box-title">
  Users who have contributed to this file
</h3>
</div>
<include-fragment>
  <svg viewBox="0 0 16 16" fill="none" style="box-sizing: content-box; color:
var(--color-icon-primary);" class="my-3 mx-auto d-block" width="32" height="32">
    <circle cx="8" cy="8" r="7" stroke="currentColor" stroke-opacity="0.25" stroke-
width="2" vector-effect="non-scaling-stroke" />
    <path d="M15 8a7.002 7.002 0 00-7-7" stroke="currentColor" stroke-width="2" stroke-
linecap="round" vector-effect="non-scaling-stroke">
      <animateTransform attributeName="transform" type="rotate" from="0 8 8" to="360 8
8" dur="1s" repeatCount="indefinite" />
    </path>
</svg>
</include-fragment>
</details-dialog>
</details>
<span class="">
  <a class="avatar-link" data-hovercard-type="user" data-hovercard-
url="/users/eldy/hovercard" data-octo-click="hovercard-link-click" data-octo-
dimensions="link_type:self"
href="/eldy/sellyoursaas/commits/master/doc/Documentation%20SellYourSaas%20-
%20Master%20and%20Deployment%20Servers%20-%20FR.asciidoc?author=eldy">
    
</a>
  <a class="avatar-link" data-hovercard-type="user" data-hovercard-
url="/users/hregis/hovercard" data-octo-click="hovercard-link-click" data-octo-
dimensions="link_type:self"
href="/eldy/sellyoursaas/commits/master/doc/Documentation%20SellYourSaas%20-
%20Master%20and%20Deployment%20Servers%20-%20FR.asciidoc?author=hregis">
    
</a>
  <a class="avatar-link" data-hovercard-type="user" data-hovercard-
url="/users/Givriz/hovercard" data-octo-click="hovercard-link-click" data-octo-
dimensions="link_type:self"
href="/eldy/sellyoursaas/commits/master/doc/Documentation%20SellYourSaas%20-
%20Master%20and%20Deployment%20Servers%20-%20FR.asciidoc?author=Givriz">
    
</a>
</span>

```

```
</div>
</div>
```

```
<div class="Box mt-3 position-relative
">
```

```
<div class="Box-header py-2 d-flex flex-column flex-shrink-0 flex-md-row flex-md-items-center">
<div class="text-mono f6 flex-auto pr-3 flex-order-2 flex-md-order-1 mt-2 mt-md-0">
```

```
4169 lines (2987 sloc)
<span class="file-info-divider"></span>
138 KB
</div>
```

```
<div class="d-flex py-1 py-md-0 flex-auto flex-order-1 flex-md-order-2 flex-sm-grow-0
flex-justify-between">
```

```
<div class="BtnGroup">
  <a href="/eldy/sellyoursaas/raw/master/doc/Documentation%20SellYourSaas%20-
%20Master%20and%20Deployment%20Servers%20-%20FR.asciidoc" id="raw-url" role="button"
class="btn btn-sm BtnGroup-item ">Raw</a>
  <a href="/eldy/sellyoursaas/blame/master/doc/Documentation%20SellYourSaas%20-
%20Master%20and%20Deployment%20Servers%20-%20FR.asciidoc" data-hotkey="b"
role="button" class="btn js-update-url-with-hash btn-sm BtnGroup-item ">Blame</a>
</div>
```

```
<div>
  <a class="btn-octicon tooltipped tooltipped-nw js-remove-unless-platform"
data-platforms="windows,mac"
href="https://desktop.github.com"
aria-label="Open this file in GitHub Desktop"
data-ga-click="Repository, open with desktop">
  <svg class="octicon octicon-device-desktop" viewBox="0 0 16 16"
version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd"
d="M1.75 2.5h12.5a.25.25 0 01.25.25v7.5a.25.25 0 01-.25.25H1.75a.25.25 0 01-.25-.25v-
7.5a.25.25 0 01.25-.25zM14.25 1H1.75A1.75 1.75 0 000 2.75v7.5C0 11.216.784 12 1.75
12h3.727c-.1 1.041-.52 1.872-1.292 2.757A1.75 1.75 0 004.75 16h6.5a.75.75 0 00.565-
1.243c-.772-.885-1.193-1.716-1.292-2.757h3.727A1.75 1.75 0 0016 10.25v-7.5A1.75 1.75 0
0014.25 1zM9.018 12H6.982a5.72 5.72 0 01-.765 2.5h3.566a5.72 5.72 0 01-.765-
2.5z"></path></svg>
  </a>
```

```

    <a
href="/login?return_to=%2Feldy%2Fsellyoursaas%2Fblob%2Fmaster%2Fdoc%2FDocumentation%25
20SellYourSaas%2520-%2520Master%2520and%2520Deployment%2520Servers%2520-
%2520FR.asciidoc" class="btn-octicon disabled tooltiped tooltiped-nw"
    aria-label="You must be signed in to make or propose changes">
    <svg class="octicon octicon-pencil" height="16" viewBox="0 0 16 16"
version="1.1" width="16" aria-hidden="true"><path fill-rule="evenodd" d="M11.013
1.427a1.75 1.75 0 012.474 0l1.086 1.086a1.75 1.75 0 010 2.474l-8.61 8.61c-.21.21-
.47.364-.756.445l-3.251.93a.75.75 0 01-.927-.928l.929-3.25a1.75 1.75 0 01.445-
.758l8.61-8.61zm1.414 1.06a.25.25 0 00-.354 0l10.811 3.75l1.439 1.44 1.263-
1.263a.25.25 0 00-.354l-1.086-1.086zM11.189 6.25l9.75 4.81l-6.286 6.287a.25.25 0 00-
.064.108l-.558 1.953 1.953-.558a.249.249 0 00.108-.064l6.286-6.286z"></path></svg>
    </a>
    <a
href="/login?return_to=%2Feldy%2Fsellyoursaas%2Fblob%2Fmaster%2Fdoc%2FDocumentation%25
20SellYourSaas%2520-%2520Master%2520and%2520Deployment%2520Servers%2520-
%2520FR.asciidoc" class="btn-octicon btn-octicon-danger disabled tooltiped
tooltiped-nw"
    aria-label="You must be signed in to make or propose changes">
    <svg class="octicon octicon-trashcan" viewBox="0 0 16 16" version="1.1"
width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M6.5
1.75a.25.25 0 01.25-.25h2.5a.25.25 0 01.25.25V3h-3V1.75zm4.5 0V3h2.25a.75.75 0 010
1.5H2.75a.75.75 0 010-1.5H5V1.75C5 .784 5.784 0 6.75 0h2.5c10.216 0 11 .784 11
1.75zM4.496 6.675a.75.75 0 10-1.492.15l.66 6.6A1.75 1.75 0 005.405 15h5.19c.9 0 1.652-
.681 1.741-1.576l.66-6.6a.75.75 0 00-1.492-.149l-.66 6.6a.25.25 0 01-.249.225h-
5.19a.25.25 0 01-.249-.225l-.66-6.6z"></path></svg>
    </a>
</div>
</div>
</div>

```

```

<div id="readme" class="Box-body readme blob js-code-block-container p-5 p-xl-6
gist-border-0">
    <article class="markdown-body entry-content container-lg" itemprop="text"><h1><a
id="user-content-document-installation-et-exploitation-sellyoursaas" class="anchor"
aria-hidden="true" href="#document-installation-et-exploitation-sellyoursaas"><svg
class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16"
aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06
1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5
3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-
2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5
0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83
0z"></path></svg></a>Document installation et exploitation SellYourSaas</h1>
<div id="user-content-preamble">
<div>
<div></div>
</div>
<div id="user-content-toc">
<div id="user-content-toctitle">Table des matières</div>

```

```

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</ul>
</li>
</ul>
</li>

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<li><a href="#installation-des-composants-systèmes-et-applicatifs">Installation des
composants systèmes et applicatifs</a>
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abandonné)</a></li>
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<li><a href="#configuration-de-apparmor">Configuration de AppArmor</a></li>
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<li><a href="#securisation-du-répertoire-des-sessions-php">Securisation du répertoire
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</li>
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<ul>
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com">Obtenir un certificat SSL wilddcard pour *.withX.mysaasdomainname.com</a></li>
<li><a href="#installer-les-fichiers-certificats">Installer les fichiers
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Déploiement</a></li>
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<li><a href="#installation-de-dolibarr">Installation de Dolibarr</a>
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<li><a href="#installation-de-geopip2">Installation de Geopip2</a></li>
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</ul>
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<li><a href="#exploitation-supervision">Exploitation - Supervision</a>
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</li>
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développement">Clonage d'une instance serveur pour production bis ou pour
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<li><a href="#upgrade-os">Upgrade OS</a></li>
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de OpenStack pour gérer les images de serveurs</a></li>
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<li><a href="#déplacement-de-la-base-de-données-varlibmysql-vers-
mntdiskhomemysql">Déplacement de la base de données (var/lib/mysql vers
/mnt/diskhome/mysql)</a></li>
<li><a href="#désactivation-de-toutes-les-instances-utilisateurs">Désactivation de
toutes les instances utilisateurs</a></li>
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</ul>
</li>
<li><a href="#principe-de-fonctionnement-de-sellyoursaas">Principe de fonctionnement
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<ul>
<li><a href="#configuration-des-packages">Configuration des packages</a></li>
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<li><a href="#deploy-deployall">deploy / deployall</a></li>
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<li><a href="#unsuspend">unsuspend</a></li>
<li><a href="#rename">rename</a></li>
<li><a href="#refresh">refresh</a></li>
<li><a href="#backup">backup</a></li>

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</li><a href="#recreateauthorizedkeys">recreateauthorizedkeys</a></li>
</ul>
</li>
<li><a href="#quelques-règles-de-fonctionnement-métier-de-sellyoursaas">Quelques
règles de fonctionnement métier de SellYourSaas</a></li>
</ul>
</li>
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<li><a href="#error-imap-toolkit-crash-unselectable-socket-in-ssl_getdata">ERROR "IMAP
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d'email dans <strong>/var/log/mail.log</strong></a></li>
<li><a href="#php-sessions-files-in-varlibphpsessions-are-not-purged">php sessions
files in /var/lib/php/sessions are not purged</a></li>
<li><a href="#error-fail2ban-does-not-work-on-postfix-sasl-rule">Error fail2ban does
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including-into-name">Extracting a zip file extract files into filename with path with
\ including into name</a></li>
</ul>
</li>
</ul>
</li>
</ul>
</li>
</ul>
</div>
</div>
<div>
<h2 id="user-content-introduction"><a id="user-content-introduction" class="anchor"
aria-hidden="true" href="#introduction"><svg class="octicon octicon-link" viewBox="0 0
16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-
rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5
2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-
4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0
001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-
1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg></a>Introduction</h2>
<div>
<div>
<p>SellYourSaas est un projet Open Source, né suite au besoin de fournir, en temps
réel, des instances d'application Web (comme Dolibarr ERP CRM) à des utilisateurs, à
des fins d'utilisation immédiate, avec les impératifs suivants:</p>
</div>
<div>
<ul>
<li>

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<p>Capable de gérer un nombre très élevé d'instances et d'utilisateurs.</p>
</li>
<li>
<p>Coût très faibles (devant être au moins 10x inférieurs aux solutions Cloud par
containers).</p>
</li>
<li>
<p>Déploiement en temps réel.</p>
</li>
<li>
<p>Offrir un accès complet et privé à l'application proposée, y compris à
l'administration, avec accès complet sans bridage de fonctionnalités ou
paramétrage.</p>
</li>
<li>
<p>Offrir un SaaS ouvert, avec accès SSH, SFTP et base de données direct possible aux
utilisateurs.</p>
</li>
</ul>
</div>
<div>
<p>Suite au déploiement de la v1 et à la demande d'utilisateurs pour pérenniser leur
instance via une souscription, la plateforme évolua pour ajouter d'autres objectifs
:</p>
</div>
<div>
<ul>
<li>
<p>Prendre en compte la souscription à l'application proposée sous forme d'abonnements
payants.</p>
</li>
<li>
<p>Espace client dédié pour gestion de ces factures, comptes et support.</p>
</li>
<li>
<p>Système 100% automatisé (de l'arrivée du prospect à la résiliation de son
abonnement en passant par la délivrance du service, sauvegardes, supervision et
alimentation de la comptabilité: pas d'intervention humaine).</p>
</li>
<li>
<p>Une souplesse dans le mode d'abonnement (fréquence, tarifs, service
complémentaires, options, ...)</p>
</li>
<li>
<p>Compatible (ou à minima adaptable) pour toute application Web.</p>
</li>
<li>
<p>Gestion d'un réseau de revendeur.</p>
</li>
<li>
<p>Disponible en OpenSource.</p>
</li>
</ul>
</div>
```

```
</li>
</ul>
</div>
<div>
<p>Financé par les sociétés Open Source <a href="https://www.dolicloud.com"
rel="nofollow">DoliCloud</a> et <a href="https://www.teclib.com"
rel="nofollow">Teclib</a>, SellYourSaas v2 a atteint ces objectifs et est aujourd'hui
en production chez plusieurs sociétés proposant des services Saas (<a
href="https://www.dolicloud.com" rel="nofollow">DoliCloud</a>, <a
href="https://www.novafirstcloud.com" rel="nofollow">NovaFirstCloud</a>, <a
href="https://www.glp-network.cloud" rel="nofollow">GLPI-Network</a>, ...). Voici une
synthèse de ses capacités:</p>
</div>
<div>
<ul>
<li>
<p>Déploiement de n'importe quelle application WAMP. Gestion de multiples
solutions/applications différentes en même temps.</p>
</li>
<li>
<p>Diffusion d'instances gratuites sans demande d'informations confidentiels ni cartes
bancaires.</p>
</li>
<li>
<p>Diffusion d'instances payantes avec différents niveaux de tarifications.</p>
</li>
<li>
<p>Site web vitrine (optionnel) prêt à l'emploi pour vendre votre application.</p>
</li>
<li>
<p>Espace client dédié (facturation, ticket, compte client).</p>
</li>
<li>
<p>Précablé pour une supervision via DataDog.</p>
</li>
<li>
<p>Précablé pour une analyse de performance, taux de conversion via Google
Analytics.</p>
</li>
<li>
<p> Paiement par carte bancaire via Stripe, conforme SCA (Strong Customer
Authentication).</p>
</li>
<li>
<p> Paiement par prélèvement SEPA (mais pas d'interface direct pour soumettre les
fichiers SEPA à la banque).</p>
</li>
<li>
<p> Systèmes anti usage abusif des applications.</p>
</li>
<li>
```

```
<p>Systèmes de quota de souscription d'instances.</p>
</li>
<li>
<p>Outils facilitant la maintenance, le support des clients, les mises à jour des
applications.</p>
</li>
<li>
<p>Gestion d'un réseau de revendeur. Espace revendeur dédié (facturation, compte
client).</p>
</li>
<li>
<p>Coût d'infrastructure par instance <math>\leq 30</math> centimes (Coût constaté sur le service
commercial Dolibarr CRM).</p>
</li>
<li>
<p>...</p>
</li>
</ul>
</div>
<div>
<p>Le projet est disponible de manière communautaire depuis 2020 sur GitHub: <a
href="https://github.com/eldy/sellyoursaas">https://github.com/eldy/sellyoursaas</a></
p>
</div>
<div>
<p>Il est composé:</p>
</div>
<div>
<ul>
<li>
<p>Un module extension à l'excellent ERP CRM Open Source Dolibarr (<a
href="https://www.dolibarr.org" rel="nofollow">https://www.dolibarr.org</a>).</p>
</li>
<li>
<p>Des outils systèmes divers.</p>
</li>
<li>
<p>Une documentation d'installation et paramétrage système (cette documentation).</p>
</li>
</ul>
</div>
<div>
<p>Ce document présente les étapes pour mettre en oeuvre votre propre plateforme de
business SaaS.</p>
</div>
</div>
</div>
</div>
<div>
<h2 id="user-content-choix-et-acquisition-dun-nom-de-domaine"><a id="user-content-
choix-et-acquisition-dun-nom-de-domaine" class="anchor" aria-hidden="true"
```

```

href="#choix-et-acquisition-dun-nom-de-domaine"><svg class="octicon octicon-link"
viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path
fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-
2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-
4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0
001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-
1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg></a>Choix et acquisition d'un nom
de domaine</h2>
<div>
<div>
<p>L'ensemble du service va tourner sur un nom de domaine. Dans la suite du document,
nous utiliserons la valeur <strong>mydomain.com</strong>
Il vous faut acquerrir ce nom de domaine auprès d'un registrar.</p>
</div>
</div>
</div>
<div>
<h2 id="user-content-installation-de-la-machine-et-os"><a id="user-content-
installation-de-la-machine-et-os" class="anchor" aria-hidden="true"
href="#installation-de-la-machine-et-os"><svg class="octicon octicon-link" viewBox="0
0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-
rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5
2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-
4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0
001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-
1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg></a>Installation de la machine et
OS</h2>
<div>
<div>
<p>La première étape est de mettre à disposition un (ou plusieurs) serveur. Si on part
sur plusieurs serveurs, l'un sera serveur <strong>Master</strong> (pilotage et
facturation) et les autres seront <strong>Serveurs de déploiement</strong> (les
instances des clients). Le serveur <strong>Master</strong> pouvant aussi être
<strong>Serveur de déploiement</strong>, il est possible de démarrer avec un seul
serveur.</p>
</div>
<div>
<h3 id="user-content-choix-de-la-machine-et-de-los"><a id="user-content-choix-de-la-
machine-et-de-los" class="anchor" aria-hidden="true" href="#choix-de-la-machine-et-de-
los"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16"
height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0
001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06
3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-
2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5
0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83
0z"></path></svg></a>Choix de la machine et de l'OS</h3>
<div>
<ul>
<li>
<p>Obtenir un serveur avec un accès SSH pouvant passer root (On utilisera Ubuntu LTS
minimal <strong>16.04</strong> ou <strong>18.04</strong>) pour le <strong>Serveur

```

```

Master</strong>.</p>
</li>
<li>
<p>Obtenir un ou n serveurs avec un accès SSH pouvant passer root (On utilisera Ubuntu
LTS minimal 16.04 ou 18.04) pour le ou les <strong>Serveurs de Déploiement</strong>.
Remarque: Ce point peut être ignorée si vous décidez que le serveur de Déploiement
sera le même serveur que le serveur Master (non recommandé en production).</p>
</li>
</ul>
</div>
<div>
<p><em>Exemple avec Amazon Standard Medium:</em></p>
</div>
<div>
<p>Server <strong>m1.medium</strong> hosted in EU @ $0.18 per hour plus $10 for
storage and bandwidth puis passage à <strong>m1.large</strong> @ $0.18 per hour</p>
</div>
<div>
<p><em>Exemple avec OVH Public Cloud:</em></p>
</div>
<div>
<p>Pour le serveur master: VPS ou B2-15 ou<br>
Pour le ou les serveurs de déploiement, pour 500 instances: B2-15 ou + (soit server 2
core minimum - Mémoire 8 Go minimum - Coût en 2020: 22 euros / mois). Doublez les
caractéristiques si vous visez 1 000 instances client par serveur.</p>
</div>
</div>
<div>
<h3 id="user-content-ajout_de_disque"><a id="user-content-ajout-du-ou-des-disques-
durs-de-données-home-des-instances-utilisateurs-et-home-des-sauvegardes"
class="anchor" aria-hidden="true" href="#ajout-du-ou-des-disques-durs-de-données-home-
des-instances-utilisateurs-et-home-des-sauvegardes"><svg class="octicon octicon-link"
viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path
fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-
2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-
4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0
001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-
1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg></a>Ajout du ou des disques durs
de données (home des instances utilisateurs et home des sauvegardes)</h3>
</div>
<p>On va ajouter, sur le <strong>Serveur de déploiement</strong>, un disque
indépendant pour les instances utilisateurs et les sauvegardes. Il peut s'agir d'un
disque pour les 2 ou bien de 2 disques différents.</p>
</div>
<div>
<p>Sur le serveur de <strong>Déploiement</strong> :</p>
</div>
<div>
<p>Avec OVH Public Cloud:</p>
</div>
</div>

```

```

<ul>
<li>
<p>Créer le disque de données . Pour le serveur de déploiement, prendre 250Mo par
instance.</p>
</li>
<li>
<p>Associer le disque au serveur (chaque disque supplémentaire est ajouté en /dev/vdb,
/dev/vdc, /dev/vdd, ...).
Remarque, le disque devient visible avec <strong>fdisk -l</strong> et
<strong>lsblk</strong></p>
</li>
<li>
<p>Si c'est un disque jamais partitionné, ajouter la partition sur le disque (type
Linux) et la formater en faisant:</p>
</li>
</ul>
</div>
<div>
<div>
<div class="highlight highlight-source-shell"><pre>fdisk -l
fdisk /dev/vdx
option n puis p (choisir alors le numéro de partition, premier et dernier secteur)
puis w

```

fdisk -l

```

fsck -N /dev/vdxY mkfs.ext4 /dev/vdxY</pre></div> </div> </div> <div> <p>Que le disque viennent
d'être formaté ou qu'il s'agisse d'un disque ajouté déjà formaté, la suite de la procédure est
identique:</p> </div> <div> <ul> <li> <p>Récupérer la valeur du UUID à l'issue du formatage qui
s'affiche, sinon, la récupérer avec la commande <strong>blkid</strong></p> </li> <li> <p>Déclarer le
montage pour un montage automatique à chaque reboot en ajoutant une ligne dans
<strong>/etc/fstab</strong></p> </li> </ul> </div> <div> <div> <div class="highlight highlight-source-
shell"><pre>UUID=94817f83-a2ad-46c4-81e0-06e6dd0e95f1 /mnt/diskX ext4 defaults 0 0 ou
UUID=94817f83-a2ad-46c4-81e0-06e6dd0e95f1 /mnt/diskX ext4 [noatime,]nofail 0 0 (ne bloque pas le
démarrage du serveur)</pre></div> </div> </div> <div> <ul> <li> <p>Monter les disques</p> </li>
</ul> </div> <div> <div> <div class="highlight highlight-source-shell"><pre>mkdir /mnt/diskhome
mkdir /mnt/diskbackup mount /dev/vdxY /mnt/diskhome mount /dev/vdxZ /mnt/diskbackup

```



```
</div> </div> <div> <p>Pour vérifier:</p> </div> <div> <div> <div class="highlight highlight-source-shell"><pre>cat /proc/mounts <span class="pl-k">|</span> grep diskX</pre></div> </div> </div> <div> <p>Rem: Pour information, si il faut récupérer des données d'un autre disque après avoir créé le disque, utilisez:</p> </div> <div> <div> <div class="highlight highlight-source-shell"><pre>rsync --info=progress2 -au serveur:source:/mnt/diskSource /mnt/diskTarget
```

</div>

```
Example: rsync --info=progress2 --exclude <span class="pl-s"><span class="pl-pds"></span></span>dbn*<span class="pl-pds">'</span></span> -au -e <span class="pl-s"><span class="pl-pds">'</span></span>ssh<span class="pl-pds">'</span></span> <span class="pl-c1">.</span></span>loginuser@myserverdest.mydomain.com:/var/lib/mysql chown -R mysql:mysql /var/lib/mysql mysqlcheck --all-databases</pre></div> </div> </div> </div>
```

SSH et sudo

Compte unix admin

Créer le compte utilisateur **admin**. Il sera utilisé pour installer et administrer le système lorsque root n'est pas nécessaire.

```
groupadd admin useradd -m -g admin admin usermod -a -G adm admin mkdir /home/admin/logs chown root:adm /home/admin/logs chmod 770 /home/admin/logs
```

Vérifiez que le id de ce user **admin** est bien supérieur ou égale à 1000.

Créer un compte utilisateur pour vous même (ou d'autres administrateurs), par exemple: **myunixlogin**. Il sera utilisé pour vous logger.

```
adduser myunixlogin
```

Configuration ssh

Corriger les permissions du fichier **/etc/ssh/sshd_config** pour être en lecture/écriture pour root uniquement.

```
lang="conf"><code>chmod go-rw /etc/ssh/sshd_config</code></pre>
```

Créer un fichier **/etc/ssh/sshd_config.d/sellyoursaas** pour changer les autorisations de login avec le contenu suivant:

```
lang="conf"><code>#Privilege Separation is turned on for security UsePrivilegeSeparation yes PermitRootLogin no # Permissions on files must be correct
```

to allow login StrictModes yes

Define list of allowed method to authenticate

ChallengeResponseAuthentication yes PasswordAuthentication yes PubkeyAuthentication yes

PermitEmptyPasswords no

```
AllowUsers myunixlogin admin osu* DenyUsers guest
```

Attention, à bien remplacer **myunixlogin** par la bonne valeur avant de prendre en compte les modifications par:

```
lang="conf"><code>/etc/init.d/ssh reload</code></pre>
```

Ajouter la ligne suivante dans le fichier **/etc/sudoers** pour repositionner le HOME selon le user apres un sudo -s:

```
lang="conf"><code>Defaults set_home</code></pre>
```

Créer un fichier **myunixlogin** à mettre dans le répertoire **/etc/sudoers.d** avec le owner **root** et les permissions **rr-----** et le contenu

```
lang="conf"><code>myunixlogin ALL=(ALL) NOPASSWD:ALL</code></pre>
```

Ajouter votre clé publique à votre compte unix.

```
ssh-copy-id myunixlogin@x.y.z.a
```

Définir ou redéfinir le mot de passe de **root**, **admin**, et de **myunixlogin** avec un mot de passe sure.

Lancer ssh-keygen sur chacun de ces 3 comptes

[Shell par défaut](#shell-par-défaut)

Modifier le shell par défaut pour utiliser bash (au lieu dh sh ou dash)

```
ln -fs /bin/bash /usr/bin/sh
```

[Suppression des fichiers d'information au login](#suppression-des-fichiers-dinformation-au-login)

Afin de ne pas donner d'information aux utilisateurs qui feront du SSH, sur les serveurs de déploiements:

```
rm /etc/update-motd.d/10-help-text /etc/update-motd.d/20-runabove /etc/update-motd.d/50-landscape-sysinfo /etc/update-motd.d/50-landscape-sysinfo rm /etc/update-motd.d/9*</span>-update*</span>-available /etc/update-motd.d/92-unattended-upgrades
```

</div> </div> <div> <h3 id="user-content-modification-de-etcskel"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg>Modification de /etc/skel</h3> <div> <p>Editer sur les serveurs de déploiement le contenu de /etc/skel afin de remplir le .ssh/authorized_keys avec * la clé publique ssh du ou des utilisateurs myunixlogin * la clé publique ssh de l'utilisateur admin du serveur master</p> </div> <div> <div> <div class="highlight highlight-source-shell"><pre>sudo mkdir /etc/skel/.ssh sudo touch /etc/skel/.ssh/authorized_keys sudo chmod -R go-rwx /etc/skel/.ssh sudo vi /etc/skel/.ssh/authorized_keys</pre></div> </div> </div> <div> <p>Ainsi tout nouveau compte linux créé (ceux des instances des clients) sera accessible par le ou les administrateurs.</p> </div> </div> <div> <h3 id="user-content-ajout-alias"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg>Ajout alias</h3> <div> <p>Ajouter à la fin de /etc/bash.bashrc:</p> </div> <div> <div> <div class="highlight highlight-source-shell"><pre>alias psld='ps -fax -eo user:12,pid,ppid,pcpu,pmem,vsz:12,size:12,TTY,start_time:6,utime,time,cmd'</pre></div> </div> </div> </div> <div> <h3 id="user-content-augmentation-taille-max-uid"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg>Augmentation taille max UID</h3> <div> <p>Sur les serveurs de déploiement, modifier /etc/login.defs pour mettre le</p> </div> <div> <div> <pre lang="conf"><code> UID_MIN 1000 UID_MAX 500000

```
GID_MIN          1000
GID_MAX          500000</code></pre>
```

</div>

</div>

<div>

<p>Modifier le fichier /etc/apache2/mods-enabled/mpm_itk.conf (si il existe) ou /etc/apache2/conf-enabled/security.conf (sinon) pour mettre</p>

</div>

<div>

<div>

```

<pre lang="conf"><code>LimitUIDRange 1 500000
LimitGIDRange 1 500000</code></pre>
</div>
</div>
</div>
<div>
<h3 id="user-content-configuration-hostname-et-ip"><a id="user-content-configuration-hostname-et-ip" class="anchor" aria-hidden="true" href="#configuration-hostname-et-ip"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 01.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg></a>Configuration hostname et IP</h3>
<div>
<p>Ajouter une entrée du nouveau serveur dans le DNS fourni par le provider du domaine.</p>
</div>
<div>
<p>Aller dans l'interface de gestion des IP OVH, pour ajouter le reverse sur l'IP du serveur.</p>
</div>
<div>
<p>Aller dans l'interface de gestion des serveurs OVH, pour modifier leur nom court. Ceci modifiera le fichier <strong>/etc/hostname</strong> automatiquement (sinon modifier manuellement) avec le nom court. Le fichier aura alors comme seul contenu:</p>
</div>
<div>
<div class="highlight highlight-source-shell"><pre>nomduserveur</pre></div>
</div>
</div>
<div>
<p>Se connecter et modifier le fichier <strong>/etc/hosts</strong> avec l'entrée du nouveau serveur</p>
</div>
<div>
<div class="highlight highlight-source-shell"><pre>ipduserveurprincipale
nomduserveur.mysaasdomainname.com</pre></div>
</div>
</div>
</div>
<div>
<h3 id="user-content-ajout-du-support-de-lip-v6-optionnel"><a id="user-content-ajout-du-support-de-lip-v6-optionnel" class="anchor" aria-hidden="true" href="#ajout-du-support-de-lip-v6-optionnel"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 01.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg></a>Ajout du support de l'IP v6 optionnel</h3>

```

```

2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 012.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25
1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0
00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2
2 0 01-2.83 0z"></path></svg></a>Ajout du support de l'IP v6 (optionnel)</h3>
<div>
<h4 id="user-content-avec-ifupdown-apt-install-ifupdown"><a id="user-content-avec-
ifupdown-apt-install-ifupdown" class="anchor" aria-hidden="true" href="#avec-ifupdown-
apt-install-ifupdown"><svg class="octicon octicon-link" viewBox="0 0 16 16"
version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd"
d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-
2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 012.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25
1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0
00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2
2 0 01-2.83 0z"></path></svg></a>Avec ifupdown (apt install ifupdown)</h4>
<div>
<ul>
<li>
<p>Pour ajouter une IP v6 de manière dynamique à des fins de test dans un premier
temps:</p>
</li>
</ul>
</div>
<div>
<div class="highlight highlight-source-shell"><pre>ip addr add
2002:41d0:1234:1000::1234/128 dev eth0
ip -6 route add 2002:41d0:1234:1000::1 dev eth0
ip -6 route add default via 2002:41d0:1234:1000::1 dev eth0</pre></div>
</div>
<div>
<ul>
<li>
<p>Pour une définition persistente au reboot, déclarer l'interface dans
<strong>/etc/network/interfaces</strong> ou dans un fichier de
<strong>/etc/network/interfaces.d</strong> (Ubuntu &lt; 17.10)</p>
</li>
</ul>
</div>
<div>
<p>Exemple pour une IPv6 2002:41d0<g-emoji class="g-emoji" alias="1234" fallback-
src="https://github.githubassets.com/images/icons/emoji/unicode/1f522.png"> </g-
emoji>1000::1234 avec comme gateway 2002:41d0<g-emoji class="g-emoji" alias="1234"
fallback-
src="https://github.githubassets.com/images/icons/emoji/unicode/1f522.png"> </g-
emoji>1000::1</p>
</div>
<div>
<div>
<pre lang="conf"><code># Pour declarer une IP v6 persistente (le masque est 128 chez
OVH en ipv6)

```

```
iface eth0 inet6 static
    address 2002:41d0:1234:1000::1234
    netmask 128
    post-up /sbin/ip -6 route add 2002:41d0:1234:1000::1 dev eth0
    post-up /sbin/ip -6 route add default via 2002:41d0:1234:1000::1 dev eth0
    pre-down /sbin/ip -6 route del default via 2002:41d0:1234:1000::1 dev eth0
    pre-down /sbin/ip -6 route del 2002:41d0:1234:1000::1 dev eth0
```

</div>

</div>

<div>

<p>Rem: eth0 can be something else, for example

ens3.</p>

</div>

<div>

<p>Pour prendre en compte, essayer ceci, sinon, reboot.</p>

</div>

<div>

<div>

<div class="highlight highlight-source-shell"><pre>/etc/init.d/networking
restart</pre></div>

</div>

</div>

</div>

<div>

<h4 id="user-content-avec-netplan-ubuntu-18-04"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 01.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg>Avec netplan (Ubuntu 18.04 +)</h4>

<div>

<p>Ajouter un fichier de conf /etc/netplan/51-ipv6-ovh.yaml.

Remarque: OVH fourni un /128 pour l'ipv6 mais netplan veut du /64</p>

</div>

<div>

<p>Exemple pour une IPv6 2002:41d0<g-emoji class="g-emoji" alias="1234" fallback-src="https://github.githubassets.com/images/icons/emoji/unicode/1f522.png">🔢</g-emoji>1000::1234 avec comme gateway 2002:41d0<g-emoji class="g-emoji" alias="1234" fallback-src="https://github.githubassets.com/images/icons/emoji/unicode/1f522.png">🔢</g-emoji>1000::1</p>

</div>

<div>

<div>

```
<pre lang="conf"><code>network:
    version: 2
    ethernets:
        eth0:
```

```
match:
    name: eth0
addresses:
    - "2002:41d0:1234:1000::1234/64"
gateway6: "2002:41d0:1234:1000::1"
```

</div>

</div>

<div>

<p>Note: Use 4 spaces for tabulation.</p>

</div>

<div>

<div>

<div class="highlight highlight-source-shell"><pre>netplan try
netplan apply</pre></div>

</div>

</div>

<div>

<p>Rem: eth0 can be something else, for example
ens3.</p>

</div>

</div>

</div>

<div>

<h3 id="user-content-ajout-ip-virtuelle-optionnel"><a id="user-content-ajout-ip-
virtuelle-optionnel" class="anchor" aria-hidden="true" href="#ajout-ip-virtuelle-
optionnel"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1"
width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775
3.275a.75.75 0 01.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0
.75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25
1.25zm-4.69
9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-
2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83
0z"></path></svg>Ajout IP virtuelle (optionnel)</h3>

<div>

<p>Ajouter ☐IP virtuelle via le manager OVH.</p>

<p>Ajouter et supprimer ☐interface réseau virtuelle sur le serveur de manière
dynamique (pour test).</p>

</div>

<div>

<p>Ajout:</p>

</div>

<div>

<div>

<div class="highlight highlight-source-shell"><pre>ifconfig eth0:0 a.b.c.d</pre></div>

</div>

</div>

```

<div>
<p>Suppression:</p>
</div>
<div>
<div>
<div class="highlight highlight-source-shell"><pre>ifconfig eth0:0 down</pre></div>
</div>
</div>
<div>
<ul>
<li>
<p>Pour une définition persistente au reboot, déclarer l'interface dans
<strong>/etc/network/interfaces</strong> ou dans un fichier de
<strong>/etc/network/interfaces.d</strong> (Ubuntu &lt; 17.10)</p>
</li>
</ul>
</div>
<div>
<p>Exemple pour 2 IPs virtuelles:</p>
</div>
<div>
<pre lang="conf"><code>auto eth0:0
iface eth0:0 inet static
    address a.b.c.d
    netmask 255.255.255.255
    broadcast a.b.c.d
</pre>

```

Pour déclarer une IP virtuelle persistante

```

auto eth0:1 iface eth0:1 inet static address e.f.g.h netmask 255.255.255.255 broadcast
e.f.g.h</code>&lt;/pre> &lt;/div> &lt;/div> &lt;/div> &lt;/div> &lt;p>&lt;strong>eth0</strong> can be something else, for example
&lt;strong>ens3</strong>.&lt;/p> &lt;/div> &lt;/div> &lt;/div> &lt;/div>
class="highlight highlight-source-shell"&lt;/pre>/etc/init.d/networking
restart&lt;/pre>&lt;/div> &lt;/div> &lt;/div> &lt;/div> &lt;ul> &lt;li>
&lt;p>Associer l'IP virtuel au serveur depuis la manager OVH.&lt;/p> &lt;/li> &lt;/ul>
&lt;/div> &lt;/div> &lt;/div> &lt;h3 id="user-content-ajout-dun-swap-optionnel"&gt;&lt;a
id="user-content-ajout-dun-swap-optionnel" class="anchor" aria-hidden="true" href="#ajout-dun-
swap-optionnel"&gt;&lt;svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1"
width="16" height="16" aria-hidden="true"&gt;&lt;path fill-rule="evenodd" d="M7.775 3.275a.75.75 0
001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95
0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0
001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25

```


1.25a2 2 0 01-2.83 0z"></path></svg>Ajout d'un swap (optionnel)</h3></div> <p>Check if swap exists:</p> </div> </div> </div> </div> class="highlight highlight-source-shell"><pre>swapon --summary</pre></div> </div> </div> </div> <p>Ajouter un swap sur /swap/swap.img si le disque n'est pas SSD, sinon sur le disque non SSD /mnt/sdX/swap/swap.img. Si tous les disques sont SSD, ne pas mettre de swap.</p> </div> </div> </div> <p>https://www.digitalocean.com/community/tutorials/how-to-configure-virtual-memory-swap-file-on-a-vps#4</p> </div> </div> </div> </div> <h3 id="user-content-création-des-répertoires-de-travail"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 01.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 1-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 1-2.83 0z"></path></svg>Création des répertoires de travail</h3> </div> <p>Sur le serveur Master et les serveurs de Déploiement, créer les répertoires pour stocker les instances, les sauvegardes et les archives.</p> </div> </div> <p>Create directories required to store data and backups:</p> </div> </div> </div> </div> <div class="highlight highlight-source-shell"><pre>mkdir /home/jail

```
mkdir /mnt/diskhome/home<span class="pl-k"></span> ln -fs /mnt/diskhome/home /home/jail/home
mkdir /mnt/diskbackup/backup<span class="pl-k"></span> mkdir /mnt/diskbackup/archives-
test<span class="pl-k"></span> mkdir /mnt/diskbackup/archives-paid chown admin.root
/mnt/diskbackup/backup /mnt/diskbackup/archives-test /mnt/diskbackup/archives-paid ln -fs
/mnt/diskbackup/backup /home/jail/backup ln -fs /mnt/diskbackup/archives-test /home/jail/archives-
test ln -fs /mnt/diskbackup/archives-paid /home/jail/archives-paid</pre></div> </div> </div> </div> <div> <h3 id="user-content-installation-du-partage-nfs"><a id="user-content-installation-du-
partage-nfs" class="anchor" aria-hidden="true" href="installation-du-partage-nfs"><svg
class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-
hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 01.06 1.06l1.25-1.25a2 2 0 112.83
2.83l-2.5 2.5a2 2 0 1-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25
1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5
2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 1-2.83
0z"></path></svg></a>Installation du partage nfs</h3> <div> <p>Le partage NFS permettra aux
serveurs de <strong>Déploiement</strong> de récupérer les images d'application à installer qui
sont centralisées sur le serveur <strong>Master</strong>.</p> </div> <div> <h4 id="user-content-
sur-le-serveur-master"><a id="user-content-sur-le-serveur-master" class="anchor" aria-
hidden="true" href="#sur-le-serveur-master"><svg class="octicon octicon-link" viewBox="0 0 16 16"
version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775
3.275a.75.75 0 01.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 1-2.83 0 .75.75 0 00-1.06 1.06 3.5
```

3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg>Sur le serveur Master</h4> <div> <p>Installer le serveur NFS et le partage sur

```
<strong>/home/admin/wwwroot/dolibarr_documents/sellyoursaas</strong></p> </div> <div> <div> <div class="highlight highlight-source-shell"><pre>sudo apt install nfs-kernel-server vi /etc/exports</pre></div> </div> </div> <div> <div> <div class="highlight highlight-source-shell"><pre><span class="pl-c"><span class="pl-c"></span> /etc/exports: the access control list for filesystems which may be exported</span> <span class="pl-c"><span class="pl-c">#</span> to NFS clients. See exports(5).</span> <span class="pl-c"><span class="pl-c">#</span></span> <span class="pl-c"><span class="pl-c">#</span> Example for NFSv2 and NFSv3:</span> <span class="pl-c"><span class="pl-c">#</span></span> <span class="pl-c"><span class="pl-c">#</span> Example for NFSv4:</span> <span class="pl-c"><span class="pl-c">#</span></span> <span class="pl-c"><span class="pl-c">#</span></span> /srv/homes hostname1(rw,sync,no_subtree_check) hostname2(ro,sync,no_subtree_check)</span> <span class="pl-c"><span class="pl-c">#</span></span> <span class="pl-c"><span class="pl-c">#</span></span> Example for NFSv4:</span> <span class="pl-c"><span class="pl-c">#</span></span> <span class="pl-c"><span class="pl-c">#</span></span> /srv/nfs4 gss/krb5i(rw,sync,fsid=0,crossmnt,no_subtree_check)</span> <span class="pl-c"><span class="pl-c">#</span></span> /srv/nfs4/homes gss/krb5i(rw,sync,no_subtree_check)</span> <span class="pl-c"><span class="pl-c">#</span></span> <span class="pl-c"><span class="pl-c">#</span></span> /home/admin/wwwroot/dolibarr_documents/sellyoursaas i.p.deployment.server1(ro,no_root_squash,sync,no_subtree_check) ... /home/admin/wwwroot/dolibarr_documents/sellyoursaas i.p.deployment.serverN(ro,no_root_squash,sync,no_subtree_check)</pre></div> </div> </div> <div> <div class="highlight highlight-source-shell"><pre>exportfs -v -a (to validate new entries to add) exportfs -v -r (to validate new entries to remove) exportfs systemctl <span class="pl-c1">enable</span> nfs-kernel-server systemctl restart nfs-kernel-server systemctl status nfs-kernel-server exportfs</pre></div> </div> </div> </div> <div> <h4 id="user-content-sur-les-serveurs-de-déploiement"><a id="user-content-sur-les-serveurs-de-déploiement" class="anchor" aria-hidden="true" href="sur-les-serveurs-de-déploiement"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 011.25 1.25a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg></a>Sur les Serveurs de Déploiement</h4> <div> <p>Pensez à ouvrir l'accès du firewall entre le client NFS (<strong>Serveur de déploiement</strong>) et le serveur NFS (<strong>serveur Master</strong>).</p> </div> <div> <p>Installer le client NFS et faire le montage en manuel. Le montage est réalisé par défaut en NFSv4.</p> </div> <div> <div class="highlight highlight-source-shell"><pre>sudo apt-get install nfs-common sudo mount -t nfs i.p.server.master:/home/admin/wwwroot/dolibarr_documents/sellyoursaas /home/admin/wwwroot/dolibarr_documents/sellyoursaas sudo umount /home/admin/wwwroot/dolibarr_documents/sellyoursaas</pre></div> </div> </div> <div> <p>Ajouter la ligne au fichier <strong>/etc/fstab</strong> pour avoir le montage automatique au reboot</p> </div> <div> <div class="highlight highlight-source-shell"><pre>i.p.server.master:/home/admin/wwwroot/dolibarr_documents/sellyoursaas /home/admin/wwwroot/dolibarr_documents/sellyoursaas nfs defaults 0 0</pre></div> </div> </div> </div> <div> <h3 id="user-content-creation-de-la-clé-ssh-du-compte-admin"><a id="user-content-creation-de-la-clé-ssh-du-compte-admin" class="anchor" aria-hidden="true" href="#creation-de-la-clé-ssh-du-compte-admin"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 011.25 1.25a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg></a></h3>
```

3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 1.06 3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg>Creation de la clé ssh du compte admin</h3> <div> <h4 id="user-content-sur-le-serveur-master-et-de-déploiement"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 1.06 3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg>Sur le serveur master et de déploiement</h4> <div> <p>Générer une clé publique et privée ssh pour le compte admin.</p> </div> <div> <div class="highlight highlight-source-shell"><pre>ssh-keygen</pre></div> </div> </div> <div> <h4 id="user-content-sur-les-serveurs-de-déploiement"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 1.06 3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg>Sur les serveurs de déploiement</h4> <div> <p>Sur les serveurs de déploiement, copier la clé publique et privé du compte ssh admin du master en /home/admin/.ssh/id_rsa_sellyoursaas... (Cette clé est celle commune pour la maintenance pour accéder aux comptes utilisateurs). Mettre les bons droits.</p> </div> <div> <div class="highlight highlight-source-shell"><pre>chmod u+rw /home/admin/.ssh/id_rsa_sellyoursaas* chmod go-rw /home/admin/.ssh/id_rsa_sellyoursaas* chmod a+r /home/admin/.ssh/id_rsa_sellyoursaas.pub</pre></div> </div> </div> <div> <p>Compléter le fichier /home/admin/.ssh/config pour indiquer d'utiliser cette clé publique lors d'accès à lui même ou github au lieu de id_rsa par défaut.</p> </div> <div> <div class="highlight highlight-source-shell"><pre>Host ipserveurdeploiement IdentityFile /home/admin/.ssh/id_rsa_sellyoursaas Host github.com IdentityFile /home/admin/.ssh/id_rsa_sellyoursaas</pre></div> </div> </div> </div> </div> </div> </div> </div> <div> <div> <h2 id="user-content-installation-des-composants-systèmes-et-applicatifs"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 1.06 3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg>Installation des composants systèmes et applicatifs</h2> <div> <div> <h3 id="user-content-installation-des-packages"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 1.06 3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg>Installation des

0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg>Installation des packages</h3> <div> <p>Installation des packages Ubuntu suivant</p> </div> <div> <div> <div class="highlight highlight-source-shell"><pre>sudo apt-get update sudo apt-get install ntp git zip memcached rrdtool ncdudo sudo apt-get install php mysql-server mysql-client php-cli apache2 php-pear apache2-bin libapache2-mod-php php-fpm php-gd php-json php-ldap php-mysqlnd php-curl php-memcached php-rrd php-imagick php-geoip php-mcrypt php-intl php-zip php-bz2 php-ssh2 php-mbstring sudo apt-get install watchdog cpulimit libapache2-mpm-itk apparmor apparmor-profiles apparmor-utils rkhunter chkrootkit sudo apt-get install bind9 sudo apt-get install spamc spamassassin clamav clamav-daemon</pre></div> </div> </div> <div> <h3 id="user-content-désactivation-de-la-mise-a-jour-automatique"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg>Désactivation de la mise a jour automatique</h3> <div> <p>Désinstaller le package unattended-upgrades au cas où il aurait été installé.</p> </div> <div> <div class="highlight highlight-source-shell"><pre>apt remove unattended-upgrades</pre></div> </div> </div> <div> <h3 id="user-content-configuration-du-serveur-web-apache"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg>Configuration du serveur Web Apache</h3> <div> <p>On active les modules apache pour fonctionner en MPM_PREFORK and MPM_ITK:</p> </div> <div> <div class="highlight highlight-source-shell"><pre>a2enmod actions alias asis auth_basic auth_digest authn_anon authn_dbd authn_dbm authn_file authz_dbm authz_groupfile authz_host authz_owner authz_user autoindex a2enmod cache cgid cgi charset_lite dav_fs dav dav_lock dbd deflate dir dump_io env expires ext_filter file_cache filter headers http2 ident include info ldap a2enmod mem_cache mime mime_magic negotiation php7.0|php7.2 reqtimeout rewrite setenvif spelling ssl status substitute suexec unique_id userdir usertrack vhost_alias a2enmod mpm_itk mpm_prefork</pre></div> </div> </div> <div> <p>On active les configurations apache pour fonctionner en MPM_PREFORK and MPM_ITK:</p> </div> <div> <div class="highlight highlight-source-shell"><pre>a2enconf charset indexignore localized-error-pages other-vhosts-access-log security</pre></div> </div> </div> <div> <p>Sur les serveurs de Déploiement:</p> </div> <div> <p>Création du répertoire des fichiers configurations des hôtes virtuels des instances.</p> </div> <div> <div class="highlight highlight-source-shell"><pre>cd /etc/apache2 mkdir sellyoursaas-available sellyoursaas-online sellyoursaas-offline ln -fs /etc/apache2/sellyoursaas-online /etc/apache2/sellyoursaas-enabled</pre></div> </div> </div> <div> <p>Sur Ubuntu 18.04 et plus, vérifiez que le paramètre PrivateTmp est à >false dans le fichier apache2.service de configuration de lancement Apache. Ceci permettra d'avoir un répertoire /tmp non unique et isolé à chaque instance

rendant possible les opérations de debug et d'analyse sur les problèmes d'envoi de mails et de contrôle de Spam.

```
vi /etc/systemd/system/multi-user.target.wants/apache2.service systemctl reload apache2
```

Ajout de la directive pour prendre en compte le répertoire pour les **virtual hosts** des instances utilisateurs dans la config **/etc/apache2/apache2.conf**

```
# Include virtual host for sellyoursaas instances: IncludeOptional sellyoursaas-enabled/.conf
```

Ajout des directives pour définir la log par défaut des erreurs dans **/etc/apache2/conf-enabled/other-vhosts-access-log.conf**

```
ErrorLogFormat "[%v] [%u] [%-m:%l] [pid %P:tid %T] %7F: %E: [client %a] %M% ,\ referer %R"
ErrorLog ${APACHE_LOG_DIR}/other_vhosts_error.log
```

Sur le serveur Master:

- Créer un virtual host **admin.mysaasdomainname.com** sur le Dolibarr **Master** pour l'administration de SellyourSaas**

```
Admin Dolibarr Master
VirtualHost
php_admin_value sendmail_path "/usr/sbin/sendmail -t -i"
php_admin_value mail.force_extra_parameters "-f postmaster@mysaasdomainname.com"
php_admin_value sendmail_path "/usr/sbin/sendmail -t -i -f webmaster@mysaasdomainname.com"
php_admin_value open_basedir "/tmp:/home/admin/wwwroot:/usr/share/GeoIP:/home/jail/home:/home/admin/backup/dump:/home/admin/tools/"
php_admin_value memory_limit 64M
```

```
ServerName admin.mysaasdomainname.com
DocumentRoot /home/admin/wwwroot/dolibarr/htdocs/
ErrorLog /home/admin/logs/mycompany_admin_error_log
CustomLog /home/admin/logs/mycompany_admin_access_log combined
```

```
UseCanonicalName Off
```

```
Not sure this can help
TimeOut 20
```

```
KeepAlive On
KeepAliveTimeout 5
MaxKeepAliveRequests 20
```

```

<span class="pl-k">&lt;</span>Directory /home/admin/wwwroot<span class="pl-
k">&gt;</span>
AllowOverride FileInfo Limit
Options +FollowSymLinks
Order allow,deny
Deny from env=bad_bots
Allow from all
Require all granted
<span class="pl-k">&lt;</span>/Directory<span class="pl-k">&gt;</span>

```

```

<span class="pl-c"><span class="pl-c">#</span> Add alias git on sellyoursaas git
dir</span>
Alias <span class="pl-s"><span class="pl-pds">"</span>/git<span class="pl-
pds">"</span></span> <span class="pl-s"><span class="pl-
pds">"</span>/home/admin/wwwroot/dolibarr_documents/sellyoursaas/git<span class="pl-
pds">"</span></span></span>
<span class="pl-k">&lt;</span>Directory /home/admin/wwwroot<span class="pl-
k">&gt;</span>
AllowOverride FileInfo Limit
Options +Indexes
Require ip 1.2.3.4
<span class="pl-k">&lt;</span>/Directory<span class="pl-k">&gt;</span>

```

```

ExpiresActive On
ExpiresByType image/x-icon A2592000
ExpiresByType image/gif A2592000
ExpiresByType image/png A2592000
ExpiresByType image/jpeg A2592000
ExpiresByType text/css A2592000
ExpiresByType text/javascript A2592000
ExpiresByType application/x-javascript A2592000
ExpiresByType application/javascript A2592000

```

```

RewriteEngine On RewriteCond %{SERVER_NAME} =admin.mysaasdomainname.com RewriteCond
%{REQUEST_URI} &lt;span class="pl-k">&lt;</span>filesaver&lt;span class="pl-
cce">&lt;</span>.\&lt;/span>&lt;span class="pl-k">&gt;</span>php RewriteRule ^ <a href="https://%{SERVER_NAME}%{REQUEST_URI}"
class="bare">https://%{SERVER_NAME}%{REQUEST_URI}</a> [END,NE,R&lt;span class="pl-
k">&gt;=&lt;/span>&lt;span class="pl-k">&gt;</span><a anchor="/&lt;span class="pl-k">&gt;</span>/VirtualHost&lt;span
class="pl-k">&gt;</span>[&lt;span class="pl-k">&gt;</span>/VirtualHost&lt;span class="pl-
k">&gt;#&lt;/span>&lt;/span>&lt;span class="pl-k">&gt;</span>&lt;/pre>&lt;/div> &lt;/div> &lt;/div> &lt;/div> &lt;/div> &lt;/div> &lt;/div> &lt;/div> &lt;/div>
Vous pouvez créer un autre virtual host pour le HTTPS port 443&lt;/p>&lt;/div> &lt;/div> &lt;/div> &lt;/div>
&lt;ul>&lt;/ul> &lt;li>&lt;/li> &lt;/li>&lt;/li>&lt;/li>&lt;/li>Cr&lt;span class="pl-k">&gt;</span>éer un virtual host pour l'espace client
&lt;strong>myaccount.mysaasdomainname.com&lt;/strong>&lt;/strong>&lt;/strong>&lt;/strong>&lt;/strong>&lt;/strong>&lt;/strong>&lt;/strong>&lt;/strong>&lt;/strong>&lt;/strong>
&lt;/div>&lt;/div> &lt;/div> &lt;/div> &lt;/div> &lt;/div> &lt;/div> &lt;/div> &lt;/div> &lt;/div> &lt;/div> &lt;/div>
shell"&lt;span class="pl-k">&gt;</span>&lt;pre>&lt;span class="pl-c">&lt;</span>&lt;span class="pl-
c">&lt;span class="pl-c">#&lt;/span>&lt;/span>&lt;/pre>&lt;/div> &lt;/div> &lt;/div> &lt;/div> &lt;/div> &lt;/div> &lt;/div> &lt;/div> &lt;/div> &lt;/div> &lt;/div> &lt;/div>

```

```

</mark></mark><mark><mark>#&lt;/span&gt; &lt;/span class="pl-c"&gt;&lt;/span class="pl-
c"&gt;</mark>&lt;/span&gt; MyAccount&lt;/span&gt; &lt;/span class="pl-c"&gt;&lt;/span class="pl-
c"&gt;#&lt;/span&gt;</mark><mark><mark></mark><mark></mark></mark><mark><mark></mark
><mark></mark></mark><mark>#&lt;/span&gt; &lt;/span class="pl-
k"&gt;&lt;/span&gt;VirtualHost &lt;/span class="pl-k"&gt;*&lt;/span&gt;&lt;/span class="pl-
k"&gt;80&gt;&lt;/span&gt; &lt;/span class="pl-c"&gt;&lt;/span class="pl-
c"&gt;</mark>&lt;/span&gt;php_admin_value sendmail_path "/usr/sbin/sendmail -t -i"&lt;/span&gt;
&lt;/span class="pl-c"&gt;&lt;/span class="pl-c"&gt;#&lt;/span&gt;php_admin_value
mail.force_extra_parameters "-f <a
href="mailto:postmaster@mysaasdomainname.com">postmaster@mysaasdomainname.com</a>"&lt;
t;/span&gt; &lt;/span class="pl-c"&gt;&lt;/span class="pl-c"&gt;#&lt;/span&gt;php_admin_value
sendmail_path "/usr/sbin/sendmail -t -i -f <a
href="mailto:postmaster@mysaasdomainname.com">postmaster@mysaasdomainname.com</a>"&lt;
t;/span&gt; php_admin_value open_basedir /tmp:/home/admin/wwwroot:/home/admin/tools/

```

```

UseCanonicalName On
ServerName myaccount.mysaasdomainname.com
ErrorLog /home/admin/logs/mysaas_myaccount_error_log
CustomLog /home/admin/logs/mysaas_myaccount_access_log combined

```

```

DocumentRoot /home/admin/wwwroot/dolibarr/htdocs/custom/sellyoursaas/myaccount

```

```

<span class="pl-k">&lt;/span>Directory
/home/admin/wwwroot/dolibarr_sellyoursaas/myaccount<span class="pl-k">&gt;</span>
AllowOverride FileInfo Options
Options -Indexes -MultiViews +FollowSymLinks -ExecCGI
Require all granted
<span class="pl-k">&lt;/span>/Directory<span class="pl-k">&gt;</span>

```

```

<span class="pl-c"><span class="pl-c">#</span> To access images</span>
<span class="pl-k">&lt;/span>Directory /home/admin/wwwroot/dolibarr_documents<span
class="pl-k">&gt;</span>
AllowOverride FileInfo Options
Options -Indexes -MultiViews +FollowSymLinks -ExecCGI
Require all granted
<span class="pl-k">&lt;/span>/Directory<span class="pl-k">&gt;</span>

```

```

AddOutputFilterByType DEFLATE text/html text/plain text/xml
AddDefaultCharset utf-8

```

```
ExpiresActive On
ExpiresByType image/x-icon A2592000
ExpiresByType image/gif A2592000
ExpiresByType image/png A2592000
ExpiresByType image/jpeg A2592000
ExpiresByType text/css A2592000
ExpiresByType text/javascript A2592000
ExpiresByType application/x-javascript A2592000
ExpiresByType application/javascript A2592000
```

```
RewriteEngine on RewriteCond %{SERVER_NAME} =myaccount.mysaasdomainname.com
RewriteRule ^ <a href="https://%{SERVER_NAME}%{REQUEST_URI}"
class="bare">https://%{SERVER_NAME}%{REQUEST_URI}</a> [END,NE,R<span class="pl-k">
k"&gt;=&lt;/span>&lt;span>permanent] &lt;span class="pl-k"&gt;<a anchor="/>VirtualHost<span
class="pl-k">[/span>&lt;span>VirtualHost<span class="pl-k"&gt;
k"&#93;</a>&lt;/span>&lt;pre>&lt;/div> &lt;/div> &lt;/div> &lt;/div> &lt;/div> &lt;/div> &lt;/div>
Vous pouvez créer un autre virtual host pour le HTTPS port 443</p> &lt;/div> &lt;/div>
<h3 id="user-content-timeout-des-lancements-de-serveurs">&lt;a id="user-content-
timeout-des-lancements-de-serveurs" class="anchor" aria-hidden="true" href="#timeout-des-
lancements-de-serveurs">&lt;svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1"
width="16" height="16" aria-hidden="true"&lt;path fill-rule="evenodd" d="M7.775 3.275a.75.75 0
001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95
0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0
001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25
1.25a2 2 0 01-2.83 0z"&lt;/path>&lt;/svg>&lt;/a>Timeout des lancements de
serveurs</h3> &lt;/div> &lt;/p>
Sur Ubuntu 18.04+ et avec MariaDb migré depuis un
MySQL:&lt;/p> &lt;/div> &lt;/div> &lt;/p>
Augmenter le timeout de lancement des processus
car parfois les lancements de mysql/mariadb peuvent être long en cas de plantage. Pour cela,
modifier le fichier &lt;strong>etc/systemd/system/mariadb.service.d/migrated-from-my.cnf-
settings.conf</strong> et mettre&lt;/p> &lt;/div> &lt;/div> &lt;/div> &lt;/div>
class="highlight highlight-source-shell"&lt;pre>[Service] TimeoutStartSec=3600s
TimeoutStopSec=3600s</pre>&lt;/div> &lt;/div> &lt;/div> &lt;/div> &lt;/p>
Rem: Au lieu de mettre &lt;strong>3600s</strong>, il est possible de mettre
&lt;strong>infinity</strong>&lt;/p> &lt;/div> &lt;/div> &lt;/p>
Puis recharger la nouvelle configuration:&lt;/p> &lt;/div> &lt;/div> &lt;/div> &lt;/div>
class="highlight highlight-source-shell"&lt;pre>systemctl reload
nom_du_service.service</pre>&lt;/div> &lt;/div> &lt;/div> &lt;/div> &lt;/div>
<h3 id="user-content-installation-du-firewall">&lt;a id="user-content-installation-du-firewall"
class="anchor" aria-hidden="true" href="#installation-du-firewall">&lt;svg class="octicon
octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-
hidden="true"&lt;path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0
112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-
4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95
0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83
0z"&lt;/path>&lt;/svg>&lt;/a>Installation du firewall</h3> &lt;/div> &lt;/ul>
<li>&lt;p>Créer un fichier de lancement du firewall (par exemple dans
&lt;strong>/home/admin/tools/firewall</strong>). La configuration d'un firewall ne fait pas
```


partie du projet Sell-Your-SaaS. Assurez vous de son lancement au démarrage du serveur par:

```

</pre>
</li>
</ul>
</div>
</div class="highlight highlight-source-shell">
<pre>ln -fs /home/admin/tools/firewall/etc/init.d/firewallsellyoursaas systemctl daemon-reload systemctl <span class="pl-c1">enable</span>
</span>
firewallsellyoursaas systemctl is-enabled firewallsellyoursaas systemctl status firewallsellyoursaas</pre>
</div>
</div>
</div>
</div>
</p>
</h3 id="user-content-installation-de-watchdog-unix-optionnel">
<a id="user-content-installation-de-watchdog-unix-optionnel" class="anchor" aria-hidden="true" href="#installation-de-watchdog-unix-optionnel">
<svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true">
<path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z">
</path>
</svg>
</a>
Installation de watchdog unix (optionnel)
</h3>
</div>
</ul>
</li>
</p>
Installation et activation de watchdog Linux avec les configs dans <strong>/etc/watchdog</strong>
</p>
</li>
</ul>
</div>
</div>
</div class="highlight highlight-source-shell">
<pre>ln -fs /home/admin/wwwroot/dolibarr_sellyoursaas/scripts/repair.ksh /usr/sbin/repair</pre>
</div>
</div>
</div>
</p>
Pour consulter, ne plus lancer au démarrage, lancer au démarrage, arrêter, lancer:
</p>
</div>
</div class="highlight highlight-source-shell">
<pre>systemctl status watchdog systemctl disable watchdog systemctl <span class="pl-c1">enable</span>
</span>
watchdog systemctl stop watchdog systemctl start watchdog</pre>
</div>
</div>
</div>
</p>
Lorsque la charge devient très élevée ou lorsque la mémoire est très faible, le chien de garde lancera le script de réparation qui suivra l'état du serveur dans les fichiers <strong>/var/log/repair...log</strong> puis redémarrera le serveur. Remarque: cela ne devrait jamais arriver.
</p>
</div>
</div>
</div class="highlight highlight-source-shell">
<pre>a id="user-content-installation-du-watchdog-apache" class="anchor" aria-hidden="true" href="#installation-du-watchdog-apache">
<svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true">
<path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z">
</path>
</svg>
</a>
Installation du watchdog Apache
</h3>
</div>
</p>
Obligatoire, nécessaire pour compenser un bug apache faisant planter apache au bout de trop de reload.
</p>
</div>
</div>
</div>
</p>
Sur les <strong>serveurs de déploiements</strong> :
</p>
</div>
</ul>
</li>
</p>
Installation et activation des watchdogs Apache fournis dans <strong>/home/admin/wwwroot/dolibarr_sellyoursaas/scripts</strong> en créant un lien par
</p>
</li>
</ul>
</div>
</div>
</div class="highlight highlight-source-shell">
<pre>ln -fs /home/admin/wwwroot/dolibarr_sellyoursaas/scripts/apache_watchdog_launcher1.sh /etc/init.d/apache_watchdog_launcher1
ln -fs /home/admin/wwwroot/dolibarr_sellyoursaas/scripts/apache_watchdog_launcher2.sh /etc/init.d/apache_watchdog_launcher2 systemctl daemon-reload
```

```
systemctl enable apache_watchdog_launcher1 systemctl is-enabled apache_watchdog_launcher1 systemctl status apache_watchdog_launcher1
```

```
systemctl enable apache_watchdog_launcher2 systemctl is-enabled apache_watchdog_launcher2 systemctl status apache_watchdog_launcher2
```

[installation-de-lagent-de-déploiement-des-instances](#)

Installation de l'agent de déploiement des instances

Sur les Serveurs de déploiements :

- Installation et activation de l'agent dans `/home/admin/wwwroot/dolibarr_sellyoursaas/scripts/remote_server_launcher.sh` en créant un lien par

```
ln -fs /home/admin/wwwroot/dolibarr_sellyoursaas/scripts/remote_server_launcher.sh /etc/init.d/remote_server_launcher systemctl daemon-reload systemctl enable remote_server_launcher systemctl is-enabled remote_server_launcher systemctl status remote_server_launcher
```

Remarque: L'agent se lance sur le port 8080

Pour utiliser systemd créer un fichier `/etc/systemd/system/remote-server-launcher.service` :

```
[span class="pl-c"]<span class="pl-c"> /etc/systemd/system/remote-server-launcher.service</span>
```

Description=Remote Server Launcher

RequiresMountsFor=/home/admin/wwwroot/dolibarr_documents/sellyoursaas

Type=forking

ExecStart=/etc/init.d/remote_server_launcher start

TimeoutSec=0

StandardOutput=tty

RemainAfterExit=yes

Restart=on-failure

```
WantedBy=multi-user.target</pre></div>
```

```
</div>
```

```
</div>
```

```
<div>
```

La directive "RequiresMountsFor" permet d'attendre la disponibilité du répertoire où se trouve le script "remote_server_launcher.sh"

```
</div>
```

```
<div>
```

Activation du service :

```
</div>
```

```

<div>
<div>
<div class="highlight highlight-source-shell"><pre>systemctl <span class="pl-c1">enable</span> remote-server-launcher.service
systemctl start remote-server-launcher.service
systemctl status remote-server-launcher.service
systemctl stop remote-server-launcher.service</pre></div>
</div>
</div>
</div>
<div>
<h3 id="user-content-installation-de-fail2ban"><a id="user-content-installation-de-fail2ban" class="anchor" aria-hidden="true" href="#installation-de-fail2ban"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg></a>Installation de fail2ban</h3>
<div>
<ul>
<li>
<p>Installation de fail2ban et activation des règles fail2ban suivantes:
<strong>apache-shellshock</strong>, <strong>php-url-fopen</strong>, <strong>webmin-auth</strong>, <strong>pam-generic</strong>, <strong>postfix-sasl</strong>, <strong>mysqld-auth</strong>, <strong>xinetd-fail</strong>
<strong>apache-badbots</strong>, <strong>apache-noscript</strong>, <strong>apache-overflows</strong>, <strong>apache-nohome</strong>, <strong>apache-botsearch</strong></p>
</li>
<li>
<p>Ainsi que les règles spécifiques à sellyoursaas:</p>
<div>
<div>
<pre>*email-dol-blacklist*, *email-dol-perday*, *email-dol-perhour*, *email-dol-perhouradmin*, *web-dol-passforgotten*</pre>
</div>
</div>
</li>
</ul>
</div>
<div>
<p>Pour cela, créer d'abord un fichier <strong>/etc/fail2ban/jail.local</strong> avec ce contenu:</p>
</div>
<div>
<table>
<tbody><tr>
<td>
<div>Note</div>

```

```

</td>
<td>
Les règles disponibles peuvent varier selon la version de l'OS installé.
</td>
</tr>
</tbody></table>
</div>
<div>
<table>
<tbody><tr>
<td>
<div>Note</div>
</td>
<td>
Penser à modifier aussi "mybusinessips" par votre ou vos ips séparés par des espaces
ainsi que le paramètre <strong>destemail</strong> par l'email de supervision de votre
société.
</td>
</tr>
</tbody></table>
</div>
<div>
<div class="highlight highlight-source-shell"><pre><span class="pl-c"><span class="pl-c">#</span> Fail2Ban configuration file.</span>
<span class="pl-c"><span class="pl-c">#</span></span></span>
<span class="pl-c"><span class="pl-c">#</span> This file was composed for Debian
systems from the original one</span>
<span class="pl-c"><span class="pl-c">#</span> provided now under
/usr/share/doc/fail2ban/examples/jail.conf</span>
<span class="pl-c"><span class="pl-c">#</span> for additional examples.</span>
<span class="pl-c"><span class="pl-c">#</span></span></span>
<span class="pl-c"><span class="pl-c">#</span> Comments: use '#' for comment lines and
';' for inline comments</span>
<span class="pl-c"><span class="pl-c">#</span></span></span>
<span class="pl-c"><span class="pl-c">#</span> To avoid merges during upgrades DO NOT
MODIFY THIS FILE</span>
<span class="pl-c"><span class="pl-c">#</span> and rather provide your changes in
/etc/fail2ban/jail.local</span>
<span class="pl-c"><span class="pl-c">#</span></span></span>

```

The DEFAULT allows a global definition of the options. They can be overridden # in each jail afterwards.

"ignoreip" can be an IP address, a CIDR mask or a DNS host. Fail2ban will not # ban a host which matches an address in this list. Several addresses can be # defined using space separator. ignoreip = 127.0.0.1/8 mybusinessips

`# "bantime" is the number of seconds that a host is banned. bantime = 3600`

`# A host is banned if it has generated "maxretry" during the last "findtime" # seconds. findtime = 600 maxretry = 3`

`# "backend" specifies the backend used to get files modification. # Available options are "pyinotify", "gamin", "polling" and "auto". # This option can be overridden in each jail as well. # # pyinotify: requires pyinotify (a file alteration monitor) to be installed. # If pyinotify is not installed, Fail2ban will use auto. # gamin: requires Gamin (a file alteration monitor) to be installed. # If Gamin is not installed, Fail2ban will use auto. # polling: uses a polling algorithm which does not require external libraries. # auto: will try to use the following backends, in order: # pyinotify, gamin, polling. backend = auto`

`# "usedns" specifies if jails should trust hostnames in logs, # warn when reverse DNS lookups are performed, or ignore all hostnames in logs # # yes: if a hostname is encountered, a reverse DNS lookup will be performed. # warn: if a hostname is encountered, a reverse DNS lookup will be performed, # but it will be logged as a warning. # no: if a hostname is encountered, will not be used for banning, # but it will be logged as info. usedns = warn`

`# # Destination email address used solely for the interpolations in # jail.{conf,local} configuration files. destemail = supervision@mydomain.com`

`# # Name of the sender for mta actions sendername = Fail2Ban`

`# # ACTIONS #`

`# Default banning action (e.g. iptables, iptables-new, # iptables-multiport, shorewall, etc) It is used to define # action_* variables. Can be overridden globally or per # section within jail.local file banaction = iptables-multiport`

`# email action. Since 0.8.1 upstream fail2ban uses`

sendmail # MTA for the mailing. Change mta configuration parameter to mail # if you want to revert to conventional 'mail'. mta = sendmail

enabled = true

enabled = true

enabled = true

Overwrite param port since it is wrong into file jail.conf because it contains 'imap3' instead of 'imap' that does not exists port = smtp,465,submission,imap,imaps,pop3,pop3s enabled = true

enabled = true

enabled = true

enabled = true

Ban hosts which agent identifies spammer robots crawling the web # for email addresses. The mail outputs are buffered. port = http,https logpath = %(apache_access_log)s bantime = 172800 maxretry = 1 enabled = true

port = http,https logpath = %(apache_error_log)s maxretry = 6 enabled = true

port = http,https logpath = %(apache_error_log)s maxretry = 2 enabled = true

port = http,https logpath = %(apache_error_log)s maxretry = 2 enabled = true

port = http,https logpath = %(apache_error_log)s maxretry = 2 enabled = true

port = 3306 logpath = /var/log/mysql/error.log #backend = %(mysql_backend)s enabled = true bantime = 7200 ; 2 hours findtime = 3600 ; 1 hour maxretry = 5

; rule against intensive email ko - too high number of recipient (see file etc/fail2ban/filter.d/apache-dolibarr-rulesko) ; A log for this rule will be reported if nb of recipients is higher than \$MAXOK defined into phpsendmail.php file ; Note: For Dolibarr app, you can set MAIL_MAX_NB_OF_RECIPIENTS_IN_SAME_EMAIL to match same value. enabled = true port = http,https filter = apache-dolibarr-rulesko logpath = /var/log/phpsendmail.log action = %(action_mw)s bantime = 7200 ; 2 hours findtime = 3600 ; 1 hour maxretry = 5

; rule against email ko - blacklist ip, email or content (see file etc/fail2ban/filter.d/apache-dolibarr-ruleskoblacklist) enabled = >true port = http,https filter = apache-dolibarr-ruleskoblacklist logpath = /var/log/phpsendmail.log action = %(action_mw)s bantime = 4320000 ; 50 days findtime = 86400 ; 1 day maxretry = 1

; rule against out of limit emails (max 500 emails per day) (see file etc/fail2ban/filter.d/apache-dolibarr-rulesall) enabled = >true port = http,https filter = apache-dolibarr-rulesall logpath = /var/log/phpsendmail.log action = %(action_mw)s bantime = 86400 ; 1 day findtime = 86400 ; 1 day maxretry = 500

; rule against out of limit emails (max 10 from admin) (see file etc/fail2ban/filter.d/apache-dolibarr-rulesadmin) enabled = >true port = http,https filter = apache-dolibarr-rulesadmin logpath = /var/log/phpsendmail.log action = %(action_mw)s bantime = 4320000 ; 50 days findtime = 60 ; 1 minute maxretry = 10

; rule against call to passwordforgottenpage (see file etc/fail2ban/filter.d/apache-dolibarr-rulespasswordforgotten) ; disable this rule by setting enable to >false on deployment only servers enabled = >true port = http,https filter = apache-dolibarr-rulespassforgotten logpath =

/home/admin/wwwroot/dolibarr_documents/dolibarr.log action = %(action_mw)s bantime = 4320000 ; 50 days findtime = 86400 ; 1 day maxretry = 10</pre></div> </div> </div> <div> <p>Puis placer les fichiers de filtres fournis avec le projet dans etc/fail2ban/filter.d dans le répertoire du même nom /etc/fail2ban/filter.d</p> </div> </div> <div> <h3 id="user-content-test-spamassassin"><a id="user-content-test-spamassassin" class="anchor" aria-hidden="true" href="

test-spamassassin"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg>Test spamassassin</h3> <div> <p>Le process

spamd doit tourner. Lancer le manuellement la première fois si ce n'est pas le cas.</p> </div> <div> <p>Pour tester que le client spamassassin fonctionne, créer un fichier /tmp/testspam avec ce contenu</p> </div> <div> <div> <pre>Subject: Test spam mail (GTUBE) Message-ID: <GTUBE1.1010101@example.net > Date: Wed, 23 Jul 2003 23:30:00 +0200 From: Sender <sender@example.net > To: Recipient <recipient@example.net > Precedence: junk MIME-Version: 1.0 Content-Type: text/plain; charset=us-ascii Content-Transfer-Encoding: 7bit</pre>

</div> </div> <div> <div> <pre>This is the GTUBE, the Generic Test for Unsolicited Bulk Email</pre>

</div> </div> <div> <div> <pre>If your spam filter supports it, the GTUBE provides a test by which you can verify that the filter is installed correctly and is detecting incoming spam. You can send yourself a test mail containing the following string of characters (in upper case and with no white spaces and line breaks):</pre>

</div> </div> <div> <div> <pre>XJS*C4JDBQADN1.NSBN3*2IDNEN*GTUBE-STANDARD-ANTI-UBE-TEST-EMAIL*C.34X</pre>

</div> </div> <div> <div> <pre>You should send this test mail from an account outside of your

</pre></div> </div> </div>

```
network.</pre> </div> </div> <div> <p>Puis tester avec:</p> </div> <div> <div> <div class="highlight
highlight-source-shell"><pre>spamc <span class="pl-k"><</span> /tmp/testspam spamc -c <span
class="pl-k"><</span> /tmp/testspam <span class="pl-c1">echo</span> <span class="pl-
smi"> $?</span></pre></div> </div> </div> </div> <div> <h3 id="user-content-installation-de-
clamav"><a id="user-content-installation-de-clamav" class="anchor" aria-hidden="true"
href="#installation-de-clamav"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1"
width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0
001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95
0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0
001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25
1.25a2 2 0 01-2.83 0z"></path></svg></a>Installation de ClamAV</h3> <div> <p>Le process
<strong>freshclam</strong> et <strong>clamd</strong> doit tourner. Lancer les manuellement la
première fois si ce n'est pas le cas.</p> </div> <div> <p>Pour tester l'outil <strong>clamav</strong>,
créez un fichier <strong>/tmp/testvirus</strong> avec le contenu</p> </div> <div> <div> <div
class="highlight highlight-source-shell"><pre>X5O<span class="pl-k">!</span>P%<span class="pl-cce">\P</span>ZX54(P^)7CC7}<span class="pl-smi">$EICAR</span>-STANDARD-
ANTIVIRUS-TEST-FILE<span class="pl-k">!</span><span class="pl-smi">$H</span>+H<span
class="pl-k">*</span></pre></div> </div> </div> <div> <p>Et pour tester <strong>clamav</strong>
en ligne de commande et le démon:</p> </div> <div> <div> <div class="highlight highlight-source-
shell"><pre>clamscan /tmp/testvirus clamdscan /tmp/testvirus --fdpass</pre></div> </div> </div>
<div> <p>Remove the apparmor profile for <strong>usr.sbin.clamd</strong>. It is required to be
called from web process (otherwise error on "getattr").</p> </div> <div> <div> <div class="highlight
highlight-source-shell"><pre><span class="pl-c1">cd</span> /etc/apparmor.d/disable ln -fs
/etc/apparmor.d/usr.sbin.clamd service apparmor reload service apparmor status</pre></div>
</div> </div> <div> <p>You should see into the status a line saying that Profile
<strong>usr/sbin/clamd</strong> is disabled. It seems we must also restart apache to have this
effective inside apache.</p> </div> </div> <div> <h3 id="user-content-installation-de-afick"><a
id="user-content-installation-de-afick" class="anchor" aria-hidden="true" href="#installation-de-
afick"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16"
aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0
112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-
4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95
0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83
0z"></path></svg></a>Installation de Afick</h3> <div> <ul> <li> <p>Installer afick.pl tool from the
debian package found on afick web site.</p> </li> <li> <p>Comment the lines that exclude suffix we
want to keep in <strong>/etc/afick.conf</strong>.</p> </li> <li> <p>Complete setup
<strong>/etc/afick.conf</strong> for section <strong>macros</strong> with:</p> </li> </ul> </div>
<div> <div> <div class="highlight highlight-source-shell"><pre><span class="pl-c"><span class="pl-
c"></span> used by cron job (afick_cron)</span> <span class="pl-c"><span class="pl-c">#</span></span>
define the mail adress to send cron job result</span> @@define MAILTO
supervision@mysaasdomainname.com <span class="pl-c"><span class="pl-c">#</span></span> truncate the
result sended by mail to the number of lines (avoid too long mails)</span> @@define LINES 1000
<span class="pl-c"><span class="pl-c">#</span></span> REPORT = 1 to enable mail reports, =0 to disable
report</span> @@define REPORT 1 <span class="pl-c"><span class="pl-c">#</span></span> VERBOSE = 1 to
have one mail by run, =0 to have a mail only if changes are detected</span> @@define VERBOSE 1
<span class="pl-c"><span class="pl-c">#</span></span> define the nice value : from 0 to 19 (priority of the
job)</span> @@define NICE 18 <span class="pl-c"><span class="pl-c">#</span></span> = 1 to allow cron job,
= 0 to suppress cron job</span> @@define BATCH 1 <span class="pl-c"><span class="pl-c">#</span></span>
```


if set to 0, keep all archives, else define the number of days to keep `#` with the syntaxe `nS`, `n` for a number, `S` for the scale `#` (`d` for day, `w` for week, `m` for month, `y` for year) `#` ex : for 5 months : `5m` `@@define ARCHIVE_RETENTION 6m</pre></div>` `</div>` `</div>` `<div>` `` `` `<p>`Complete setup ``/etc/afick.conf`` by adding at end:`</p>` `` `` `</div>` `<div>` `<div>` `<div class="highlight highlight-source-shell"><pre>#` `` `#` `` `#` `` to allow easier upgrade, my advice is too separate `#` the default configuration file (above) from your `#` local configuration (below). `#` default configuration will be upgraded `#` local configuration will be kept `#` put your local config below `#` `!`/var/log/mysql `!`/var/log/letsencrypt `!`/var/log/datadog

`!`/etc/apache2/sellyoursaas-available `!`/etc/apache2/sellyoursaas-online `!`/etc/bind/archives `!`/etc/bind/ `!`/etc/group `!`/etc/group- `!`/etc/gshadow `!`/etc/gshadow- `!`/etc/passwd `!`/etc/passwd- `!`/etc/shadow `!`/etc/shadow- `!`/etc/subgid `!`/etc/subgid- `!`/etc/subuid

/home MyRule /home/admin/logs Logs /var/log/datadog Logs `!`/home/admin/backup `!`/home/jail/home `!`/home/admin/wwwroot/dolibarr_documents `!`/home/admin/wwwroot/dolibarr/.git `!`/home/admin/wwwroot/dolibarr_sellyoursaas/.git

`!`/home/admin/.bash_history `!`/home/admin/.viminfo `!`/home/admin/.mysql_history `!`/home/myunixlogin/.bash_history `!`/home/myunixlogin/.viminfo `!`/home/myunixlogin/.mysql_history `!`/root/.bash_history `!`/root/.viminfo `!`/root/.mysql_history

`exclude_suffix := cache</pre></div>` `</div>` `</div>` `<div>` `<p>`Test que l'exécution par la crontab fonctionne correctent en lançant sous root:`</p>` `</div>` `<div>` `<div>` `<div class="highlight highlight-source-shell"><pre>/etc/cron.daily/afick_cron</pre></div>` `</div>` `</div>` `</div>` `<div>` `<h3 id="user-content-configuration-de-cpulimit-optionnel"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83-2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83`

Configuration de cpulimit (optionnel)

- Lancement de cpulimit au démarrage pour exécuter:

```
cpulimit launched with script cpulimit --exe=apache2 --limit=20
```

Voir script `cpulimit_daemon` à mettre dans `/etc/init.d`.

Configuration de `/etc/security/limits.conf` (optionnel)

Editer le fichier `/etc/security/limits.conf` par exemple pour augmenter le nombre de fichiers max ouvert par processus

```
mysql soft nofile 4096 mysql hard nofile 32768
```

Pour voir les limites:

```
ulimit -a
```

Configuration de `/etc/postfix/generic` (optionnel)

Créer un fichier `/etc/postfix/generic` pour ajouter la correspondance entre l'email utilisé par les envois de mails système qui ont un from vide et l'email à utiliser qui est officiellement valide.

```
root@myshortservername.mysaasdomain.com noreply@mysaasdomain.com
root@myshortservernanoreply@mysaasdomain.com
admin@myshortservername.mysaasdomain.com |noreply@mysaasdomain.com
```

Compiler le fichier par:

```
postmap /etc/postfix/generic
```

Editer le fichier `/etc/mailname` pour mettre le nom long FQDN du serveur

```
vi /etc/mailname
```

Compléter le fichier `/etc/postfix/main.cf` avec:

```
smtpd_relay_restrictions = permit_mynetworks
permit_sasl_authenticated defer_unauth_destination myhostname =
myservername.mysaasdomainname.com alias_maps = hash:/etc/aliases alias_database =
hash:/etc/aliases myorigin = /etc/mailname mydestination = $myhostname, apollon.localdomain, localhost.localdomain, localhost
mynetworks contains only localhost. Allowed external host are
allowed with firewall on port 25 + because we use sasl authentication mynetworks =
127.0.0.0/8 [::ffff:127.0.0.0]/104 [::1]/128 mailbox_size_limit = 20480000 recipient_delimiter =
inet_interfaces = ip.public.du.serveur inet_protocols = ipv4 smtp_generic_maps =
hash:/etc/postfix/generic
```

Activer ces lignes pour utiliser SendGrid comme serveur envoi pour les envois d'emails depuis les instances utilisateurs #smtp_sasl_auth_enable = yes #smtp_sasl_password_maps = static:apikey:abc1234567890abc12345678901234567890 #smtp_sasl_security_options = noanonymous #smtp_tls_security_level = encrypt #header_size_limit = 4096000 #relayhost = [smtp.sendgrid.net]:2525 # Ou mettre relayhost à vide pour utiliser le serveur local commant agent d'envoi des emails. relayhost =

smtpd_recipient_limit = 100 smtpd_helo_required = yes smtpd_client_connection_count_limit = 20 #deliver_lock_attempts = 10 #deliver_lock_delay = 10s message_size_limit = 20480000

#header_checks = regexp:/etc/postfix/header_checks

Liste des emails virtuelles #----- #virtual_alias_maps = hash:/etc/postfix/virtual

Liste des clients bloques #----- smtpd_client_restrictions = permit_sasl_authenticated, permit_mynetworks, check_client_access hash:/etc/postfix/access

Liste des emetteurs bloques #----- # Here we declare we want mail from specific email, mail not rejected by rbl, otherwise refused #smtpd_sender_restrictions = permit_sasl_authenticated, permit_mynetworks, check_client_access hash:/etc/postfix/access, check_sender_access hash:/etc/postfix/access_from, reject_non_fqdn_sender, reject_rbl_client cbl.abuseat.org, reject_rbl_client bl.spamcop.net, reject_unknown_sender_domain smtpd_sender_restrictions = permit_sasl_authenticated, permit_mynetworks, check_client_access hash:/etc/postfix/access, check_sender_access hash:/etc/postfix/access_from, reject_non_fqdn_sender, reject_unknown_sender_domain

Liste des recepteurs bloques #----- # Here we declare we want mail to my domain, to specific email with SA filtering, otherwise refuse. smtpd_recipient_restrictions = permit_sasl_authenticated, permit_mynetworks, check_client_access hash:/etc/postfix/access, check_recipient_access hash:/etc/postfix/access_to, reject_unauth_destination

#debug_peer_list = mysaasdomainname.com, mysaasdomainname.com #compatibility_level = 2</pre></div> </div> <div> <p>!!! IMPORTANT</p> </div> <div> <p>Pensez à modifier dans /etc/postfix/main.cf, les entrées :</p> </div> <div> <div> <div>

```

class="highlight highlight-source-shell"><pre>inet_interfaces
ip_publique_associe_au_nom_de_la_resolution_du_reverse_dns_du_serveur inet_protocols
ip_v4</pre></div> </div> </div> </div> <div> <h3 id="user-content-configuration-de-postfix-pour-authentification-externe-smtp-sécurisée-optionnel"><a id="user-content-configuration-de-postfix-pour-authentification-externe-smtp-sécurisée-optionnel" class="anchor" aria-hidden="true" href="configuration-de-postfix-pour-authentification-externe-smtp-sécurisée-optionnel"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg></a>Configuration de Postfix pour authentification externe SMTP sécurisée (optionnel)</h3> <div> <p>En cas de besoin d'utiliser postfix depuis un accès externe (et donc authentifié)</p> </div> <div> <div class="highlight highlight-source-shell"><pre>sudo apt-get install sasl2-bin vi /etc/default/saslauthd pour mettre START=yes</pre></div> </div> <div> <p>Vérifier que le user postfix se trouve dans le groupe <strong>sasl</strong>. Si non, l'ajouter par:</p> </div> <div> <div class="highlight highlight-source-shell"><pre>adduser postfix sasl</pre></div> </div> <div> <p>Modifier le fichier <strong>/etc/postfix/master.cf</strong> pour ajouter un 'n' afin de désactiver le chroot de smtpd</p> </div> <div> <div class="highlight highlight-source-shell"><pre>smtp inet n - n - - smtpd</pre></div> </div> <div> <p>Ajouter un fichier <strong>smtpd.conf</strong> dans <strong>/etc/postfix/sasl</strong></p> </div> <div> <div class="highlight highlight-source-shell"><pre>saslauthd_path: /var/run/saslauthd/mux pwcheck_method: saslauthd mech_list: plain login</pre></div> </div> <div> <p>Pour du SMTPS, créer un certificat:</p> </div> <div> <div class="highlight highlight-source-shell"><pre><span class="pl-c1">cd</span> /etc/postfix openssl req -nodes -new -x509 -keyout dsfc.key -out dsfc.crt</pre></div> </div> <div> <p>Compléter le fichier <strong>/etc/postfix/main.cf</strong> avec:</p> </div> <div> <div class="highlight highlight-source-shell"><pre><span class="pl-c"><span class="pl-c">*/</span> TLS parameters (only if you want TLS as SMTP server)</span> smtpd_tls_cert_file=/etc/postfix/dfsc.crt smtpd_tls_key_file=/etc/postfix/dfsc.key <span class="pl-c"><span class="pl-c">#</span></span>smtpd_tls_ask_ccert = yes</span> <span class="pl-c"><span class="pl-c">#</span></span>smtpd_tls_req_ccert = yes</span> smtpd_use_tls=yes smtpd_tls_session_cache_database = btree:<span class="pl-smi">${data_directory}</span>/smtpd_scache smtpd_tls_session_cache_database = btree:<span class="pl-smi">${data_directory}</span>/smtpd_scache <span class="pl-c"><span class="pl-c">#</span></span>smtpd_tls_auth_only = yes</span> <span class="pl-c"><span class="pl-c">#</span></span>smtpd_tls_ccert_verifydepth = 1</span> smtpd_tls_loglevel = 1 smtpd_tls_security_level = may <span class="pl-c"><span class="pl-c">#</span></span>smtpd_sasl_type = dovecot</span> <span class="pl-c"><span class="pl-c">#</span></span>smtpd_sasl_path = private/auth-client</span> <span class="pl-c"><span class="pl-c">#</span></span>smtpd_sasl_local_domain =</span> <span class="pl-c"><span class="pl-c">#</span></span> Allow SMTP AUTH</span> smtpd_sasl_auth_enable = yes <span class="pl-c"><span class="pl-c">#</span></span> Need auth</span> smtpd_sasl_security_options = noanonymous broken_sasl_auth_clients = yes</pre></div> </div> </div> </div> <div> <h3 id="user-content-configuration-de-mysql-ou-mariadb"><a id="user-content-configuration-de-mysql-ou-mariadb" class="anchor" aria-hidden="true" href="configuration-de-mysql-ou-mariadb"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path

```

Configuration de Mysql ou Mariadb

On **Deployment servers**, use a dedicated setup of the database.

[Configuration](#configuration)

Edition du fichier de config **/lib/systemd/system/mysql.service** pour mettre dans la section **[Service]** une valeur au nombre limit de fichier plus importante que la valeur de **4096** (affichable par **sudo systemctl show -p DefaultLimitNOFILE**) par défaut de systemd:

```
LimitNOFILE=50000 Restart=on-watchdog
```

Prendre en compte le changement en lançant:

```
systemctl daemon-reload
```

Edition du fichier de config **mysqld.cnf** dans **/etc/mysql/mysql.conf.d** (si mysql) ou **50-server.cnf** dans **/etc/mysql/mariadb.conf.d** (si mariadb) pour changer :

```
bind-address = 127.0.0.1
```

par

```
bind-address = 0.0.0.0 max_connections = 500
max_user_connections = 30 wait_timeout = 7200 table_open_cache = 10000 table_definition_cache = 8000
sort_buffer_size=2M read_buffer_size=1M join_buffer_size=2M max_heap_table_size=32M
max_allowed_packet=32M
```

MySQL:

```
max_execution_time = 300000 (milliseconds) or Mariadb: max_statement_time = 300
(seconds) #max_execution_time = 300000
```

```
innodb_buffer_pool_size=1G      innodb_buffer_pool_instances=8      innodb_file_per_table=1
innodb_log_file_size=256M innodb_log_buffer_size=32M
```

Cela peut être "listen = 0.0.0.0" au lieu de "bind-address = 0.0.0.0".

[Securisation du compte root](#securisation-du-compte-root)

Afin de ne pas permettre le brut force cracking, si ce n'est pas déjà le cas, mettre le user **root** de base de donnée en authentification depuis le compte root système uniquement (utilisation de **auth_socket** ou

unix_socket);</p> </div> </div> <p>For Mysql: Le plugin est auth_socket et il faut l'installer manuellement. Plus d'info sur: a href="https://dev.mysql.com/doc/refman/5.7/en/socket-pluggable-authentication.html" class="bare">https://dev.mysql.com/doc/refman/5.7/en/socket-pluggable-authentication.html</p>

```
INSTALL PLUGIN auth_socket SONAME auth_socket.so;
SELECT PLUGIN_NAME, PLUGIN_STATUS
FROM INFORMATION_SCHEMA.PLUGINS;
```

</div> </div> </div> <p>For MariaDb: Le plugin est unix_socket and is set by default on Ubuntu OS.</p> </div> </div> <p>Pour basculer en mode authentification par mot de passe / par compte unix socket:</p> </div> </div> <p>For Mysql:</p> </div> </div> </div> <div class="highlight highlight-source-sql"><pre>## Identification par mot de passe</pre></div> update mysql.user set plugin = 'unix_socket' where user = 'root' and host = 'localhost' # Identification par unix socketupdate mysql.user set plugin = 'unix_socket' where user = 'root' and host = 'localhost';</pre></div>


```

en">sellyoursaas</span>','@</span
pds">','</span>ip.server.deployment</span
IDENTIFIED BY </span
pds">','</span>`&#8230;`</span class="pl-pds">','</span>'; (le mot
de passe est celui dans </span class="pl-k">','</span>etc</span class="pl-
k">','</span>';</span class="pl-c1">sellyoursaas</span>','</span class="pl-
c1">conf</span> du serveur de déploiement) </span class="pl-k">GRANT</span>
CREATE TEMPORARY TABLES, </span class="pl-k">DELETE</span>, INSERT, </span
class="pl-k">SELECT</span>, </span class="pl-k">UPDATE</span>, </span
class="pl-k">ON</span> dolibarr.</span class="pl-k">*</span> TO </span
class="pl-s">','</span class="pl-pds">','</span>sellyoursaas</span class="pl-
pds">','</span>','</span>@</span class="pl-s">','</span class="pl-
pds">','</span>ip.server.deployment</span class="pl-pds">','</span>','</span>;
FLUSH PRIVILEGES;</pre></div> </div> </div> </div> </p>Rem: Si le
user existe déjà, pour mettre à jour le mot de passe:</p> </div> </div> </div>
</div class="highlight highlight-source-sql"></pre></span class="pl-
k">ALTER</span> </span class="pl-k">USER</span> </span class="pl-
s">','</span class="pl-pds">','</span>sellyoursaas</span class="pl-
pds">','</span>','</span>@</span class="pl-s">','</span class="pl-
pds">','</span>localhost</span class="pl-pds">','</span>','</span> IDENTIFIED BY
</span class="pl-s">','</span class="pl-pds">','</span>`&#8230;`</span class="pl-
pds">','</span>','</span>; ou </span class="pl-k">SET</span> PASSWORD FOR
</span class="pl-s">','</span class="pl-pds">','</span>sellyoursaas</span class="pl-
pds">','</span>','</span>@</span class="pl-s">','</span class="pl-
pds">','</span>localhost</span class="pl-pds">','</span>','</span> </span
class="pl-k">=</span> PASSWORD(</span class="pl-s">','</span class="pl-
pds">','</span>`&#8230;`</span class="pl-pds">','</span>','</span>); ou
</span class="pl-k">update</span> </span class="pl-c1">mysql</span>.</span
class="pl-c1">user</span> </span class="pl-k">SET</span> authentication_string
</span class="pl-k">=</span> PASSWORD(</span class="pl-s">','</span class="pl-
pds">','</span>`&#8230;`</span class="pl-pds">','</span>','</span>);
</span class="pl-k">where</span> user </span class="pl-k">=</span> </span
class="pl-s">','</span class="pl-pds">','</span>sellyoursaas</span class="pl-
pds">','</span>','</span> </span class="pl-k">and</span> host </span
class="pl-k">=</span> </span class="pl-s">','</span class="pl-
pds">','</span>localhost</span class="pl-pds">','</span>','</span>; FLUSH
PRIVILEGES;</pre></div> </div> </div> </div> </p>Donner les droits
d'accès sur le serveur </strong>Master</strong> et les </strong>Serveurs de
déploiement</strong> pour administration à distance de toute base client:</p>
</div> </div> </div> </div class="highlight highlight-source-
sql"></pre></span class="pl-k">CREATE</span> </span class="pl-
k">USER</span> ' </span class="pl-en">yourremotelogin</span>','@</span
class="pl-s">','</span class="pl-pds">','</span>ip.poste.admin.distant</span class="pl-
pds">','</span>','</span> IDENTIFIED BY </span class="pl-s">','</span class="pl-
pds">','</span>`&#8230;`</span class="pl-pds">','</span>','</span>;
</span class="pl-k">GRANT</span> CREATE USER,</span class="pl-
k">GRANT</span> OPTION,RELOAD </span class="pl-k">ON</span> </span
class="pl-k">*</span> TO </span class="pl-

```



```

s">&lt;/span class="pl-pds">'&lt;/span>yourremotelogin&lt;/span class="pl-
pds">'&lt;/span>&lt;/span>@&lt;/span class="pl-s">&lt;/span class="pl-
pds">'&lt;/span>ip.poste.admin.distant&lt;/span class="pl-pds">'&lt;/span>&lt;/span>;
&lt;/span class="pl-k">GRANT&lt;/span> CREATE,CREATE TEMPORARY TABLES,CREATE
VIEW,DROP,&lt;/span class="pl-k">DELETE&lt;/span>,INSERT,&lt;/span class="pl-
k">SELECT&lt;/span>,&lt;/span class="pl-k">UPDATE&lt;/span>,&lt;/span class="pl-
k">ALTER,INDEX,LOCK
TABLES,&lt;/span class="pl-k">REFERENCES&lt;/span>,&lt;/span class="pl-
k">SHOW VIEW &lt;/span class="pl-
k">ON&lt;/span> &lt;/span class="pl-k">*&lt;/span>.&lt;/span class="pl-
k">*&lt;/span> TO &lt;/span class="pl-s">&lt;/span class="pl-
pds">'&lt;/span>yourremotelogin&lt;/span class="pl-
pds">'&lt;/span>&lt;/span>@&lt;/span class="pl-s">&lt;/span class="pl-
pds">'&lt;/span>ip.poste.admin.distant&lt;/span class="pl-pds">'&lt;/span>&lt;/span>;
FLUSH PRIVILEGES;&lt;/pre>&lt;/div> &lt;/div> &lt;/div> &lt;/div> &lt;/div> &lt;/p>&lt;Si vous
utilisez un agent de supervision comme &lt;/strong>DataDog&lt;/strong> pour superviser la
base de donnée, créer un compte pouvant accéder localement à la base (le mot de passe est celui
dans &lt;/strong>etc/datadog-agent/conf.d/mysql.d/conf.yaml&lt;/strong>:&lt;/pre>
&lt;/div> &lt;/div> &lt;/div> &lt;/div class="highlight highlight-source-
sql">&lt;/pre>&lt;/span class="pl-k">CREATE&lt;/span> &lt;/span class="pl-
k">USER&lt;/span> ' &lt;/span class="pl-en">datadog&lt;/span>@&lt;/span class="pl-
s">&lt;/span class="pl-pds">'&lt;/span>localhost&lt;/span class="pl-
pds">'&lt;/span>&lt;/span> IDENTIFIED BY &lt;/span class="pl-s">&lt;/span class="pl-
pds">'&lt;/span>&#8230;&#8203;&lt;/span class="pl-pds">'&lt;/span>&lt;/span>&lt;/span>;
&lt;/span class="pl-k">GRANT&lt;/span> REPLICATION CLIENT &lt;/span class="pl-
k">ON&lt;/span> &lt;/span class="pl-k">*&lt;/span>.&lt;/span class="pl-
k">*&lt;/span> TO &lt;/span class="pl-s">&lt;/span class="pl-
pds">'&lt;/span>datadog&lt;/span class="pl-pds">'&lt;/span>&lt;/span>@&lt;/span
class="pl-s">&lt;/span class="pl-pds">'&lt;/span>localhost&lt;/span class="pl-
pds">'&lt;/span>&lt;/span>&lt;/span> WITH MAX_USER_CONNECTIONS &lt;/span class="pl-
c1">5&lt;/span>; &lt;/span class="pl-k">GRANT&lt;/span> PROCESS &lt;/span class="pl-
k">ON&lt;/span> &lt;/span class="pl-k">*&lt;/span>.&lt;/span class="pl-
k">*&lt;/span> TO &lt;/span class="pl-s">&lt;/span class="pl-
pds">'&lt;/span>datadog&lt;/span class="pl-pds">'&lt;/span>&lt;/span>@&lt;/span
class="pl-s">&lt;/span class="pl-pds">'&lt;/span>localhost&lt;/span class="pl-
pds">'&lt;/span>&lt;/span>&lt;/span>; FLUSH PRIVILEGES;&lt;/pre>&lt;/div> &lt;/div>
&lt;/div> &lt;/div> &lt;/div> &lt;/h4 id="user-content-mise-en-place-de-mariadb-cluster-en-
mode-master-slave-optionnel-abandonné">&lt;/h4> &lt;/a id="user-content-mise-en-place-de-mariadb-
cluster-en-mode-master-slave-optionnel-abandonné" class="anchor" aria-hidden="true"
href="#mise-en-place-de-mariadb-cluster-en-mode-master-slave-optionnel-abandonné">&lt;/a>
class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-
hidden="true"&lt;/a>&lt;/path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 01.06 1.06l1.25-1.25a2 2 0
112.83-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-
4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95
0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83
0z"&lt;/a>&lt;/path>&lt;/a>&lt;/svg>&lt;/a>

```

Mise en place de mariadb cluster en mode master-slave (optionnel, abandonné)

Sur le serveur, activer le mode MASTER en ajoutant les directives:

```

server-id = 1 log_bin = /var/log/mysql/mysql-bin.log
expire_logs_days = 10 max_binlog_size = 100M binlog_format = MIXED

```

```

class="pl-c"></mark></span><span class="pl-c">binlog_do_db =
include_database_name</span><span class="pl-c"></span> class="pl-
c">#</span><span>binlog_ignore_db = include_database_name</span></pre></div>
</div> </div> </div> </p><span>Sur l'esclave, activer la configuration pour le SLAVE en
ajoutant les directives:</p> </div> </div> </div> </div> </div> class="highlight
highlight-source-shell"><pre>server-id = 100 replicate_ignore_db=mysql
replicate_ignore_db=information_schema replicate_ignore_db=performance_schema
replicate_ignore_db=dolibarr replicate_ignore_db=test </span> class="pl-c"></span> class="pl-
c">#</span><span>replicate_do_db =
onlythedatabasesstoreplicate</span></pre></div> </div> </div> </div>
</p><span>Sur le master, créer le compte de réplication:</p> </div> </div> </div>
</div> </div> class="highlight highlight-source-sql"><pre><span>class="pl-
k">GRANT</span><span> SUPER, RELOAD, REPLICATION SLAVE </span> class="pl-
k">ON</span><span> </span> class="pl-k">*</span></span><span> class="pl-
k">*</span></span><span> TO </span> class="pl-s"></span><span> class="pl-
pds">'</span></span><span>repluser</span><span> class="pl-pds">'</span></span></span><span>@</span><span>
class="pl-s"></span></span> class="pl-pds">'</span></span><span>%</span><span> class="pl-
pds">'</span></span></span><span> IDENTIFIED BY </span> class="pl-s"></span></span> class="pl-
pds">'</span></span><span>replpass</span><span> class="pl-pds">'</span></span></span></span></span>; SHOW
GRANTS FOR </span> class="pl-s"></span></span> class="pl-pds">'</span></span><span>repluser</span><span>
class="pl-pds">'</span></span></span></span></pre></div> </div> </div>
</div> </p><span>Relancer les serveurs.</p> </div> </div> </div> </p><span>Vérifier que le
SLAVE peut atteindre le master sur un host fixe et via le port 3306.</p> </div> </div>
</div> </p><span>Sur le master:</p> </div> </div> </div> </div> </div> class="highlight
highlight-source-sql"><pre><span>class="pl-k">FLUSH TABLES WITH READ LOCK; SHOW MASTER
STATUS;</pre></div> </div> </div> </div> </div> </p><span>→ Récupérer les
identifiants</p> </div> </div> </div> </p><span>Dumper les bases de données et le mettre sur
le Slave.</p> </div> </div> </div> </p><span>Sur le slave:</p> </div> </div> </div>
</div> </div> </div> class="highlight highlight-source-sql"><pre><span>class="pl-k">START SLAVE; CHANGE
MASTER TO MASTER_HOST</span><span> class="pl-k">=</span></span></span> class="pl-s"></span></span>
class="pl-pds">'</span></span><span>myservename.mycomapny.com</span><span> class="pl-
pds">'</span></span></span></span></span></span></span>, MASTER_USER</span><span> class="pl-k">=</span></span></span>
class="pl-s"></span></span> class="pl-pds">'</span></span><span>repluser</span><span> class="pl-
pds">'</span></span></span></span></span></span></span>, MASTER_PASSWORD</span><span> class="pl-
k">=</span></span></span><span> class="pl-s"></span></span></span> class="pl-
pds">'</span></span><span>xxxxxxxxxx</span><span> class="pl-pds">'</span></span></span></span></span></span></span>,
MASTER_LOG_FILE</span><span> class="pl-k">=</span></span></span><span> class="pl-s"></span></span></span>
class="pl-pds">'</span></span><span>mysqld-bin.000004</span><span> class="pl-
pds">'</span></span></span></span></span></span></span>, MASTER_LOG_POS</span><span> class="pl-
k">=</span></span></span><span> class="pl-c1">643</span></span></span></pre></div> </div>
</div> </div> </div> </p><span>Pour voir si un slave est en attente de replication du master, pour
voir si le <strong>Slave_IO_State</strong> est à <strong>Waiting for master to send
event</strong> et si <strong>Slave_IO_Running</strong> et
<strong>Slave_SQL_Running</strong> sont à YES et voir la dernière erreur:</p>
</div> </div> </div> </div> class="highlight highlight-source-
sql"><pre><span>class="pl-k">SHOW SLAVE STATUS;</pre></div> </div> </div> </div>
</div> </p><span>Remarque: Le <strong>Exec_Master_Log_Pos</strong> Doit aussi valoir la même
valeur que le SHOW MASTER STATUS sur le serveur. Pour forcer un slave a relancer les requêtes

```



```
deny /etc/apt/sources.list r,  
deny /etc/apt/sources.list.d/ r,  
deny /etc/default/nss r,  
deny /etc/host.conf r,  
deny /etc/hosts r,  
deny /etc/securetty r,  
deny /etc/shadow r,  
deny /etc/sudoers r,  
deny /etc/sudoers.d/ r,  
deny /etc/sudoers.d/README r,  
deny /home/ r,  
deny /home/jail/ r,  
deny /lib/x86_64-linux-gnu/security/pam_deny.so m,  
deny /lib/x86_64-linux-gnu/security/pam_env.so m,  
deny /lib/x86_64-linux-gnu/security/pam_permit.so m,  
deny /lib/x86_64-linux-gnu/security/pam_umask.so m,  
deny /lib/x86_64-linux-gnu/security/pam_unix.so m,  
deny /proc/filesystems r,  
deny /proc/sys/kernel/ngroups_max r,  
deny /usr/bin/sudo rx,  
deny /usr/lib/sudo/sudoers.so m,  
deny /var/lib/sudo/sree1/ w,  
deny owner /var/www/ r,  
deny owner /var/www/** r,
```

```
owner /home/*/home/*/  
class="pl-k">** rix,  
/etc/crontab r,  
/var/spool/cron/crontabs/** r,
```

```
/bin/ r,  
/bin/cat rix,  
/bin/chmod rix,  
/bin/cp rix,  
/bin/customerCocoonBash mr,  
/bin/dash rix,  
/bin/grep rix,  
/bin/gzip rix,  
/bin/less rix,  
/bin/lesspipe rix,  
/bin/ls rix,  
/bin/more rix,  
/bin/mkdir rix,  
/bin/mv rix,  
/bin/rm rix,  
/bin/rmdir rix,  
/bin/sed rix,  
/bin/tar rix,
```

```
/bin/uname rix,  
/dev/tty rw,  
/etc/.pwd.lock wk,  
/etc/bash.bashrc r,  
/etc/bash_completion r,  
/etc/bash_completion.d/ r,  
/etc/bash_completion.d/<span class="pl-k">*</span> r,  
/etc/init.d/ r,  
/etc/inputrc r,  
/etc/mailname r,  
/etc/mysql/conf.d/ r,  
/etc/mysql/conf.d/mysqld_safe_syslog.cnf r,  
/etc/mysql/my.cnf r,  
/etc/pam.d/<span class="pl-k">*</span> r,  
/etc/papersize r,  
/etc/php/7.0/cli/<span class="pl-k">*</span> r,  
/etc/php/7.0/cli/conf.d/ r,  
/etc/php/7.0/cli/conf.d/<span class="pl-k">*</span> r,  
/etc/php/7.0/fpm/conf.d/ r,  
/etc/php/7.0/fpm/conf.d/<span class="pl-k">*</span> r,  
/etc/php/7.0/mods-available/ r,  
/etc/php/7.0/mods-available/<span class="pl-k">*</span> r,  
/etc/php/7.2/cli/<span class="pl-k">*</span> r,  
/etc/php/7.2/cli/conf.d/ r,  
/etc/php/7.2/cli/conf.d/<span class="pl-k">*</span> r,  
/etc/php/7.2/fpm/conf.d/ r,  
/etc/php/7.2/fpm/conf.d/<span class="pl-k">*</span> r,  
/etc/php/7.2/mods-available/ r,  
/etc/php/7.2/mods-available/<span class="pl-k">*</span> r,  
/etc/postfix/dynamicmaps.cf r,  
/etc/postfix/main.cf r,  
/etc/profile r,  
/etc/profile.d/ r,  
/etc/profile.d/<span class="pl-k">*</span>.sh r,  
/etc/python2.7/sitecustomize.py r,  
/etc/resolv.conf r,  
/etc/ssl/openssl.cnf r,  
/etc/vim/vimrc r,  
/etc/wgetrc r,  
/etc/ImageMagick-6/ r,  
/etc/ImageMagick-6/<span class="pl-k">*</span> r,  
/opt/groovy-1.8.6/bin/ r,  
/proc/<span class="pl-k">*</span>/auxv r,  
/run/mysqld/mysqld.sock rw,  
/sbin/ r,  
/tmp/ rix,  
/tmp/<span class="pl-k">*</span> rw,  
/sys/devices/system/cpu/ r,  
/usr/bin/ r,  
/usr/bin/awk rix,  
/usr/bin/basename rix,
```

```
/usr/bin/clear rix,  
/usr/bin/clear_console rix,  
/usr/bin/crontab rix,  
/usr/bin/cut rix,  
/usr/bin/dircolors rix,  
/usr/bin/dirname rix,  
/usr/bin/du rix,  
/usr/bin/env rix,  
/usr/bin/expr rix,  
/usr/bin/find rix,  
/usr/bin/git rix,  
/usr/bin/groups rix,  
/usr/bin/head rix,  
/usr/bin/id rix,  
/usr/bin/locale-check rix,  
/usr/bin/mawk rix,  
/usr/bin/mysql rix,  
/usr/bin/mysqldump rix,  
/usr/bin/passwd rix,  
/usr/bin/php rix,  
/usr/bin/php7.0 rix,  
/usr/bin/php7.2 rix,  
/usr/bin/python rix,  
/usr/bin/python2.7 rix,  
/usr/bin/rsync rix,  
/usr/bin/scp rix,  
/usr/bin/tail rix,  
/usr/bin/unzip rix,  
/usr/bin/vim.basic rix,  
/usr/bin/vim.nox rix,  
/usr/share/bash-completion/<span class="pl-k">**</span> rix,  
/usr/share/vim/vim74/<span class="pl-k">**</span> rix,  
/usr/bin/wget rix,  
/usr/games/ r,  
/usr/include/python2.7/pyconfig.h r,  
/usr/lib/git-core/<span class="pl-k">**</span> rix,  
/usr/lib/openssh/sftp-server rix,  
/usr/lib{,32,64}/<span class="pl-k">**</span> mr,  
/usr/local/bin/ r,  
/usr/local/lib/python2.7/dist-packages/ r,  
/usr/local/sbin/ r,  
/usr/sbin/ r,  
/usr/sbin/postdrop rix,  
/usr/sbin/sendmail rix,  
/usr/share/command-not-found/priority.txt r,  
/usr/share/command-not-found/programs.d/ r,  
/usr/share/command-not-found/programs.d/all-main.db rk,  
/usr/share/command-not-found/programs.d/all-multiverse.db rk,  
/usr/share/command-not-found/programs.d/all-universe.db rk,  
/usr/share/command-not-found/programs.d/amd64-main.db rk,  
/usr/share/command-not-found/programs.d/amd64-multiverse.db rk,
```

```
/usr/share/command-not-found/programs.d/amd64-restricted.db rk,  
/usr/share/command-not-found/programs.d/amd64-universe.db rk,  
/usr/share/mysql/charsets/Index.xml r,  
/usr/share/pyshared/CommandNotFound/CommandNotFound.py r,  
/usr/share/pyshared/CommandNotFound/__init__.py r,  
/usr/share/pyshared/CommandNotFound/util.py r,  
/usr/share/pyshared/apport_python_hook.py r,  
/usr/share/pyshared/apt/__init__.py r,  
/usr/share/pyshared/apt/cache.py r,  
/usr/share/pyshared/apt/cdrom.py r,  
/usr/share/pyshared/apt/deprecation.py r,  
/usr/share/pyshared/apt/package.py r,  
/usr/share/pyshared/apt/progress/__init__.py r,  
/usr/share/pyshared/apt/progress/base.py r,  
/usr/share/pyshared/apt/progress/old.py r,  
/usr/share/pyshared/apt/progress/text.py r,  
/usr/share/pyshared/aptsources/__init__.py r,  
/usr/share/pyshared/aptsources/distinfo.py r,  
/usr/share/pyshared/aptsources/sourceslist.py r,  
/usr/share/pyshared/lazr.restfulclient-0.12.0-nspkg.pth r,  
/usr/share/pyshared/lazr.uri-1.0.3-nspkg.pth r,  
/usr/share/pyshared/zope.interface-3.6.1-nspkg.pth r,  
/usr/share/vim/vim72/debian.vim r,  
/usr/share/vim/vim72/filetype.vim r,  
/usr/share/vim/vim72/lang/en_GB/LC_MESSAGES/vim.mo r,  
/usr/share/vim/vim72/plugin/ r,  
/usr/share/vim/vim72/plugin/getscriptPlugin.vim r,  
/usr/share/vim/vim72/plugin/gzip.vim r,  
/usr/share/vim/vim72/plugin/matchparen.vim r,  
/usr/share/vim/vim72/plugin/netrwPlugin.vim r,  
/usr/share/vim/vim72/plugin/rrhelper.vim r,  
/usr/share/vim/vim72/plugin/spellfile.vim r,  
/usr/share/vim/vim72/plugin/tarPlugin.vim r,  
/usr/share/vim/vim72/plugin/tohtml.vim r,  
/usr/share/vim/vim72/plugin/vimballPlugin.vim r,  
/usr/share/vim/vim72/plugin/zipPlugin.vim r,  
/usr/share/vim/vim72/scripts.vim r,  
/usr/share/vim/vim72/syntax/syncolor.vim r,  
/usr/share/vim/vim72/syntax/synload.vim r,  
/usr/share/vim/vim72/syntax/syntax.vim r,  
/usr/share/vim/vim73/debian.vim r,  
/usr/share/vim/vim73/filetype.vim r,  
/usr/share/vim/vim73/plugin/ r,  
/usr/share/vim/vim73/plugin/getscriptPlugin.vim r,  
/usr/share/vim/vim73/plugin/gzip.vim r,  
/usr/share/vim/vim73/plugin/matchparen.vim r,  
/usr/share/vim/vim73/plugin/netrwPlugin.vim r,  
/usr/share/vim/vim73/plugin/rrhelper.vim r,  
/usr/share/vim/vim73/plugin/spellfile.vim r,  
/usr/share/vim/vim73/plugin/tarPlugin.vim r,  
/usr/share/vim/vim73/plugin/tohtml.vim r,
```

```

/usr/share/vim/vim73/plugin/vimballPlugin.vim r,
/usr/share/vim/vim73/plugin/zipPlugin.vim r,
/usr/share/vim/vim73/syntax/css.vim r,
/usr/share/vim/vim73/syntax/html.vim r,
/usr/share/vim/vim73/syntax/javascript.vim r,
/usr/share/vim/vim73/syntax/php.vim r,
/usr/share/vim/vim73/syntax/sql.vim r,
/usr/share/vim/vim73/syntax/sqloracle.vim r,
/usr/share/vim/vim73/syntax/syncolor.vim r,
/usr/share/vim/vim73/syntax/synload.vim r,
/usr/share/vim/vim73/syntax/syntax.vim r,
/usr/share/vim/vim73/syntax/vb.vim r,
/usr/share/vim/vim80/debian.vim r,
/usr/share/vim/vim80/defaults.vim r,
/usr/share/vim/vim80/filetype.vim r,
/usr/share/vim/vim80/ftplugin.vim r,
/usr/share/vim/vim80/indent.vim r,
/usr/share/vim/vim80/pack/ r,
/usr/share/vim/vim80/plugin/ r,
/usr/share/vim/vim80/plugin/getscriptPlugin.vim r,
/usr/share/vim/vim80/plugin/gzip.vim r,
/usr/share/vim/vim80/plugin/logiPat.vim r,
/usr/share/vim/vim80/plugin/matchparen.vim r,
/usr/share/vim/vim80/plugin/netrwPlugin.vim r,
/usr/share/vim/vim80/plugin/manpager.vim r,
/usr/share/vim/vim80/plugin/rrhelper.vim r,
/usr/share/vim/vim80/plugin/spellfile.vim r,
/usr/share/vim/vim80/plugin/tarPlugin.vim r,
/usr/share/vim/vim80/plugin/tohtml.vim r,
/usr/share/vim/vim80/plugin/vimballPlugin.vim r,
/usr/share/vim/vim80/plugin/zipPlugin.vim r,
/usr/share/vim/vim80/rgb.txt r,
/usr/share/vim/vim80/scripts.vim r,
/usr/share/vim/vim80/syntax/css.vim r,
/usr/share/vim/vim80/syntax/html.vim r,
/usr/share/vim/vim80/syntax/javascript.vim r,
/usr/share/vim/vim80/syntax/php.vim r,
/usr/share/vim/vim80/syntax/sql.vim r,
/usr/share/vim/vim80/syntax/sqloracle.vim r,
/usr/share/vim/vim80/syntax/syncolor.vim r,
/usr/share/vim/vim80/syntax/synload.vim r,
/usr/share/vim/vim80/syntax/syntax.vim r,
/usr/share/vim/vim80/syntax/nosyntax.vim r,
/usr/share/vim/vim80/syntax/vb.vim r,
/usr/share/ImageMagick-6/ r,
/usr/share/ImageMagick-6/<span class="pl-k">*</span> r,
owner /var/spool/postfix/maildrop/ rw,
owner /var/spool/postfix/maildrop/<span class="pl-k">*</span> rw,
/var/spool/postfix/public/pickup w,
owner @{HOME}/ rwl,
owner @{HOME}/<span class="pl-k">*</span> rwl,

```



```
owner /mnt/diskhome/home/<span class="pl-k">*</span> rixwlk,  
/mnt/diskhome/home/osu<span class="pl-k">*</span>/dbn<span class="pl-k">*</span>/<span class="pl-k">*</span>/<span class="pl-k">*</span>/error.log r,  
/home/admin/wwwroot/dolibarr_sellyoursaas/scripts/phpsendmail.php rix,  
/home/admin/wwwroot/dolibarr_sellyoursaas/scripts/phpsendmailprepend.php rix,  
}</pre></div>
```

</div>

</div>

<div>

<p>Activer la règle apparmor en mode enforce (ou complain)</p>

</div>

<div>

<div class="highlight highlight-source-shell"><pre>aa-status
aa-enforce bin.secureBash
aa-status
/etc/init.d/apparmor status</pre></div>

</div>

</div>

<div>

<p>Pour recharger une règle apparmor:</p>

</div>

<div>

<div class="highlight highlight-source-shell"><pre>aa-enforce
usr.sbin.mysql</pre></div>

</div>

</div>

<div>

<p>Pour désactiver un profile</p>

</div>

<div>

<div class="highlight highlight-source-shell"><pre>apparmor_parser -v -R
/etc/apparmor.d/usr.sbin.mysql</pre></div>

</div>

</div>

<div>

```

<p>Pour éviter que apparmor se relance en cas d'arrêt manuel, modifier
<strong>/lib/systemd/system/apparmor.service</strong> pour mettre
<strong>RemainAfterExit=no</strong></p>
</div>
<div>
<div class="highlight highlight-source-shell"><pre>RemainAfterExit=no</pre></div>
</div>
<div>
<p>Puis</p>
</div>
<div>
<pre>systemctl daemon-reload</pre>
</div>
</div>
<div>
<h3 id="user-content-configuration-de-jailkit-optionnel"><a id="user-content-configuration-de-jailkit-optionnel" class="anchor" aria-hidden="true" href="#configuration-de-jailkit-optionnel"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg></a>Configuration de Jailkit (optionnel)</h3>
<div>
<p>Jailkit est un ensemble d'utilitaires pour limiter les comptes d'utilisateurs à des fichiers spécifiques en utilisant chroot() et/ou des commandes spécifiques. Mettre en place un shell chroot, un shell limité à une commande spécifique, ou un démon dans une prison chroot est beaucoup plus facile et peut être automatisé à l'aide de ces utilitaires.</p>
</div>
<div>
<p>!! Important !!
Jailkit nécessite de modifier l'accès au répertoire /mnt/diskhome/home car il ne fonctionnera pas avec un lien symbolique</p>
</div>
<div>
<ul>
<li>
<p>Supprimer le lien symbolique /home/jail/home qui pointe vers /mnt/diskhome/home</p>
</li>
</ul>
</div>
<div>
<div class="highlight highlight-source-shell"><pre>rm -f /home/jail/home</pre></div>

```

```
</div>
</div>
<div>
<ul>
<li>
<p>Créer le répertoires home qui servira pour le montage de /mnt/diskhome/home</p>
</li>
</ul>
</div>
<div>
<div class="highlight highlight-source-shell"><pre>mkdir /home/jail/home</pre></div>
</div>
</div>
<div>
<ul>
<li>
<p>Créer le répertoire qui contiendra les chroot/jail des utilisateurs</p>
</li>
</ul>
</div>
<div>
<div class="highlight highlight-source-shell"><pre>mkdir /mnt/diskhome/chroot
mkdir /home/jail/chroot</pre></div>
</div>
</div>
<div>
<ul>
<li>
<p>Ajouter les montages des répertoires dans /etc/fstab</p>
</li>
</ul>
</div>
<div>
<div class="highlight highlight-source-shell"><pre><span class="pl-c"><span class="pl-c">#</span> /home/jail/home</span>
/mnt/diskhome/home /home/jail/home <span class="pl-c1">bind</span> defaults,bind 0
<span class="pl-c"><span class="pl-c">#</span> /home/jail/chroot</span>
/mnt/diskhome/chroot /home/jail/chroot <span class="pl-c1">bind</span> defaults,bind
0</pre></div>
</div>
</div>
<div>
<ul>
<li>
<p>Monter les répertoires</p>
</li>
</ul>
</div>
```

```

<div>
<div>
<div class="highlight highlight-source-shell"><pre>mount /home/jail/home
mount /home/jail/chroot</pre></div>
</div>
</div>
<div>
<ul>
<li>
<p>Installation du package Jailkit</p>
</li>
</ul>
</div>
<div>
<div>
<div class="highlight highlight-source-shell"><pre>sudo apt install
jailkit</pre></div>
</div>
</div>
<div>
<ul>
<li>
<p>Ajouter ceci à la fin du fichier de configuration /etc/jailkit/jk_init.ini</p>
</li>
</ul>
</div>
<div>
<div>
<div class="highlight highlight-source-shell"><pre>[groups]
comment = Groups management
executables = /usr/bin/groups

```

```
comment = The PHP Interpreter and Libraries executables = /usr/bin/php, /usr/bin/php7.4,
/usr/bin/php7.3, /usr/bin/php7.2, /usr/bin/php5.6 directories = /usr/lib/php, /usr/share/php,
/usr/share/php, /etc/php, /usr/share/php-geshi, /usr/share/zoneinfo includesections = env
```

```
comment = environment variables executables = /usr/bin/env
```

```
comment = mysql client executables = /usr/bin/mysql, /usr/bin/mysqldump paths = /usr/lib/x86_64-
linux-gnu/libmysqlclient.so.21 regularfiles = /etc/mysql/my.cf, /etc/mysql/conf.d,
/etc/mysql/mariadb.conf.d/</pre></div> </div> </div> <div> <ul> <li> <p>Ajouter ceci dans le fichier
de configuration /etc/jailkit/jk_chrootsh.ini</p> </li> </ul> </div> <div> <div> <div class="highlight
highlight-source-shell"><pre>[DEFAULT] env = TERM, PATH</pre></div> </div> </div> <div> <ul>
<li> <p>Créer le répertoire qui contiendra le chroot/jail modèle qui servira pour créer les
templates</p> </li> </ul> </div> <div> <div> <div class="highlight highlight-source-
shell"><pre>mkdir /home/jail/chroot/template</pre></div> </div> </div> <div> <ul> <li>
<p>Initialisation du chroot/jail avec les commandes que vous souhaitez rendre accessibles aux
utilisateurs</p> </li> </ul> </div> <div> <div> <div class="highlight highlight-source-
shell"><pre>jk_init -c /etc/jailkit/jk_init.ini -j /home/jail/chroot/template extendedshell limitedshell
groups sftp rsync editors git php mysqlclient mkdir /home/jail/chroot/template/home mkdir
```

```
/home/jail/chroot/template/tmp chmod 1777 /home/jail/chroot/template/tmp</pre></div> </div>
</div> <div> <p>Dans cette exemple le template commonjail.tgz servira à créer le chroot/jail
commun /home/jail/chroot/commonjail (si il n'existe pas)</p> </div> <div> <p>et le template
privatejail.tgz servira à créer les chroot/jail privés (ex. /home/jail/chroot/osuxxxxx)</p> </div> <div>
<ul> <li> <p>Créer vos tgz qui serviront à installer les chroot/jail privés et à réinstaller le chroot/jail
commun si besoin</p> </li> </ul> </div> <div> <div> <div class="highlight highlight-source-
shell"><pre><span class="pl-c1">cd</span> /home/jail/chroot tar czf commonjail.tgz template tar czf
privatejail.tgz template</pre></div> </div> </div> <div> <ul> <li> <p>Déplacer vos templates dans le
répertoire /sellyoursaas/scripts/templates accessible par votre serveur d'instances</p> </li> </ul>
</div> <div> <div> <div class="highlight highlight-source-shell"><pre>mv commonjail.tgz
privatejail.tgz
/home/admin/wwwroot/dolibarr_documents/sellyoursaas/scripts/templates/</pre></div> </div>
</div> <div> <ul> <li> <p>Modifier le fichier /etc/sellyoursaas.conf de votre serveur d'instances</p>
</li> </ul> </div> <div> <div> <div class="highlight highlight-source-shell"><pre><span class="pl-
c"><span class="pl-c">#</span> Options for Jailkit</span> chrootdir=/home/jail/chroot
privatejailtemplatename=privatejail commonjailtemplatename=commonjail</pre></div> </div>
</div> <div> <p>Ajoutez cette constante dans votre backoffice pour activer Jailkit *
SELYOURSAAS_SSH_JAILKIT_ENABLED = 1</p> </div> <div> <p>Une nouvelle option "SSH access
type" sera disponible dans votre service (Application) :</p> </div> <div> <div> <a target="_blank"
rel="noopener" noreferer"
href="/eldy/sellyoursaas/blob/master/doc/img/config_jailkit_service.png"></a> </div> </div> <div> <p>et dans les contrats (instances) :</p> </div>
<div> <div> <a target="_blank" rel="noopener" noreferer"
href="/eldy/sellyoursaas/blob/master/doc/img/config_jailkit_contrat.png"></a> </div> </div> </div> <div> <h3 id="user-content-autoriser-la-
génération-de-vignettes-aperçus-png-depuis-les-pdf"><a id="user-content-autoriser-la-génération-
de-vignettes-aperçus-png-depuis-les-pdf" class="anchor" aria-hidden="true" href="#autoriser-la-
génération-de-vignettes-aperçus-png-depuis-les-pdf"><svg class="octicon octicon-link" viewBox="0
0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd"
d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-
1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-
2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75
0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg></a>Autoriser la génération de vignettes
aperçus PNG depuis les PDF</h3> <div> <p>Supprimer la règle de désactivation du format
Ghostscript PDF dans ImageMagick</p> </div> <div> <div> <pre>vi /etc/ImageMagick-
6/policy.xml</pre> </div> </div> <div> <p>Mettre en commentaire</p> </div> <div> <div> <pre><!--
<policy domain="coder" rights="none" pattern="PDF" /> --></pre> </div> </div> </div> <div> <h3
id="user-content-configuration-du-serveur-dns-sur-les-serveurs-master"><a id="user-content-
configuration-du-serveur-dns-sur-les-serveurs-master" class="anchor" aria-hidden="true"
href="#configuration-du-serveur-dns-sur-les-serveurs-master"><svg class="octicon octicon-link"
viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-
rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-
2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0
010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95
4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg></a>Configuration du
serveur DNS sur les serveurs Master</h3> <div> <p>Chez le registrar, mettre à jour le DNS du nom
```

de domaine principal **mysaasdomainname.com** pour ajouter un enregistrement **A** pour

de l'outil d'administration pointant sur l'ip du serveur Master **myaccount.mysaasdomainname.com** Domain de l'outil d'administration pointant sur l'ip du serveur Master

[Configuration du serveur DNS sur les serveurs de Déploiement](#configuration-du-serveur-dns-sur-les-serveurs-de-déploiement)

Chez le registrar, mettre à jour le DNS du nom de domaine principal **mysaasdomainname.com** pour ajouter un enregistrement **A** pour

with1.mysaasdomainname.com Sous domaine des instances utilisateurs pointant sur l'ip du serveur de Déploiement **ns1with1.mysaasdomainname.com** Serveur DNS 1 des instances utilisateurs pointant sur l'ip du serveur de Déploiement **ns2with1.mysaasdomainname.com** Serveur DNS 2 des instances utilisateurs pointant sur l'ip du serveur de Déploiement

Ajouter les enregistrements **GLUE record** auprès du registrar pour (optionnel)

```
*ns1with1.mysaasdomainname.com* ns2with1.mysaasdomainname.com
```

Créer un fichier **/etc/bind/withX.mysaasdomainname.com.hosts** pour le DNS **withX.mysaasdomainname.com** sur le **Serveur de Déploiement** (remplacer X par la valeur adéquate):

```
$ttl 1d $ORIGIN with1.mysaasdomainname.com. @ IN SOA ns1withX.mysaasdomainname.com. supervision.mysaasdomainname.com. ( 140921009 ; serial 600 ; refresh = 10 minutes 300 ; update retry = 5 minutes 604800 ; expiry = 1 week 660 ; negative ttl ) NS ns1withX.mysaasdomainname.com. NS ns2withX.mysaasdomainname.com. IN TXT <span class="pl-pds">"</span>v=spf1 mx ~all<span class="pl-pds">"</span></span>
```

@ IN A 1.2.3.4 ; mettre ip du serveur de déploiement qui héberge les applications déployés

```
$ORIGIN withX.mysaasdomainname.com.
```

```
; other sub-domain records ; here will be added entry like this one ; client1 A ip.of.server.deployment
```

Ajouter une entrée dans **/etc/bind/named.conf.local** pour que ce nouveau fichier soit pris en compte

```
// mysaasdomainname.com zone <span class="pl-pds">"</span>withX.mysaasdomainname.com<span class="pl-pds">"</span></span> { type master; file <span class="pl-pds">"</span>etc/bind/withX.mysaasdomainname.com.hosts<span class="pl-pds">"</span></span> ; };
```

Créer un répertoire `/etc/bind/archives`

```
mkdir /etc/bind/archives
```

Vérifier que le fichier `/etc/resolv.conf` utilise bien 127.0.0.1 comme resolver. Si non désactiver `systemd-resolver` (voir point suivant) et créer un fichier `/etc/resolv.conf` manuellement.

Désactiver `systemd-resolver` qui ajoute 127.0.0.53 comme resolver et rend bind inopérent en local.

```
sudo systemctl disable systemd-resolved.service
sudo systemctl stop systemd-resolved
cat /etc/resolv.conf
```

```
nameserver 127.0.0.1
/etc/resolv.conf shutdown -Fr now
```

Configuration de PHP

Securisation du répertoire des sessions PHP

Mettre les droits `drwx-wx-wt` sur le répertoire des sessions php `/dev/shm` et/ou `/var/lib/php`

Définition taille upload et durée sessions

Modifier le fichier `php.ini` (celui de `apache` et celui de `cli`) pour permettre l'upload de plus gros fichiers.

```
upload_max_filesize = 20M
```

```
post_max_size = 25M
```

```
session.gc_maxlifetime = 3600
```

ajout-du-wrapper-php-pour-la-fonction-php-mail

```
session.gc_maxlifetime = 3600
```

00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg>Ajout du wrapper PHP pour la fonction PHP mail</h4> <div> <p>Le wrapper PHP d'envoi de mail permet d'intercepter tout mail envoyé avec PHP (afin de faire une analyse antiSpam et d'intégrer une log qui pourra être exploiter par fail2ban) avant d'envoyer le mail réellement.</p> </div> <div> <p>Créer les liens de 2 outils de preprocessing PHP</p> </div> <div> <div> <div> <div class="highlight highlight-source-shell"><pre>ln -fs /home/admin/wwwroot/dolibarr/htdocs/custom/sellyoursaas/scripts/phpsendmailprepend.php /usr/local/bin/ln -fs /home/admin/wwwroot/dolibarr/htdocs/custom/sellyoursaas/scripts/phpsendmail.php /usr/local/bin/</pre></div> </div> </div> <div> <p>Modifier le fichier php.ini (celui de apache et celui de cli) avec:</p> </div> <div> <div> <div class="highlight highlight-source-shell"><pre>;</pre> Automatically add files before PHP document. ; <http://php.net/auto-prepend-file> auto_prepend_file = /usr/local/bin/phpsendmailprepend.php</div>

; For Unix only. You may supply arguments as well (default: "sendmail -t -i"). ; <http://php.net/sendmail-path> sendmail_path = /usr/local/bin/phpsendmail.php

; The path to a log file that will log all mail() calls. Log entries include ; the full path of the script, line number, To address and headers. mail.log = /var/log/phpmail.log</pre></div> </div> </div> </div> <div>

<h3 id="user-content-configuration-de-logrotate">configuration-de-logrotate<svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 01010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg>Configuration de

logrotate</h3> <div> <p>Ajouter une ligne si non déjà présente dans le fichier /etc/logrotate.conf</p> </div> <div> <div> <div class="highlight highlight-source-shell"><pre> use the syslog group by default, since this is the owning group of /var/log. su root syslog</pre></div> </div> </div> <div> <p>Créer un fichier /etc/logrotate.d/logrotate_admin_log</p> </div> <div> <div> <pre lang="conf"><code>/home/*/logs/*log { su root root notifempty daily rotate 7 compress sharedscripts postrotate if [-f “. /etc/apache2/envvars ; echo \${APACHE_PID_FILE:-/var/run/apache2.pid}”]; then /etc/init.d/apache2 reload > /dev/null fi endscrip }</pre> </div> </div> <div> <p>Créer un fichier /etc/logrotate.d/logrotate_sellyoursaas_log</p> </div> <div> <div> <pre lang="conf"><code>/var/log/phpsendmail.log /var/log/phpmail.log { su root root weekly rotate 4 compress delaycompress missingok notifempty create 666 syslog adm }

</pre></div> </div> </div> <pre lang="conf"><code>/home/admin/wwwroot/dolibarr_documents/.log { su admin www-data daily rotate 7 compress delaycompress missingok notifempty create 660 admin www-data }</code></pre> </div> </div> </div> </p></div> Pour

</pre></div> </div> </div> <pre lang="conf"><code>/home/admin/wwwroot/dolibarr_documents/.log { su admin www-data daily rotate 7 compress delaycompress missingok notifempty create 660 admin www-data }</code></pre> </div> </div> </div> </p></div> Pour

</pre></div> </div> </div> <pre lang="conf"><code>/home/admin/wwwroot/dolibarr_documents/.log { su admin www-data daily rotate 7 compress delaycompress missingok notifempty create 660 admin www-data }</code></pre> </div> </div> </div> </p></div> Pour

</pre></div> </div> </div> <pre lang="conf"><code>/home/admin/wwwroot/dolibarr_documents/.log { su admin www-data daily rotate 7 compress delaycompress missingok notifempty create 660 admin www-data }</code></pre> </div> </div> </div> </p></div> Pour

</pre></div> </div> </div> <pre lang="conf"><code>/home/admin/wwwroot/dolibarr_documents/.log { su admin www-data daily rotate 7 compress delaycompress missingok notifempty create 660 admin www-data }</code></pre> </div> </div> </div> </p></div> Pour

</pre></div> </div> </div> <pre lang="conf"><code>/home/admin/wwwroot/dolibarr_documents/.log { su admin www-data daily rotate 7 compress delaycompress missingok notifempty create 660 admin www-data }</code></pre> </div> </div> </div> </p></div> Pour

</pre></div> </div> </div> <pre lang="conf"><code>/home/admin/wwwroot/dolibarr_documents/.log { su admin www-data daily rotate 7 compress delaycompress missingok notifempty create 660 admin www-data }</code></pre> </div> </div> </div> </p></div> Pour

</pre></div> </div> </div> <pre lang="conf"><code>/home/admin/wwwroot/dolibarr_documents/.log { su admin www-data daily rotate 7 compress delaycompress missingok notifempty create 660 admin www-data }</code></pre> </div> </div> </div> </p></div> Pour

</pre></div> </div> </div> <pre lang="conf"><code>/home/admin/wwwroot/dolibarr_documents/.log { su admin www-data daily rotate 7 compress delaycompress missingok notifempty create 660 admin www-data }</code></pre> </div> </div> </div> </p></div> Pour

</pre></div> </div> </div> <pre lang="conf"><code>/home/admin/wwwroot/dolibarr_documents/.log { su admin www-data daily rotate 7 compress delaycompress missingok notifempty create 660 admin www-data }</code></pre> </div> </div> </div> </p></div> Pour

tester la rotation immédiatement:</p> </div> </div> </div> </div>
<div class="highlight highlight-source-shell"><pre>logrotate -f logrotate_admin_log
logrotate -f logrotate_sellyoursaas_log</pre></div> </div> </div> </div>
<div id="user-content-configuration-de-journalctl-sur-ubuntu-18-04"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg>Configuration de journalctl (sur Ubuntu 18.04+)</h3>
<div>

<p>Editer le fichier etc/systemd/journald.conf pour définir une taille max aux journaux systemd</p>

<pre>lang="conf"><code>…​ SystemMaxUse=250M SystemMaxFileSize=50M …​</code></pre>
</div>
<div>
<p>Prendre en compte la modification</p>
</div>
<div class="highlight highlight-source-shell"><pre>systemctl stop systemd-journald
systemctl start systemd-journald</pre></div> </div> </div> </div>
<div id="user-content-désactivation-ou-activation-de-apport-optionnel-on-recommandé"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg>Désactivation ou activation de apport (optionnel, "on" recommandé)</h3>
<div>
<p>Pour activer:</p>
</div>
<div class="highlight highlight-source-shell"><pre>sudo systemctl enable apport.service
sudo systemctl start apport.service
sudo systemctl status apport.service</pre></div>
<div>
<p>Pour désactiver:</p>
</div>
<div class="highlight highlight-source-shell"><pre>sudo systemctl disable apport.service
sudo systemctl stop apport.service
sudo systemctl status apport.service</pre></div>
</div>
<div>
<p>Note: Les rapports sont dans /var/crash</p>
</div>
<div id="user-content-installer-certbot-pour-le-ssl-des-sites-hors-instances-utilisateurs"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg>Installer certbot (pour le SSL des sites hors instances utilisateurs)</h3>
<div class="highlight highlight-source-shell"><pre>apt-get install software-properties-common python-software-properties</div>

[add-apt-repository ppa:certbot/certbot apt-get update apt-get install python-certbot-apache](#)

[Création d'un certificat SSL wildcard pour les instances utilisateurs](#)

Dans les commandes exemples suivantes, on utilisera X qui vaut ", 2, 3, ... (numéro du pool d'instance = numéro du serveur de déploiement).

[Obtenir un certificat SSL wildcard pour *.withX.mysaasdomainname.com](#)

[Via un fournisseur SSL](#)

Créer le fichier `withX.mysaasdomainname.com.key` et `withX.mysaasdomainname.com.csr` ainsi:

```

openssl req -x509 -nodes -newkey rsa:2048 -sha256 -keyout withX.mysaasdomainname.com.key -out withX.mysaasdomainname.com.csr

```

Choisir:

```

openssl req -x509 -nodes -newkey rsa:2048 -sha256 -keyout withX.mysaasdomainname.com.key -out withX.mysaasdomainname.com.csr

```

CN `*.withX.mysaasdomainname.com` OU `IT O The company name L Paris S IDF C FR` Email Ne rien mettre ! Challenge password Ne rien mettre !

Soumettre le fichier `withX.mysaasdomainname.com.csr` auprès du fournisseur de certificats.

[Créer le fichier `withX.mysaasdomainname.com.key` et `withX.mysaasdomainname.com.csr` ainsi:](#)

hidden="true" href="#via-letsencrypt"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg><h5></div><p>Run certbot-auto</p></div><div class="highlight highlight-source-shell"><pre>/root/certbot-auto certonly --manual --preferred-challenges=dns -d .destailleur.fr</pre></div></div><div><p>Follow instructions to add DNS entries and validate generation.</p></div><p>To read generated .pem files, run</p></div></div><div class="highlight highlight-source-shell"><pre>openssl x509 -in fullchain.pem -text</pre></div></div></div></div><div id="user-content-installer-les-fichiers-certificats"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg><h4></div><p>Récupérer les certificats SSL (fichier crt de certificat et de certificat intermédiaire) et les installer dans /etc/apache2)</p><p>Créer un lien symbolique vers ces certificats avec le nom generique withX.sellyoursaas.com.crt et withX.sellyoursaas.com-intermediate.crt:</p><pre>cd /etc/apache2 ln -fs /pathtomycertificate/withX.mysaasdomainname.com.crt with.sellyoursaas.com.crt ln -fs /pathtomycertificate/withX.mysaasdomainname.com-intermediate.crt with.sellyoursaas.com-intermediate.crt</pre></div><p>Edite le fichier apache du virtual host par défaut /etc/apache2/sites-available/000-default-ssl.conf pour remplacer les lignes qui déclarent le certificat SSL par le nouveau:</p><pre>SSLCertificateFile /etc/apache2/with.sellyoursaas.com.crt SSLCertificateKeyFile /etc/apache2/with.sellyoursaas.com.key SSLCertificateChainFile /etc/apache2/with.sellyoursaas.com-intermediate.crt SSLCACertificateFile /etc/apache2/with.sellyoursaas.com-intermediate.crt</pre></div><p>Ainsi, si un utilisateur utilise une vieille URL sans virtual host, il arrivera sur la page par défaut /var/www/html/index.html.</p><p>Editer la page /var/www/html/index.html avec le contenu comme celui la:</p><pre><html> <body> <center>
 Server (name_of_server_x)Sorry, there is currently no service available to this URL. May be this domain name was used in the past to host a customer instance that was definitely undeployed.
 You may try later or create a new instance from scratch from page https://www.mysaasdomainname.com</pre>

```

<br> </center> </body> </html></pre> </div> </div> </div>
</div> </div> </div> <h3 id="user-content-installation_des_taches_cron"><a id="user-content-installation-des-taches-cron" class="anchor" aria-hidden="true" href="#installation-des-taches-cron"><img alt="octicon octicon-link" data-bbox="80 100 160 160" style="vertical-align: middle;"/> Installation des taches Cron</a></h3> </div>
<h4 id="user-content-sur-le-serveur-master-1"><a id="user-content-sur-le-serveur-master-1" class="anchor" aria-hidden="true" href="#sur-le-serveur-master-1"><img alt="octicon octicon-link" data-bbox="80 230 160 290" style="vertical-align: middle;"/> Sur le serveur Master</a></h4> </div> <p>Avoir dans le cron du user <strong>root</strong></p> </div> </div> </div>
<div class="highlight highlight-source-shell"><pre><span class="pl-c"><span class="pl-c"><mark></span> m h dom mon dow command</span> <span class="pl-c"><span class="pl-c"><span class="pl-c">#</span></span> cron master root</span> 47 2 <span class="pl-k"><span class="pl-k"><span class="pl-k">*</span></span></span> <span class="pl-k"><span class="pl-k"><span class="pl-k">*</span></span></span> <span class="pl-k"><span class="pl-k"><span class="pl-k">*</span></span></span> /root/certbot-auto renew --no-self-upgrade <span class="pl-k"><span class="pl-k"><span class="pl-k">*</span></span></span> /var/log/letsencrypt/certbot-auto_renew.log <span class="pl-k"><span class="pl-k"><span class="pl-k">2</span></span></span> &1</span> <span class="pl-k"><span class="pl-k"><span class="pl-k">10 0</span></span></span> <span class="pl-k"><span class="pl-k"><span class="pl-k">*</span></span></span> <span class="pl-k"><span class="pl-k"><span class="pl-k">*</span></span></span> <span class="pl-k"><span class="pl-k"><span class="pl-k">*</span></span></span> /home/admin/wwwroot/dolibarr/htdocs/custom/sellyoursaas/scripts/backup_mysql_system.sh confirm <span class="pl-k"><span class="pl-k"><span class="pl-k">*</span></span></span> /home/admin/logs/backup_mysql_system.log <span class="pl-k"><span class="pl-k"><span class="pl-k">2</span></span></span> &1</span> <span class="pl-c"><span class="pl-c"><span class="pl-c">#</span></span></span> cron master and deployment root</span> 40 4 <span class="pl-k"><span class="pl-k"><span class="pl-k">*</span></span></span> <span class="pl-k"><span class="pl-k"><span class="pl-k">*</span></span></span> /home/admin/wwwroot/dolibarr/htdocs/custom/sellyoursaas/scripts/backup_backups.sh confirm <span class="pl-k"><span class="pl-k"><span class="pl-k">*</span></span></span> /home/admin/logs/backup_backups.log <span class="pl-k"><span class="pl-k"><span class="pl-k">2</span></span></span> &1</span> <span class="pl-k"><span class="pl-k"><span class="pl-k">30 3</span></span></span> <span class="pl-k"><span class="pl-k"><span class="pl-k">*</span></span></span> <span class="pl-k"><span class="pl-k"><span class="pl-k">*</span></span></span> <span class="pl-k"><span class="pl-k"><span class="pl-k">*</span></span></span> /home/admin/wwwroot/dolibarr/htdocs/custom/sellyoursaas/scripts/perms.ksh <span class="pl-k"><span class="pl-k"><span class="pl-k">*</span></span></span> /home/admin/logs/perms.log <span class="pl-c"><span class="pl-c"><span class="pl-c">#</span></span></span>40 4 4 * * /home/admin/wwwroot/dolibarr/htdocs/custom/sellyoursaas/scripts/clean.sh confirm</span></pre></div> </div> </div> </div> <p>Mettre dans le cron du user <strong>admin</strong></p> </div> </div> </div>
<div class="highlight highlight-source-shell"><pre><span class="pl-c"><span class="pl-c"><span class="pl-c">#</span></span></span> m h dom mon dow command</span> <span class="pl-c"><span class="pl-c"><span class="pl-c">#</span></span></span> cron master admin</span> <span class="pl-c"><span class="pl-c"><span class="pl-c">#</span></span></span> cron master admin</span> <span class="pl-k"><span class="pl-k"><span class="pl-k">*</span></span></span> /10 <span class="pl-k"><span class="pl-k"><span class="pl-k">*</span></span></span> <span class="pl-k"><span class="pl-k"><span class="pl-k">*</span></span></span> <span class="pl-k"><span class="pl-k"><span class="pl-k">*</span></span></span> /home/admin/wwwroot/dolibarr/scripts/cron/cron_run_jobs.php securitykeydefinedinscheduledjobsetup firstadmin <span class="pl-k"><span class="pl-k"><span class="pl-k">*</span></span></span>

```

```

/home/admin/wwwroot/dolibarr_documents/cron_run_jobs.php.log 7 7 &lt;span class="pl-
k"&gt;*&lt;/span&gt; &lt;span class="pl-k"&gt;*&lt;/span&gt; &lt;span class="pl-k"&gt;*&lt;/span&gt;
/home/admin/wwwroot/dolibarr/htocs/custom/sellyoursaas/scripts/git_update_sources.sh
/home/admin/wwwroot/dolibarr_documents/sellyoursaas/git &lt;span class="pl-
k"&gt;&gt;&gt;&lt;/span&gt; /home/admin/logs/git_update_sources.log &lt;span class="pl-
k"&gt;2&gt;&1&lt;/span&gt; 5 5 &lt;span class="pl-k"&gt;*&lt;/span&gt; &lt;span class="pl-
k"&gt;*&lt;/span&gt; 0
/home/admin/wwwroot/dolibarr/htdocs/custom/sellyoursaas/scripts/batch_customers.php
updatestatonly &lt;span class="pl-k"&gt;&gt;&gt;&lt;/span&gt; /home/admin/logs/batch_customers-
updatedatabase.log &lt;span class="pl-k"&gt;2&gt;&1&lt;/span&gt; &lt;span class="pl-
c"&gt;&lt;span class="pl-c"&gt;#&lt;/span&gt; cron master and deployment root&lt;/span&gt; 20 0
&lt;span class="pl-k"&gt;*&lt;/span&gt; &lt;span class="pl-k"&gt;*&lt;/span&gt; &lt;span class="pl-
k"&gt;*&lt;/span&gt;
/home/admin/wwwroot/dolibarr/htdocs/custom/sellyoursaas/scripts/batch_customers.php backup
&lt;span class="pl-k"&gt;&gt;&gt;&lt;/span&gt; /home/admin/logs/batch_customers-backup.log
&lt;span class="pl-k"&gt;2&gt;&1&lt;/span&gt;&lt;/pre&gt;&lt;/div&gt; &lt;/div&gt; &lt;/div&gt;
&lt;div&gt; &lt;p&gt;Note: &lt;strong&gt;securitykeydefinedinscheduledjobsetup&lt;/strong&gt; is
the value of the key you set into the setup of module &lt;strong&gt;Scheduled jobs&lt;/strong&gt; on
the Dolibarr master.&lt;/p&gt; &lt;/div&gt; &lt;/div&gt; &lt;/div&gt; &lt;h4 id="user-content-sur-les-
serveurs-de-déploiement-1"&gt;&lt;a
id="user-content-sur-les-serveurs-de-déploiement-1"
class="anchor" aria-hidden="true" href="sur-les-serveurs-de-déploiement-1"&gt;&lt;svg
class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-
hidden="true"&gt;&lt;path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 01.06 1.06l1.25-1.25a2 2 0
112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-
4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95
0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83
0z"&gt;&lt;/path&gt;&lt;/svg&gt;&lt;/a&gt;Sur les serveurs de Déploiement&lt;/h4&gt; &lt;/div&gt;
&lt;p&gt;Avoir dans le cron du user &lt;strong&gt;root&lt;/strong&gt;&lt;/p&gt; &lt;/div&gt;
&lt;/div&gt; &lt;/div class="highlight highlight-source-shell"&gt;&lt;pre&gt;&lt;span
class="pl-c"&gt;&lt;span class="pl-c"&gt;</mark&gt;&lt;/span&gt; m h dom mon dow
command&lt;/span&gt; &lt;span class="pl-c"&gt;&lt;span class="pl-c"&gt;#&lt;/span&gt; cron master
and deployment root&lt;/span&gt; 40 4 &lt;span class="pl-k"&gt;*&lt;/span&gt; &lt;span class="pl-
k"&gt;*&lt;/span&gt; &lt;span class="pl-k"&gt;*&lt;/span&gt;
/home/admin/wwwroot/dolibarr/htdocs/custom/sellyoursaas/scripts/backup_backups.sh confirm
&lt;span class="pl-k"&gt;&gt;&lt;/span&gt;/home/admin/logs/backup_backups.log &lt;span class="pl-
k"&gt;2&gt;&1&lt;/span&gt; 30 3 &lt;span class="pl-k"&gt;*&lt;/span&gt; &lt;span class="pl-
k"&gt;*&lt;/span&gt; &lt;span class="pl-k"&gt;*&lt;/span&gt;
/home/admin/wwwroot/dolibarr/htdocs/custom/sellyoursaas/scripts/perms.ksh &lt;span class="pl-
k"&gt;&gt;&lt;/span&gt;/home/admin/logs/perms.log &lt;span class="pl-c"&gt;&lt;span class="pl-
c"&gt;#&lt;/span&gt;40 4 4 * *
/home/admin/wwwroot/dolibarr/htdocs/custom/sellyoursaas/scripts/clean.sh
confirm&lt;/span&gt;&lt;/pre&gt;&lt;/div&gt; &lt;/div&gt; &lt;/div&gt; &lt;/div&gt; &lt;p&gt;Mettre
dans le cron du user &lt;strong&gt;admin&lt;/strong&gt;:&lt;/p&gt; &lt;/div&gt; &lt;/div&gt;
&lt;/div class="highlight highlight-source-shell"&gt;&lt;pre&gt;&lt;span class="pl-
c"&gt;&lt;span class="pl-c"&gt;#&lt;/span&gt; m h dom mon dow command&lt;/span&gt; &lt;span
class="pl-c"&gt;&lt;span class="pl-c"&gt;#&lt;/span&gt; cron master and deployment
admin&lt;/span&gt; 20 0 &lt;span class="pl-k"&gt;*&lt;/span&gt; &lt;span class="pl-
k"&gt;*&lt;/span&gt; &lt;span class="pl-k"&gt;*&lt;/span&gt;
&lt;/pre&gt;&lt;/div&gt; &lt;/div&gt; &lt;/div&gt;

```

[/home/admin/wwwroot/dolibarr/htdocs/custom/sellyoursaas/scripts/batch_customers.php backup](#)

[/home/admin/logs/batch_customers-backup.log](#)

[vérifier-le-lancement-des-cron](#)



```

M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95
0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0
001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25
1.25a2 2 0 01-2.83 0z"

```

Vérifier le lancement des cron

Reprendre du fichier `/etc/crontab`, les commandes pour tester le lancement de crontab journalière, hebdo et mensuelles et tester en lançant en manuel. Par exemple par :

```

run-parts --report /etc/cron.daily

```

Installation de Dolibarr

Sur tous les serveurs (Master et Déploiement):

- Sous le compte `admin`, récupérer les sources de `Dolibarr` (v13 ou +) à placer dans `/home/admin/wwwroot/dolibarr`**

```

git clone <a href="https://github.com/Dolibarr/dolibarr" class="bare">https://github.com/Dolibarr/dolibarr</a>
dolibarr

```

Installer Dolibarr pour qu'il réponde à un virtual host Apache, par exemple: `https://admin.mysaasdomainname.com`

```

https://admin.mysaasdomainname.com

```

(pointant donc sur `/home/admin/wwwroot/dolibarr/htdocs`) Attention: Choisissez comme nom de répertoire document lors de l'assistant d'installation `/home/admin/wwwroot/dolibarr_documents` plutôt que `/home/admin/wwwroot/dolibarr/documents`

- Si vous configurez l'envoi des emails depuis le backoffice Dolibarr via un relai SMTP comme Google ou SendGrid, penser à mettre à jour les IP (v4 et v6) autorisées par le relay sur la console du service de relai SMTP.**
- Activez le module "Cron/Travaux programmés" et définissez la clé de sécurité du cron à la même valeur que ce qui a été mis en paramètre de l'appel de `cron_run_jobs.php`**

Installation de `geoip2`

 Installation de GeoIP de Dolibarr pour utiliser cette base de donnée.

 Installer la base de données de MaxMind. Activer et configurer le module GeoIP de Dolibarr pour utiliser cette base de donnée.

 Installation du plugin SellYourSaas

Sur tous les serveurs (Master et Déploiement):

Sous le compte **admin**, installer les sources de **SellYourSaas** : Récupérer les sources du projet à placer dans **/home/admin/wwwroot/dolibarr_sellyoursaas**:

```

cd /home/admin/wwwroot
git clone <a href="https://github.com/eldy/sellyoursaas" class="bare">https://github.com/eldy/sellyoursaas</a>
cd dolibarr_sellyoursaas
cp -r /home/admin/wwwroot/dolibarr/htdocs/custom ln -fs /home/admin/wwwroot/dolibarr_sellyoursaas
cp -r /home/admin/wwwroot/dolibarr_sellyoursaas /home/admin/wwwroot/dolibarr/htdocs

```

Créer un lien symbolique dans **/home/admin/wwwroot/dolibarr/htdocs/custom** vers **/home/admin/wwwroot/dolibarr_sellyoursaas**:

```

ln -fs /home/admin/wwwroot/dolibarr/htdocs/custom/sellyoursaas /home/admin/wwwroot/dolibarr/htdocs

```

Se connecter à l'interface utilisateur de Dolibarr (<https://admin.mysaasdomainname.com>):

Activer le module SellYourSaas

Créer un compte utilisateur générique Dolibarr pour les accès à l'espace client (Exemple: "Utilisateur client"). Lui donner les accès suivants:

- Module Agenda
- Lires les actions
- Créer modifier les actions
- Lire les actions des autres
- Créer des actions pour les autres

Module

Banque

- Consulter les comptes financiers
- Créer/modifier montant/supprimer écritures bancaires
- Module Catégories
- Consulter les catégories
- Contrats/Abonnements
- Lire les contrats/abonnements
- Créer modifier les contrats abonnements
- Activer un service abonnement
- Désactiver un service abonnement
- Module GED
- Lire/ Récupérer les documents
- Soumettre ou supprimer un document
- Module Factures et avoir
- Consulter les factures
- Module Fournisseurs
- Consulter les fournisseurs
- Module Prélèvement
- Consulter les prélèvements
- Module Produit
- Consulter les produits
- Module SellYourSaas
- Read SellYourSaaS data
- Module Services
- Consulter les services
- Module Tiers
- Consulter les tiers liés à l'utilisateur
- Consulter les contacts
- Module Utilisateurs et Groupes
- Créer/modifier ses propres informations utilisateur
- Créer un fichier `/etc/sellyoursaas.conf` sur le serveur (sur le serveur `Master` et les `Serveurs de Déploiement`)

```
highlight highlight-source-shell

```
vi /etc/sellyoursaas.conf chown root.admin /etc/sellyoursaas.conf chmod g-wx /etc/sellyoursaas.conf chmod o-rwx /etc/sellyoursaas.conf
```


```

Avec pour contenu :

```
domain du service domain=mysaasdomainname.com subdomain=withX.mysaasdomainname.com
# ips autorisés à commander le déploiement allowed_hosts=127.0.0.1,ipuservermaster # Set to 1 if
this server is the master server masterserver=1 # Set to 1 if this server host instances for the pool
(deployment server) instanceserver=1 # Set to 1 if this server hosts a dns for the pool (deployment
server) dnsserver=1 # Set to its own IP if it is a deployment server
ipserverdeployment=ipuserverdeployment # Set this to directory where dolibarr repository is
installed dolibarrdir=/home/admin/wwwroot/dolibarr # Set directory where instances are stored
(default is /home/jail/home) <mark>targetdir=/home/jail/home # Set location of the master database
databasehost=ipuservermaster ou localhost si serveur master # Set port of the master database
(default is 3306) databaseport=3306 # Set database name of the master server
database=databaseduservermaster # Set credential for the master and deployment database
databaseuser=sellyoursaas databasepass=&#8230;&#8203; # Set this to 1 or 0 to archive or not the
test instances during undeployment (if 0, test are destroyed with no archive step)
archivetestinstances=1 # Set directory where backup are stored
```



```

class="pl-
pds">)</span></span></span></span>
pds">)</span></span></span></span>
<ul>
<li>
<p>Copier le fichier de config datadog pour supervisor
<strong>mysql/mariadb</strong>. Le fichier sera éditer pour renseigner le mot de passe
du compte de base datadog un peu plus loin...</p>
</li>
</ul>
</div>
</div class="highlight highlight-source-shell"><pre>cp /etc/datadog-
agent/conf.d/mysql.d/conf.yaml.example /etc/datadog-
agent/conf.d/mysql.d/conf.yaml</pre></div>
</div>
</div>
</div>
<ul>
<li>
<p>Copier le fichier de config datadog pour supervisor
<strong>apache</strong>.</p>
</li>
</ul>
</div>
</div class="highlight highlight-source-shell"><pre>cp /etc/datadog-
agent/conf.d/apache.d/conf.yaml.example /etc/datadog-
agent/conf.d/apache.d/conf.yaml</pre></div>
</div>
</div>
</div>
<ul>
<li>
<p>Copier le fichier de config datadog pour supervisor
<strong>postfix</strong>.</p>
</li>
</ul>
</div>
</div class="highlight highlight-source-shell"><pre>cp /etc/datadog-
agent/conf.d/postfix.d/conf.yaml.example /etc/datadog-
agent/conf.d/postfix.d/conf.yaml</pre></div>
</div>
</div>
<p>Editer le fichier pour ajouter <strong>min_collection_interval: 300</strong>
sous <strong>postfix_user: postfix</strong> et sous <strong>queues: -
deffered</strong>.</p>
</div>
</div>
<ul>
<li>
<p>Copier le
fichier de config datadog pour supervisor <strong>memcached</strong>.</p>
</li>
</ul>
</div>
</div class="highlight highlight-source-shell"><pre>cp /etc/datadog-agent/conf.d/mcache.d/conf.yaml.example /etc/datadog-
agent/conf.d/mcache.d/conf.yaml</pre></div>
</div>
</div>
<ul>
<li>
<p>Copier le fichier de config datadog pour supervisor certains
<strong>process</strong>.</p>
</li>
</ul>
</div>
</div class="highlight highlight-source-shell"><pre>cp /etc/datadog-
agent/conf.d/process.d/conf.yaml.example /etc/datadog-
agent/conf.d/process.d/conf.yaml</pre></div>
</div>
</div>
<p>Editer le pour suivre les 3 process suivants:</p>
</div>
</div class="highlight highlight-source-shell"><pre>instances: - name: process_apache2
search_string: [<span class="pl-s"><span class="pl-pds">
class="pl-pds">)</span></span></span></span>] exact_match: False thresholds: critical: [5, 5000]
```

- name: agent_sellyoursaas search_string: [remote_server] exact_match: False thresholds: critical: [1, 5000]
- name: apache_watchdog_daemon1 search_string: [apache_watchdog_daemon1] exact_match: False thresholds: critical: [1, 5000]
- name: apache_watchdog_daemon2 search_string: [apache_watchdog_daemon2] exact_match: False thresholds: critical: [1, 5000]
- name: fail2ban search_string: [fail2ban-server] exact_match: False thresholds: critical: [1, 5000]

- name: cron search_string: ['/usr/sbin/cron] exact_match: False thresholds: critical: [1, 5000]</pre></div></div> <div> <p>Relancer datadog</p> </div> <div> <div> <div class="highlight highlight-source-shell"><pre>sudo service datadog-agent stop sudo service datadog-agent start</pre></div> </div> </div> <div></div> </div> </div> <div> <h2 id="user-content-exploitation-supervision"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg>Exploitation - Supervision</h2> <div> <div> <h3 id="user-content-sauvegarde-restauration"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg>Sauvegarde / Restauration</h3> <div> <h4 id="user-content-sauvegarde-système"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg>Sauvegarde système</h4> <div> <p>La sauvegarde du serveur+bases peut se faire par un snapshot d'image de la VM. Il est aussi possible de ne faire un snapshot que des disques complémentaires.</p> </div> <div> <p>Voir chapitre Clonage d une instance serveur pour production bis ou pour développement</p> </div> </div> <div> <h4 id="user-content-restauration-système"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg>Restauration système</h4> <div> <p>Depuis l'espace "Snapshots" d'OVH, on peut demander à le restaurer sur un serveur (pour une image VM) ou sur un aute disque (pour une image disque complémentaire), à condition que la cible (serveur ou disque) soit supérieure ou égale en terme de capacité de stockage.</p> </div> <div> <p>Voir chapitre Clonage d une instance serveur pour production bis ou pour développement</p> </div> </div> <div> <h4 id="user-content-sauvegarde-fichiers-et-bases"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775

3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg>Sauvegarde fichiers et bases</h4> <div> <h5 id="user-content-sauvegarde-locale"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg>Sauvegarde locale</h5> <div> <p>Une sauvegarde locale de la configuration du serveur et des instances payantes est assurée par le cron</p> <div> <p>/home/admin/wwwroot/dolibarr/htdocs/custom/sellyoursaas/scripts/backup_mysql_system.sh confirm de root (voir Installation des taches Cron) vers le disque /home/admin/backup/conf et /home/admin/backup/mysql</p> </div> <div> <p>Une sauvegarde locale des instances utilisateurs payantes est assurée par le cron</p> <div> <p>/home/admin/wwwroot/dolibarr/htdocs/custom/sellyoursaas/scripts/batch_customers.php backup de admin (voir Installation des taches Cron) vers le disque /mnt/diskbackup/backup/osu</p> </div> </div> <div> <h5 id="user-content-sauvegarde-distante"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg>Sauvegarde distante</h5> <div> <p>Une sauvegarde externe doit être assurée vers un autre serveur par le cron de l'utilisateur root en lançant le fichier /home/admin/wwwroot/dolibarr/htdocs/custom/sellyoursaas/scripts/backup_backups.sh confirm >/home/admin/logs/backup_backups.log 2>&1 pour copier de /mnt/diskbackup/backup vers /mnt/diskbackup/backup_serversource (d'un autre serveur sur un autre datacenter). Ce script est intégré dans la crontab de root (Voir Installation des taches Cron).</p> <p>Pour une sauvegarde chez AWS:</p> </div> <div> <div class="highlight highlight-source-shell"><pre>pip install awscli --upgrade --user

```
TODO...</pre></div>
```

```
</div>
</div>
</div>
</div>
</div>
</div>
```

```

<h3 id="user-content-mise-à-jour-des-images-à-déployer"><a id="user-content-mise-à-jour-des-images-à-déployer" class="anchor" aria-hidden="true" href="#mise-à-jour-des-images-à-déployer"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg></a> Mise à jour des images à déployer</h3>
<div>
<ul>
<li>
<p>Un script cron permet de réaliser le git pull nécessaire pour mettre à jour les images des packages à déployer en lançant le script sur le serveur</p>
<strong>Master</strong>:
<strong>/home/admin/wwwroot/dolibarr/htdocs/custom/sellyoursaas/scripts/git_update_sources.sh /home/admin/wwwroot/dolibarr_documents/sellyoursaas/git</strong></p>
</li>
</ul>
</div>
</div>
<div>
<h3 id="user-content-mise-à-des-statistiques-sellyoursaas"><a id="user-content-mise-à-des-statistiques-sellyoursaas" class="anchor" aria-hidden="true" href="#mise-à-des-statistiques-sellyoursaas"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg></a> Mise à des statistiques SellYourSaas</h3>
<div>
<ul>
<li>
<p>Un script cron permet de réaliser le calcul des statistiques en lançant le script sur le serveur</p>
<strong>Master</strong>:
<strong>/home/admin/wwwroot/dolibarr/htdocs/custom/sellyoursaas/scripts/batch_customers.php updatestatonly</strong></p>
</li>
</ul>
</div>
</div>
<div>
<h3 id="user-content-augmenter-la-taille-dun-disque"><a id="user-content-augmenter-la-taille-dun-disque" class="anchor" aria-hidden="true" href="#augmenter-la-taille-dun-disque"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25

```

```

1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5
0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25
1.25a2 2 0 01-2.83 0z"></path></svg></a>Augmenter la taille d'un disque</h3>
<div>
<ul>
<li>
<p>Faire le snapshot du disque à redimensionner pour sauvegarde. Créer un nouveau
disque depuis ce snapshot et le rattacher à un autre serveur (voir chapitre <a
href="#ajout_de_disque">Ajout du ou des disques durs de données (home des instances
utilisateurs et home des sauvegardes)</a>) pour s'assurer qu'il est lisible et
ainsi avoir les fichiers de la sauvegarde sous la main.</p>
</li>
<li>
<p>Démonter le filesystem:</p>
</li>
</ul>
</div>
<div>
<div>
<div class="highlight highlight-source-shell"><pre>umount /mnt/disk/</pre></div>
</div>
</div>
<div>
<p>Rem: Pour voir les fichiers ouverts sur un disque si le démontage échoue:</p>
</div>
<div>
<div>
<div class="highlight highlight-source-shell"><pre>lsof <span class="pl-k">|</span>
grep <span class="pl-s"><span class="pl-pds">"</span>/mnt/disk<span class="pl-
pds">"</span></span></pre></div>
</div>
</div>
<div>
<ul>
<li>
<p>Détacher le disque du serveur. S'assurer que son nom ne contient pas d'espaces
ou caractères spéciaux. Changer la taille du disque depuis le manager du Public
Cloud et le réattacher au serveur.</p>
</li>
<li>
<p>Agrandir la partition en lançant:</p>
</li>
</ul>
</div>
<div>
<div>
<div class="highlight highlight-source-shell"><pre>fdisk -l
parted /dev/vdX (X=a, b, <span class="pl-k">!!!</span> SANS le chiffre, on veut
le disque complet)
print all
resizepart

```

Y

```
999GB (Ne pas saisir la valeur proposé par défaut mais la valeur max du disque  
qui a été affiché par le <span class="pl-s"><span class="pl-pds">"</span>print  
all<span class="pl-pds">"</span></span>)
```

```
q</pre></div>
```

```
</div>
```

```
</div>
```

```
<div>
```

```
<ul>
```

```
<li>
```

```
<p>Remonter le disque pour prise en compte et augmenter le formatage du filesystem  
sans effacement.</p>
```

```
</li>
```

```
</ul>
```

```
</div>
```

```
<div>
```

```
<div>
```

```
<div class="highlight highlight-source-shell"><pre>mount /mnt/disk/  
resize2fs /dev/vdX9</pre></div>
```

```
</div>
```

```
</div>
```

```
<div>
```

```
<h3 id="user-content-clonage-d-une-instance-serveur-pour-production-bis-ou-pour-  
développement"><a id="user-content-clonage-d-une-instance-serveur-pour-production-  
bis-ou-pour-développement" class="anchor" aria-hidden="true" href="#clonage-d-une-  
instance-serveur-pour-production-bis-ou-pour-développement"><svg class="octicon  
octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-  
hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 01.06 1.06l1.25-  
1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0  
004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-  
2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0  
004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83  
0z"></path></svg></a>Clonage d une instance serveur pour production bis ou pour  
développement</h3>
```

```
<div>
```

```
<p>Les étapes suivantes résumes les opérations à réaliser pour cloner un serveur de  
déploiement en un autre serveur de déploiement.</p>
```

```
</div>
```

```
<div>
```

```
<ul>
```

```
<li>
```

```
<p>Créer un snapshot/backup du <strong>Serveur de déploiement</strong> à  
cloner.</p>
```

```
</li>
```

```
<li>
```

```
<p>Créer un nouveau serveur OVH depuis le snapshot en spécifiant le nom du snapshot  
source et en copiant dans la zone <strong>post installation script</strong> le  
contenu du fichier <strong>/scripts/post_inst_script.sh</strong></p>
```

```
</li>
```

```
<li>
```


<p>Une fois le serveur créé, vérifiez qu'il a bien un IP associé. Si non, aller dans la console horizon est sur le serveur, supprimer les interfaces réseaux (Detach) puis ajouter un interface réseaux (laisser l'ip fixe vide pour qu'elle soit déterminée par OVH). Rebooter le serveur.</p>

<p>Une fois le serveur prêt: Se connecter pour désactiver les crons en doublons avec le serveur cloné (possibilité de désactiver le process cron complètement) par</p>

</div>

<div>

<div>

<div class="highlight highlight-source-shell"><pre>systemctl stop cron
systemctl disable cron
systemctl status cron</pre></div>

</div>

</div>

<div>

<p>Editer la cron de root et de admin</p>

<p>Editer le fichier /etc/fstab pour supprimer montage du/des disques données.</p>

<p>Créer un snapshot du Disque de donnée.</p>

<p>Créer un nouveau disque dur de donnée OVH depuis le snapshot et l'associer au serveur. Après association, il doit être visible avec la commande:</p>

<div>

<div>

<pre>fdisk -l</pre>

</div>

</div>

<p>Si on est parti sur un disque vierge, formater le nouveau disque dur de donnée. Pour cela, voir la chapitre Ajout du ou des disques durs de données (home des instances utilisateurs et home des sauvegardes).

Si il s'agit d'un disque déjà formaté, voir la chapitre Ajout du ou des disques durs de données (home des instances utilisateurs et home des sauvegardes) pour ne réaliser que les opérations de montage et d'ajout en /etc/fstab.</p>

<p>Ajouter un fichier à la racine du disque pour identifier le volume (Par exemple:

```
DATA_MYSERVERNAME, BACKUP_MYSERVERNAME, ...).</p>
</li>
</ul>
</div>
<div>
<div>
<pre>touch /mnt/diskhome/DATA_MYDEPLOYMENTSERVERX</pre>
</div>
</div>
<div>
<ul>
<li>
<p>Ajouter une autorisation d'accès NFS au nouveau serveur sur le
<strong>Master</strong></p>
</li>
</ul>
</div>
<div>
<div>
<div class="highlight highlight-source-shell"><pre>vi /etc/exports</pre></div>
</div>
</div>
<div>
<p>Pour ajouter une ligne du type:</p>
</div>
<div>
<div>
<div class="highlight highlight-source-shell"><pre>/home/admin/wwwroot/dolibarr_documents/sellyoursaas
i.p.deployment.server(ro,no_root_squash,sync,no_subtree_check)</pre></div>
</div>
</div>
<div>
<div>
<div class="highlight highlight-source-shell"><pre>exportfs -v -a (to
validate new entries to add)
exportfs
systemctl restart nfs-kernel-server</pre></div>
</div>
</div>
<div>
<ul>
<li>
<p>Ajouter, dans le fichier <strong>/etc/fstab</strong> du nouveau serveur de
déploiement, l'entrée pour avoir le montage NFS au démarrage.</p>
</li>
</ul>
</div>
<div>
<div>
<div class="highlight highlight-source-
```

```
shell"><pre>ip.server.master:/home/admin/wwwroot/dolibarr_documents/sellyoursaas
/home/admin/wwwroot/dolibarr_documents/sellyoursaas nfs defaults 0 0</pre></div>
```

</div>

</div>

<div>

<p>Autoriser l'accès entre le nouveau Serveur de déploiement et le Serveur master au niveau du firewall.</p>

</div>

<div>

<p>Par exemple, sur le Serveur master:</p>

</div>

<div>

<div>

```
<div class="highlight highlight-source-shell"><pre><span class="pl-smi">${IPTABLES}</span> -t filter -A INPUT -p tcp -s ip.server.deployment --dport
nfs -m state --state NEW,ESTABLISHED,RELATED -j ACCEPT
<span class="pl-smi">${IPTABLES}</span> -t filter -A INPUT -p udp -s
ip.server.deployment --dport nfs -m state --state NEW,ESTABLISHED,RELATED -j ACCEPT
<span class="pl-smi">${IPTABLES}</span> -t filter -A OUTPUT -p tcp -d
ip.server.deployment --sport nfs -m state --state ESTABLISHED,RELATED -j ACCEPT
<span class="pl-smi">${IPTABLES}</span> -t filter -A OUTPUT -p udp -d
ip.server.deployment --sport nfs -m state --state ESTABLISHED,RELATED -j
ACCEPT</pre></div>
```

</div>

</div>

<div>

<p>Et sur le Serveur de déploiement</p>

</div>

<div>

<p>Si on a IP_SERVER et IP_SERVER2 récupéré ainsi:</p>

</div>

<div>

<div>

```
<div class="highlight highlight-source-shell"><pre>IP_SERVER=<span class="pl-s"><span class="pl-pds">`</span>ifconfig <span class="pl-k">|</span> sed -En <span
class="pl-s"><span class="pl-pds">'</span>s/127.0.0.1//;s/.*inet (addr:)?((([0-
9]*\.){3}[0-9]*).*\2/p<span class="pl-pds">'</span></span> <span class="pl-
k">|</span> head -n 1<span class="pl-pds">`</span></pre>
IP_SERVER_V6=<span class="pl-s"><span class="pl-pds">`</span>ifconfig <span
class="pl-k">|</span> grep -i global <span class="pl-k">|</span> sed -En <span
class="pl-s"><span class="pl-pds">'</span>s/127.0.0.1//;s/.*inet6
(addr:)?\s?([\s+)]\2/p<span class="pl-pds">'</span></span> <span class="pl-
k">|</span> cut -d<span class="pl-s"><span class="pl-pds">'</span> <span class="pl-
pds">'</span></span></span> -f1 <span class="pl-k">|</span> cut -d<span class="pl-s"><span
class="pl-pds">'</span></span></span> -f1 <span class="pl-
pds">'</span></span></pre>
IP_SERVER2=<span class="pl-s"><span class="pl-pds">`</span>ifconfig <span
```

```

class="pl-k">|</span> sed -En <span class="pl-s"><span class="pl-
pds">'</span>s/127.0.0.1//;s/. *inet (addr:)?([[0-9]*\.){3}[0-9]*).*\/\2/p<span
class="pl-pds">'</span></span> <span class="pl-k">|</span> sed <span class="pl-
s"><span class="pl-pds">'</span>2 ! d<span class="pl-pds">'</span></span><span
class="pl-pds">'</span></span></pre></div>
</div>
</div>
<div>
<p>Il faudra ajouter:</p>
</div>
<div>
<div class="highlight highlight-shell"><pre>IP_SELLYOURSAAS_ADMIN=ip.server.master

```

```

<span class="pl-smi">${IPTABLES}</span> -t filter -A OUTPUT -s <span class="pl-
smi">${IP_SERVER}</span> -d <span class="pl-
smi">${IP_SELLYOURSAAS_ADMIN}</span> -j ACCEPT <span class="pl-
smi">${IPTABLES}</span> -t filter -A INPUT -s <span class="pl-
smi">${IP_SELLYOURSAAS_ADMIN}</span> -d <span class="pl-
smi">${IP_SERVER}</span> -j ACCEPT <span class="pl-k">if</span> [ <span class="pl-s">&lt;span
class="pl-pds">"</span>&lt;/span>x<span class="pl-
smi">${IP_SERVER2}</span>&lt;span class="pl-pds">"</span>&lt;/span>&lt;/span> &lt;span
class="pl-k">!=</span>&lt;/span> &lt;span class="pl-s">&lt;span
class="pl-pds">"</span>&lt;/span>x<span class="pl-pds">"</span>&lt;/span> ] <span class="pl-
k">then</span> &lt;span class="pl-smi">${IPTABLES}</span> -t filter -A OUTPUT -s
<span class="pl-smi">${IP_SERVER2}</span> -d &lt;span class="pl-
smi">${IP_SELLYOURSAAS_ADMIN}</span> -j ACCEPT &lt;span class="pl-
smi">${IPTABLES}</span> -t filter -A INPUT -s &lt;span class="pl-
smi">${IP_SELLYOURSAAS_ADMIN}</span> -d &lt;span class="pl-
smi">${IP_SERVER2}</span> -j ACCEPT &lt;span class="pl-
k">fi</span></pre>&lt;/div> &lt;/div> &lt;/div> &lt;/div> &lt;/ul> &lt;/li>
&lt;p>Modifier le fichiers de configuration de Postfix suivant (possibilité de désactiver postfix
complètement ou juste envoyer les emails vers un SMTP bidon pour du développement):&lt;/p>
&lt;div> &lt;pre>*/etc/postfix/main.cf* <strong>/etc/postfix/mydestination</strong>
<strong>/etc/postfix/generic</strong> <strong>/etc/mailname</strong>&lt;/pre> &lt;/div>
&lt;/li> &lt;/li> &lt;p>Ajouter les entrées du nouveau serveur
&lt;strong>mynewserverX.mydomain.com</strong> dans le DNS du domaine
&lt;strong>mydomain.com</strong> avec l'IP v4 (record A) et l'IP v6 (record AAA) attribué
par OVH lors de la création du nouveau serveur.&lt;/p> &lt;/li> &lt;/li> &lt;p>Aller dans
l'interface de gestion des serveurs OVH, pour modifier leur nom court. Ceci modifiera le fichier
&lt;strong>/etc/hostname</strong> automatiquement (sinon modifier manuellement.
Mettre un nom court, par exemple &lt;strong>myserverX</strong>).&lt;/p> &lt;/li>
&lt;/li> &lt;p>Aller dans l'interface de gestion des IP OVH, pour ajouter aussi&lt;/p>
&lt;/li> &lt;/li> &lt;p>le reverse sur l'IP du nouveau serveur:
&lt;strong>myserverX.mydomain.com</strong>&lt;/p> &lt;/li> &lt;/li> &lt;p>le
reverse sur l'IP virtuel si vous en avez pris une sur:
&lt;strong>with.mydomain.com</strong>&lt;/p> &lt;/li> &lt;/li> &lt;p>Se

```

connecter et modifier le fichier `/etc/hosts` avec le nom du nouveau serveur et nouvelle ip du serveur.

Editer le fichier `/var/www/html/index.html` si il existe pour positionner le nouveau nom de serveur.

Vérifier les fichiers `/etc/network/interfaces` et `/etc/network/interfaces.d` (pour remettre à la bonne valeur les ip publiques, virtuelles et internes vrack si le vrack OVH est utilisé).

Si webmin a été installé, se connecter à webmin pour désactiver les actions de supervision en doublons avec celle du serveur cloné.

Modifier les fichiers de serveurs virtuels Apache dans `/etc/apache2/sites-enabled` pour mettre la nouvelle IP/nouveau nom.

Déclarer l'IP pour l'envoi d'emails.

Si un serveur SMTP distant est utilisé, penser à autoriser l'IP du nouveau serveur à ce serveur.

Ajouter les IPs du nouveau serveur dans la ou les entrées SPF du DNS (SPF a besoin d'une entrée séparé pour chaque domain utilisé `@mydomain.com` et pour chaque sous-domaines `@myserverX.mydomain.com`).

Créer un compte `sellyoursaas` avec les permissions d'accès depuis le serveur de déploiement sur la base de donnée du `Master`.

Voir [#creer_un_compte_db_sellyoursaas](#) Créer un utilisateur `sellyoursaas` pour administrer les bases des instances utilisateurs.

Modifier le fichier `/etc/sellyoursaas.conf` avec la nouvelle IP et nom de sous-domaine du nouveau pool et information du compte d'accès base de donnée du master.

Effacer les fichiers dans :

```


```
/etc/apache2/sellyoursaas-online
/etc/apache2/sellyoursaas-offline
/etc/apache2/sellyoursaas-available
```


```

Et les fichiers ayant pour nom :

```


```
*/var/spool/mail/osu
/var/spool/cron/crontabs/osu
```


```

Effacer les lignes `osu` des fichiers

```


```
*/etc/passwd
/etc/shadow
/etc/group
```


```

Effacer les répertoires

```


```
/mnt/diskhome/home/osu...
```


```

Détruire la base de données `dolibarr` master si la source était le serveur `Master` des instances utilisateurs si la source était un serveur de déploiement. Ceci peut se faire en lançant:

```


```
mysql -uroot -e "show databases
| grep dbn
gawk '{print "drop database <code>" $1
"</code>;select sleep(0.1);"}'
/tmp/dbntodelete.sql mysql -uroot
/tmp/dbntodelete.sql
```


```

Renommer le fichier `DNS` `/etc/bind/withX.mydomain.com.hosts` en `/etc/bind/with(X+1).mydomain.com.hosts` et l'éditer pour prendre en compte le nouveau prefix.

Modifier le fichier

/etc/bind/named.conf.local pour prendre en compte le nouveau nom.</p> </p>Ajouter l'entrée DNS A pour ns1withX, ns2withX au domain mydomain.com pointant sur l'IP du nouveau serveur de déploiement.</p> </p>Ajouter l'entrée DNS NS pour withX au domain mydomain.com pointant sur ns1withX.mydomain.com.</p> </p>Arrêter, relancer le firewall, fail2ban, bind9, apache, postfix, remote_server et le datadog-agent si utilisé.</p> </p>Vérifier que, depuis le serveur Master, l'url a href="http://ipnouveauserverdeployment:8080/index.php/test" class="bare">http://ipnouveauserverdeployment:8080/index.php/test; répond par un "404 Not Found".</p> </p>Vérifier que les répertoires existent avec les bons droits ou les forcer:</p> </div> </div> </div> <div class="highlight highlight-source-shell"><pre>mkdir /mnt/diskbackup/backup /mnt/diskbackup/archives-test /mnt/diskbackup/archives-paid; chown admin.root /mnt/diskbackup/backup /mnt/diskbackup/archives-test /mnt/diskbackup/archives-paid;</pre></div> </div> </div> </p>Acquerir les certificats SSL du nouveau nom de domaine withX.mydomain.com, les déposer sur le serveur et créer les liens symboliques (Voir Création d'un certificat SSL wildcard pour les instances utilisateurs).</p> </p>Si vous configurez l'envoi des emails depuis le backoffice Dolibarr via un relai SMTP comme Google et/ou SendGrid, pensez à mettre à jour les IP (v4 et v6) autorisées par le relay sur la console du relai.</p> </div> </div> </p>En complément, si d'autres applications étaient actives sur le serveur clonés:</p> </div> </div> </p>For Prestashop sites, if the new server has a new url:</p> </div> </p>go into database to set correct url into table ps_configuration (var PS_SHOP_DOMAIN, PS_SHOP_DOMAIN_SSL, CANONICAL_URL) and ps_shop_url</p> </p>remove all cache files: cd cache; rm -fr ;; cd themes/xxx/cache; rm -fr .</p> </p>check also that templates does not contains hard coded redirect like "</p> </p>change payment modules from Live to Test if the copy is for development</p> </div> </div> </p>For Mediawiki sites, if VM has a new url, go into database to set correct url into file LocalSettings.php</p> </div> </div> </div> <h3 id="user-content-upgrade-os">svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true">path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 01.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z">path</svg>Upgrade OS</h3> </div> </p>Pour mettre à jour Ubuntu 16.04 vers 18.04 sur un serveur SellYourSaas:</p> </div> </div>

</div> </div class="highlight highlight-source-sql"><pre>apt dist</pre></div></div></div></div>

apt install phpmysql a2enmode php7.2 apt remove phpfpm php7</pre></div> </div> </div> </div>

<div> <h3 id="user-content-suivi-espace-utilisé-en-base"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.061 1.061l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg>Suivi espace utilisé en base</h3> </div>

<div> <p>La requête suivante permet d'avoir une vision de l'espace réel (sans le gachis) en base de données.</p> </div>

<div class="highlight highlight-source-sql"><pre>SET GLOBAL innodb_stats_on_metadata=0; SELECT table_schema "DB Name", ROUND(SUM(data_length index_length) 1024 1024, 1) "DB Size in MB", SUM(data_length) "Data", SUM(index_length) "Index" FROM information_schema.tables WHERE table_schema LIKE 'dbna%' GROUP BY table_schema;</pre></div> </div> </div>

<div> <p>Et par table</p> </div> </div> </div>

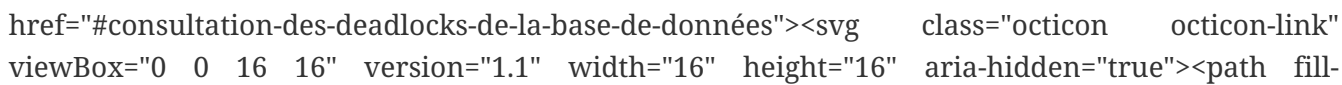
<div class="highlight highlight-source-sql"><pre>SET GLOBAL innodb_stats_on_metadata=0; SELECT table_schema "DB Name", table_name, ROUND(SUM(data_length index_length) 1024 1024, 1) "DB Size in MB", SUM(data_length) "Data", SUM(index_length) "Index" FROM information_schema.tables WHERE table_schema LIKE 'dbna%' GROUP BY table_schema, table_name;</pre></div> </div> </div>

<div> <p>or old request:</p> </div> </div>

<div> <p>SELECT IFNULL(B.engine,'Total') "Storage Engine", CONCAT(LPAD(REPLACE(FORMAT(B.DSize/POWER(1024,pw),3),','),17,' '),',', SUBSTR(' KMGTP',pw+1,1),'B') "Data Size", CONCAT(LPAD(REPLACE(FORMAT(B.ISize/POWER(1024,pw),3),','),17,' '),',', SUBSTR(' KMGTP',pw+1,1),'B') "Index Size",

```
CONCAT(LPAD(REPLACE(   FORMAT(B.TSize/POWER(1024,pw),3),',',''),17,'  '), SUBSTR('
KMGTP',pw+1,1),'B') "Table Size" FROM (SELECT engine,SUM(data_length) DSize,SUM(index_length)
ISize, SUM(data_length+index_length) TSize FROM information_schema.tables WHERE
table_schema NOT IN ('mysql','information_schema','performance_schema') AND engine IS NOT
NULL GROUP BY engine WITH ROLLUP) B, (SELECT 3 pw) A ORDER BY TSize;
```

[Consultation des deadlocks de la base de données](#)



```
show engine innodb status
```

```
mysql
sed
/tmp/innodbstatus
```

```
kill query ... kill ...
```

[Suivi des fichiers modifiés](#)

Pour détecter la liste des fichiers modifiés depuis la dernière mise à jour afick:

```
afick.pl -k
```

Voir le résumé des historiques de chaque changements:

```
vi /var/lib/afick/history
```

Voir le détail des changements d'un jour:

```
vi /var/lib/afick/archive/afick.YYYMMDD
```

Voir la documentation **afick.pl** pour plus d'options.

[Utilisation de OpenStack pour gérer les images de serveurs](#)

- Installer les utilitaires OpenStack

```
apt-get install python3-openstackclient python3-novaclient -y
```

- Récupérer le fichier OpenStack RC File v3

```
source fichiersource.sh
```

- Les commandes

openstack sont alors disponibles.

```
nova list nova image-create aaa115b3-83df-4375-b2ee-19339041dcfa nom_du_snap_serveur1 glance image-list ou openstack image list glance image-download --file mon_fichier_snap_serveur1.qcow2 aaab785d-8a34-40f5-bdcd-0a3c3c350c5a
```

Pour pousser une image d'instance sur un projet:

```
source fichier.target.sh export OS_REGION_NAME=SBG1 glance image-create --name nom_image_snapshot_new_server --disk-format qcow2 --container-format bare --file mon_fichier_snap_serveur1.qcow2
```

Pour récupérer une image de volume, il faut la backup sous forme d'image d'instance:

```
openstack volume list ...Then detach the volume from its server... openstack image create --disk-format qcow2 --container-format bare --volume 673b0ad9-1fca-485c-ae2b-8ee271b71dc7 nom_image_snapshot_new_volume openstack volume list openstack image save --file nom_image_snapshot_new_volume.qcow2 8625f87e-8248-4e62-a0ce-a89c7bd1a9be
```

Pour pousser une image sur un projet:

- Pour recréer un serveur depuis une image

Voir chapitre [Clonage d'une instance serveur pour production bis ou pour développement](#)

Passage en mode rescue d'un serveur

Aller sur l'interface du service Cloud pour passer en mode rescue. Le serveur sera rebooté et un lien pour se logué sera fourni.

Trouver les disques attachées et montez le disque système.

```
lsblk mount /dev/sdXY /mnt
```

Il est alors possible d'agir sur le disque en écriture accessible dans /mnt

Déplacement de la base de données (var/lib/mysql vers /mnt/diskhome/mysql)

From the MySQL prompt, select the data directory:

```
mysql -uroot
select @@datadir;
```

```
----- | @@datadir |
```

```
| /var/lib/mysql/ |
```

1 row in set (0.00 sec)

This output confirms that MySQL is configured to use the default data directory, `/var/lib/mysql/`, so that's the directory we need to move. Once you've confirmed this, type `exit` and press "ENTER" to leave the monitor:

`exit`

To ensure the integrity of the data, we'll shut down MySQL before we actually make changes to the data directory:

```
sudo systemctl stop mysqld
```

`systemctl` doesn't display the outcome of all service management commands, so if you want to be sure you've succeeded, use the following command:

```
sudo systemctl status mysqld
```

You can be sure it's shut down if the final line of the output tells you the server is stopped:

```
Output . . .
Jul 18 11:24:20 ubuntu-512mb-nyc1-01 systemd[1]: Stopped MySQL Community Server.
```

Now that the server is shut down, we'll copy the existing database directory to the new location with `rsync`. Using the `-a` flag preserves the permissions and other directory properties, while `-v` provides verbose output so you can follow the progress.

Note: Be sure there is no trailing slash on the directory, which may be added if you use tab completion. When there's a trailing slash, `rsync` will dump the contents of the directory into the mount point instead of transferring it into a containing `mysql` directory:

```
sudo rsync -av /var/lib/mysql /mnt/volume-nyc1-01
```

Once the `rsync` is complete, rename the current folder with a `.bak` extension and keep it until we've confirmed the move was successful. By re-naming it, we'll avoid confusion that could arise from files in both the new and the old location:

```
sudo mv /var/lib/mysql /var/lib/mysql.bak
```

Now we're ready to turn our attention to configuration.

Step 2 — Pointing to the New Data Location

MySQL has several ways to override configuration values. By default, the `datadir` is set to `/var/lib/mysql` in the `/etc/my.cnf` file. Edit this file to reflect the new data directory:

```
sudo vi /etc/my.cnf
```

Find the line in the `[mysqld]` block that begins with `datadir=`, which is separated from the block heading with several comments. Change the path which follows to reflect the new location. In addition, since the socket was previously manually located in the data directory, we'll need to update it to the new location:

```
etc/my.cnf
```

```
datadir=/mnt/volume-nyc1-01/mysql socket=/mnt/volume-nyc1-01/mysql/mysql.sock
```

After updating the existing lines, we'll need to add configuration for the `mysql` client. Insert the following settings at the bottom of the file so it won't split up directives in the `[mysqld]` block:

```
etc/my.cnf
```

```
port=3306 socket=/mnt/volume-nyc1-01/mysql/mysql.sock
```

When you're done, hit `ESCAPE`, then type `:wq!` to save and exit the file.

Step 3 — Restarting MySQL

Now that we've updated the configuration to use the new location, we're ready to start MySQL and verify our work.

```
sudo systemctl start mysqld
```

```
sudo systemctl status mysqld
```

To make sure that the new data directory is indeed in use, start the MySQL monitor.

```
mysql -u root -p
```

Look at the value for the data directory again:

```
select @@datadir;
```

Output

```
| @@datadir |
```

```
| /mnt/volume-nyc1-01/mysql/ |
```

1 row in set (0.01 sec)

Now that you've restarted MySQL and confirmed that it's using the new location, take the opportunity to ensure that your database is fully functional. Once you've verified the integrity of any existing data, you can remove the backup data directory with `sudo rm -Rf /var/lib/mysql.bak.`

<p>!!!! Sur Ubuntu 18.04

Ajouter `/mnt/diskhome/mysql` dans les profiles apparmor qui contiennent `/var/lib/mysql` (fichier `/etc/apparmor.d/usr.sbin.mysql`)

`#` ADD For SellYourSaas. It allows also to move mysql dir into /mnt/diskhome if required.

```
/proc/*  
/sys/devices/system/node/ r,  
/sys/devices/system/node/node*  
/sys/devices/system/node/*/  
/sys/devices/system/node/* r,  
/mnt/diskhome/mysql/ r,  
/mnt/diskhome/mysql/* rwk,
```

Recharger le profile apparmor

```
aa-enforce  
usr.sbin.mysql
```

[[Lancement de mysql sans permissions]]
=== Lancement spéciaux de mysql ou mariadb

Sans permissions :

```
sudo mkdir -p /var/run/mysql;
```

```

sudo chown mysql /var/run/mysqld;>
sudo mysqld_safe --skip-grant-tables &

```

Avec un mode different de recovery, modifier le fichier server.conf pour mettre 1, 2, 3, 4

```

## RECOVERY
innodb_force_recovery=1

```

A partir de 3 ou +, risque de perte de données.

Note

Si le lancement est long, pour suivre l'état d'avancement, faire un `lsof -p PID_de_mysql` pour voir les fichiers et base traitées en rellog. Ils sont ouverts par ordre de dates sur le disque.

[Désactivation de toutes les instances utilisateurs](#)

Désactivation de toutes les instances utilisateurs

Utiliser le script `make_instance_offline` qui désactivera tous les accès en remplaçant chaque virtual host par un virtual host réalisant une redirection

sur une page d'attente.</p>

</div>

<div>

<p>Le même script peut être utilisé pour l'opération inverse.</p>

</div>

<div>

<div>

```
<div class="highlight highlight-source-shell"><pre>scripts/make_instance_offline.sh
https://myaccount.mydomain.com/offline.php test<span class="pl-k">|</span>offline<span class="pl-k">|</span>online</pre></div>
```

</div>

</div>

<div>

<h3 id="user-content-nettoyage-fichiers-debris"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 01.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg>Nettoyage fichiers debris</h3>

<div>

<p>Lancer le script:</p>

</div>

<div>

<div>

```
<div class="highlight highlight-source-shell"><pre>/home/admin/wwwroot/dolibarr/htdocs/custom/sellyoursaas/scripts/clean.sh
confirm</pre></div>
```

</div>

</div>

<div></div>

</div>

</div>

</div>

<div>

<h2 id="user-content-principe-de-fonctionnement-de-sellyoursaas"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 01.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg>Principe de fonctionnement de SellYourSaas</h2>

<div>

<div>

<h3 id="user-content-configuration-des-packages"><a id="user-content-configuration-

```

des-packages" class="anchor" aria-hidden="true" href="#configuration-des-
packages"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1"
width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775
3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75
0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69
9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-
2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83
0z"></path></svg></a>Configuration des packages</h3>
<div>
<p>Aller dans le menu <strong>SellYourSaas - Packages</strong> et créer un nouveau
package.</p>
</div>
<div>
<p>Par exemple, pour déployer une application comme <strong>Dolibarr</strong> dont les
sources ont été placées dans le répertoire
<strong>documents/sellyoursaas/git</strong>, saisissez les valeurs de champs
suivants:</p>
</div>
<div>
<p>Dans le champ <strong>Dir with sources 1</strong></p>
</div>
<div>
<div class="highlight highlight-source-
shell"><pre>__DOL_DATA_ROOT__/sellyoursaas/git/dolibarr_10.0/htdocs</pre></div>
</div>
</div>
<div>
<p>Dans le champ <strong>Dir with sources 2</strong></p>
</div>
<div>
<div class="highlight highlight-source-
shell"><pre>__DOL_DATA_ROOT__/sellyoursaas/git/dolibarr_10.0/htdocs/install/doctemplat
es</pre></div>
</div>
</div>
<div>
<p>Dans le champ <strong>Dir with sources 3</strong></p>
</div>
<div>
<div class="highlight highlight-source-
shell"><pre>__DOL_DATA_ROOT__/sellyoursaas/git/dolibarr_10.0/scripts</pre></div>
</div>
</div>
<div>
<p>Dans <strong>Target relative dir for sources 1</strong></p>
</div>
<div>
<div>

```

```

<div class="highlight highlight-source-shell"><pre>__INSTANCEDIR__/htdocs</pre></div>
</div>
</div>
<div>
<p>Dans <strong>Target relative dir for sources 2</strong></p>
</div>
<div>
<div>
<div class="highlight highlight-source-shell"><pre>__INSTANCEDIR__/documents/doctemplates</pre></div>
</div>
</div>
<div>
<p>Dans <strong>Target relative dir for sources 3</strong></p>
</div>
<div>
<div>
<div class="highlight highlight-source-shell"><pre>__INSTANCEDIR__/scripts</pre></div>
</div>
</div>
<div>
<p>Dans le champ <strong>Template of config file 1</strong>:</p>
</div>
<div>
<div class="highlight highlight-source-shell"><pre><span class="pl-k">&lt;</span><span class="pl-k">?</span>php
//
// File generated by SellYourSaas
//
// Take a look at conf.php.example file <span class="pl-k">for</span> an example of
conf.php file
// and explanations <span class="pl-k">for</span> all possibles parameters.
//
<span class="pl-smi"> dolibarr_main_url_root</span>=<span class="pl-s"><span class="pl-pds">'</span>https://__APPDOMAIN__</span><span class="pl-pds">'</span></span><span class="pl-k">;</span>
<span class="pl-smi"> dolibarr_main_document_root</span>=<span class="pl-s"><span class="pl-pds">'</span>__INSTANCEDIR__/htdocs</span><span class="pl-pds">'</span></span><span class="pl-k">;</span>
<span class="pl-smi"> dolibarr_main_url_root_alt</span>=<span class="pl-s"><span class="pl-pds">'</span>/custom</span><span class="pl-pds">'</span></span><span class="pl-k">;</span>
<span class="pl-smi"> dolibarr_main_document_root_alt</span>=<span class="pl-s"><span class="pl-pds">'</span>__INSTANCEDIR__/htdocs/custom</span><span class="pl-pds">'</span></span><span class="pl-k">;</span>
<span class="pl-smi"> dolibarr_main_data_root</span>=<span class="pl-s"><span class="pl-pds">'</span>__INSTANCEDIR__/documents</span><span class="pl-pds">'</span></span><span class="pl-k">;</span>
<span class="pl-smi"> dolibarr_main_db_host</span>=<span class="pl-s"><span class="pl-pds">'</span>localhost</span><span class="pl-pds">'</span></span><span class="pl-k">;</span>

```

```

<span class="pl-smi">${dolibarr_main_db_port}</span>=<span class="pl-s"><span class="pl-pds">'</span>3306<span class="pl-pds">'</span></span></span><span class="pl-k">;</span>
<span class="pl-smi">${dolibarr_main_db_name}</span>=<span class="pl-s"><span class="pl-pds">'</span>__DBNAME__<span class="pl-pds">'</span></span></span><span class="pl-k">;</span>
<span class="pl-smi">${dolibarr_main_db_user}</span>=<span class="pl-s"><span class="pl-pds">'</span>__DBUSER__<span class="pl-pds">'</span></span></span><span class="pl-k">;</span>
<span class="pl-smi">${dolibarr_main_db_pass}</span>=<span class="pl-s"><span class="pl-pds">'</span>__DBPASSWORD__<span class="pl-pds">'</span></span></span><span class="pl-k">;</span>
<span class="pl-smi">${dolibarr_main_db_type}</span>=<span class="pl-s"><span class="pl-pds">'</span>mysql<span class="pl-pds">'</span></span></span><span class="pl-k">;</span>
<span class="pl-smi">${dolibarr_main_db_character_set}</span>=<span class="pl-s"><span class="pl-pds">'</span>utf8<span class="pl-pds">'</span></span></span><span class="pl-k">;</span>
<span class="pl-smi">${dolibarr_main_db_collation}</span>=<span class="pl-s"><span class="pl-pds">'</span>utf8_unicode_ci<span class="pl-pds">'</span></span></span><span class="pl-k">;</span>
<span class="pl-smi">${dolibarr_main_authentication}</span>=<span class="pl-s"><span class="pl-pds">'</span>dolibarr<span class="pl-pds">'</span></span></span><span class="pl-k">;</span>
//<span class="pl-smi">${dolibarr_main_authentication}</span>=<span class="pl-s"><span class="pl-pds">'</span>dolibarr<span class="pl-pds">'</span></span></span><span class="pl-k">;</span> // Use forceuser <span class="pl-k">for</span> forced user
//<span class="pl-smi">${dolibarr_auto_user}</span>=<span class="pl-s"><span class="pl-pds">'</span>xxx<span class="pl-pds">'</span></span></span><span class="pl-k">;</span>

// Specific settings
<span class="pl-smi">${dolibarr_main_prod}</span>=<span class="pl-s"><span class="pl-pds">'</span>1<span class="pl-pds">'</span></span></span><span class="pl-k">;</span>
<span class="pl-smi">${dolibarr_nocsrftcheck}</span>=<span class="pl-s"><span class="pl-pds">'</span>0<span class="pl-pds">'</span></span></span><span class="pl-k">;</span>
<span class="pl-smi">${dolibarr_main_force_https}</span>=<span class="pl-s"><span class="pl-pds">'</span>0<span class="pl-pds">'</span></span></span><span class="pl-k">;</span>
<span class="pl-smi">${dolibarr_main_cookie_cryptkey}</span>=<span class="pl-s"><span class="pl-pds">'</span>__APPUNIQUEKEY__<span class="pl-pds">'</span></span></span><span class="pl-k">;</span>
<span class="pl-smi">${dolibarr_mailing_limit_sendbyweb}</span>=<span class="pl-s"><span class="pl-pds">'</span>50<span class="pl-pds">'</span></span></span><span class="pl-k">;</span>
<span class="pl-smi">${dolibarr_mailing_limit_sendbycli}</span>=<span class="pl-s"><span class="pl-pds">'</span>400<span class="pl-pds">'</span></span></span><span class="pl-k">;</span>

<span class="pl-smi">${dolibarr_memcached_view_disable}</span>=1<span class="pl-k">;</span>
<span class="pl-k">?</span><span class="pl-k">&gt;</span></pre>

```



```

</div>
<div>
<div>
<div class="highlight highlight-source-shell"><pre>__INSTANCEDIR__/htdocs/conf/conf.php</pre></div>
</div>
</div>
<div>
<p>Dans <strong>Dir with dump files</strong></p>
</div>
<div>
<div>
<div class="highlight highlight-source-shell"><pre>
__DOL_DATA_ROOT__/selloursaas/packages/__PACKAGEREF__</pre></div>
</div>
</div>
<div>
<p>(Avec cette valeur, il sera alors possible de soumettre le fichier dump à charger
vi l'onglet <strong>Fichiers joints</strong></p>
</div>
<div>
<p>Dans <strong>template fo cron file</strong></p>
</div>
<div>
<div class="highlight highlight-source-shell"><pre><span class="pl-c"><span class="pl-c">#</span> DO NOT EDIT THIS FILE - edit the master and reinstall.</span>
<span class="pl-c"><span class="pl-c">#</span> (/tmp/crontab.0GhHo0/crontab installed
on Fri Oct 18 13:58:49 2019)</span>
<span class="pl-c"><span class="pl-c">#</span> (Cron version -- $Id: crontab.c,v 2.13
1994/01/17 03:20:37 vixie Exp $)</span>
__INSTALLMINUTES__ __INSTALLHOURS__ <span class="pl-k">*</span> <span class="pl-k">*</span>
<span class="pl-k">*</span> <span class="pl-k">*</span> __INSTANCEDIR__/scripts/cron/cron_run_jobs.php
__OSUSERNAME__ firstadmin <span class="pl-k">&gt;</span>
__INSTANCEDIR__/documents/cron.log <span class="pl-k">2&gt;&amp;1</span></pre></div>
</div>
</div>
<div>
<p>Dans <strong>shell after</strong></p>
</div>
<div>
<div class="highlight highlight-source-shell"><pre>touch
__INSTANCEDIR__/documents/install.lock<span class="pl-k">;</span>
chown __OSUSERNAME__ __OSUSERNAME__ __INSTANCEDIR__/documents/install.lock
chmod -R a-w __INSTANCEDIR__/htdocs
chmod -R u+w __INSTANCEDIR__/htdocs/custom</pre></div>
</div>
</div>
<div>
<p>Dans <strong>sql after</strong></p>

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```

</div>
<div>
<div>
<div class="highlight highlight-source-shell"><pre>UPDATE llx_user <span class="pl-c1">set</span> pass_crypted = <span class="pl-s"><span class="pl-pds">'</span>__APPPASSWORD0SALTED__<span class="pl-pds">'</span></span></span>, email = <span class="pl-s"><span class="pl-pds">'</span>__APPEMAIL__<span class="pl-pds">'</span></span></span> where login = <span class="pl-s"><span class="pl-pds">'</span>admin<span class="pl-pds">'</span></span></span> AND (pass = <span class="pl-s"><span class="pl-pds">'</span>admin<span class="pl-pds">'</span></span></span> OR pass_crypted = <span class="pl-s"><span class="pl-pds">'</span>valeur_du_hash_dans_image<span class="pl-pds">'</span></span></span><span class="pl-k">;</span>
REPLACE INTO llx_const (name, entity, value, type, visible) values(<span class="pl-s"><span class="pl-pds">'</span>CRON_KEY<span class="pl-pds">'</span></span></span>, 0, <span class="pl-s"><span class="pl-pds">'</span>__OSUSERNAME__<span class="pl-pds">'</span></span></span>, <span class="pl-s"><span class="pl-pds">'</span>chaîne<span class="pl-pds">'</span></span></span>, 0)<span class="pl-k">;</span>
REPLACE INTO llx_const (name, entity, value, type, visible) values(<span class="pl-s"><span class="pl-pds">'</span>MAIN_INFO_SOCIETE_NOM<span class="pl-pds">'</span></span></span>, 1, <span class="pl-s"><span class="pl-pds">'</span>__APPORGNAME__<span class="pl-pds">'</span></span></span>, <span class="pl-s"><span class="pl-pds">'</span>chaîne<span class="pl-pds">'</span></span></span>, 0)<span class="pl-k">;</span>
--REPLACE INTO llx_const (name, entity, value, type, visible) values(<span class="pl-s"><span class="pl-pds">'</span>MAIN_INFO_SOCIETE_COUNTRY<span class="pl-pds">'</span></span></span>, 1, <span class="pl-s"><span class="pl-pds">'</span>__APPCOUNTRYIDCODELABEL__<span class="pl-pds">'</span></span></span>, <span class="pl-s"><span class="pl-pds">'</span>chaîne<span class="pl-pds">'</span></span></span>, 0)<span class="pl-k">;</span>
REPLACE INTO llx_const <span class="pl-c1">set</span> value = <span class="pl-s"><span class="pl-pds">'</span>__APPEMAIL__<span class="pl-pds">'</span></span></span> where name = <span class="pl-s"><span class="pl-pds">'</span>MAIN_MAIL_EMAIL_FROM<span class="pl-pds">'</span></span></span><span class="pl-k">;</span>
UPDATE llx_const <span class="pl-c1">set</span> value = <span class="pl-s"><span class="pl-pds">'</span>__APPEMAIL__<span class="pl-pds">'</span></span></span> where name = <span class="pl-s"><span class="pl-pds">'</span>MAILING_EMAIL_FROM<span class="pl-pds">'</span></span></span><span class="pl-k">;</span>
UPDATE llx_const <span class="pl-c1">set</span> value = <span class="pl-s"><span class="pl-pds">'</span>10.0.0<span class="pl-pds">'</span></span></span> where name = <span class="pl-s"><span class="pl-pds">'</span>MAIN_VERSION_LAST_UPGRADE<span class="pl-pds">'</span></span></span><span class="pl-k">;</span>
REPLACE INTO llx_const (name, entity, value, type, visible) values (<span class="pl-s"><span class="pl-pds">'</span>MAIN_EXTERNAL_SMTP_CLIENT_IP_ADDRESS<span class="pl-pds">'</span></span></span>, 0, <span class="pl-s"><span class="pl-pds">'</span>ip.server.deployment1, ip.servr.deployment23<span class="pl-pds">'</span></span></span>, <span class="pl-s"><span class="pl-pds">'</span>chaîne<span class="pl-pds">'</span></span></span>, 0)<span class="pl-k">;</span>
REPLACE INTO llx_const (name, entity, value, type, visible) values(<span class="pl-s"><span class="pl-pds">'</span>MAILING_NO_USING_PHPMAIL<span class="pl-pds">'</span></span></span>, 0, <span class="pl-s"><span class="pl-pds">'</span>1<span class="pl-pds">'</span></span></span>

```

```

class="pl-pds">'</span></span>, <span class="pl-s"><span class="pl-
pds">'</span>chaine<span class="pl-pds">'</span></span>, 1)<span class="pl-k">;</span>
--REPLACE INTO llx_const (name, entity, value, type, visible) values(<span class="pl-
s"><span class="pl-pds">'</span>MAIN_SECURITY_HASH_ALGO<span class="pl-
pds">'</span></span>, 0, <span class="pl-s"><span class="pl-pds">'</span>1<span
class="pl-pds">'</span></span>, <span class="pl-s"><span class="pl-
pds">'</span>password_hash<span class="pl-pds">'</span></span>, 1)<span class="pl-
k">;</span>
--REPLACE INTO llx_const (name, entity, value, type, visible) values(<span class="pl-
s"><span class="pl-pds">'</span>MAIN_SECURITY_SALT<span class="pl-
pds">'</span></span>, 0, <span class="pl-s"><span class="pl-pds">'</span>1<span
class="pl-pds">'</span></span>, <span class="pl-s"><span class="pl-
pds">'</span>123456<span class="pl-pds">'</span></span>, 1)<span class="pl-
k">;</span></pre></div>
</div>
</div>
<div>
<p>Changer la valeur de 10.0.0 avec la version de l'image de Dolibarr que vous aller
déploier</p>
</div>
<div>
<p>Enable also request to set MAIN_SECURITY_HASH_ALGO and MAIN_SECURITY_SALT to the
same values than the one set into setup of SellYourSaas.
Also, if you use the MAIN_SECURITY_HASH_ALGO to 'password_hash', you must use the key
<em>APPPASSWORD0</em> for password encrypted instead of <em>APPPASSWORD0SALTED</em>
(because salt is included inside the encrypted value of password).</p>
</div>
</div>
<div>
<h3 id="user-content-configuration-des-services"><a id="user-content-configuration-
des-services" class="anchor" aria-hidden="true" href="#configuration-des-
services"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1"
width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775
3.275a.75.75 0 01.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0
.75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25
1.25zm-4.69
9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95
0l-
2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83
0z"></path></svg></a>Configuration des services</h3>
</div>
<p>Les services représentent la politique de tarification.</p>
</div>
<div>
<p>Il faut créer un service de type <strong>Application</strong> qui sera lié au
<strong>Package</strong> pour permettre le déploiement.</p>
</div>
<div>
<p>Le service de type <strong>Application</strong> peut ensuite avoir dans l'onglet
<strong>Produit virtuel</strong>, d'autres services de type <strong>Options</strong>
ou <strong>Métrique</strong>.</p>
</div>
</div>

```

```

<p>Exemple de service de type Application pour déployer l'application PHP Dolibarr ERP
CRM:</p>
</div>
<div>
<div>
<a target="_blank" rel="noopener noreferrer"
href="/eldy/sellyoursaas/blob/master/doc/img/Example_service_application.png"></a>
</div>
</div>
<div>
<p>Exemple pour un service qui ajoute une métrique de tarification par
Utilisateur:</p>
</div>
<div>
<div>
<a target="_blank" rel="noopener noreferrer"
href="/eldy/sellyoursaas/blob/master/doc/img/Example_service_metric_USER.png"></a>
</div>
</div>
<div>
<p>Exemple pour un service qui ajoute une option pour plus de Go:</p>
</div>
<div>
<div>
<a target="_blank" rel="noopener noreferrer"
href="/eldy/sellyoursaas/blob/master/doc/img/Example_service_option_GO.png"></a>
</div>
</div>
<div>
<p>Remarque: Les services de types <strong>Options</strong> et
<strong>Metrics</strong> doivent être attachés à un service de type
<strong>Application</strong> depuis l'onglet Produit Virtuels.</p>
</div>
</div>
<div>
<h3 id="user-content-récupérer-lurl-dinscritpion"><a id="user-content-récupérer-lurl-
dinscritpion" class="anchor" aria-hidden="true" href="#récupérer-lurl-
dinscritpion"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1"
width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775
3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0
.75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25
1.25zm-4.69
9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-
2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83
0z"></path></svg></a>Récupérer l'URL d'inscritpion</h3>
<div>

```

```

<p>Aller dans le menu <strong>SellYourSaas - Pages d'inscriptions</strong> pour
obtenir l'URL à utiliser pour souscrire à une instance (package de type Application et
ses dépendances).</p>
</div>
</div>
<div>
<h3 id="user-content-principe-de-déploiement-dune-nouvelle-instance-sellyoursaas"><a
id="user-content-principe-de-déploiement-dune-nouvelle-instance-sellyoursaas"
class="anchor" aria-hidden="true" href="#principe-de-déploiement-dune-nouvelle-
instance-sellyoursaas"><svg class="octicon octicon-link" viewBox="0 0 16 16"
version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd"
d="M7.775 3.275a.75.75 0 01.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-
2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25
1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0
00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2
2 0 01-2.83 0z"></path></svg></a>Principe de déploiement d'une nouvelle instance
SellYourSaas</h3>
<div>
<ul>
<li>
<p>Le visiteur va sur la page d'inscription <a
href="https://myaccount.mdomain.com/register.php"
rel="nofollow">https://myaccount.mdomain.com/register.php</a> et saisit son email et
choisit un nom d'URL pour son instance (l'URL peut accepter des paramètres pour
spécifier le
services souscrit, ou encore le nom du revendeur).</p>
</li>
<li>
<p>En cliquant sur La page d'inscription, les opérations suivantes sont réalisées
:</p>
<div>
<ul>
<li>
<p>Check thirdparty exists or not. If not create the third party, if yes, it says to
create the new instance from the customer dashboard.</p>
</li>
<li>
<p>Create a contract (main subscription) into database with status
"DEPLOY_IN_PROGRESS" and with a unix account name, pass, database account and pass,
and other properties defined on contract. The subscribed service are lines of
contracts.</p>
</li>
<li>
<p>Appelle listener de déploiement des instances (micro serveur web qui sert que la
page <strong>scripts/remote_server/index.php</strong> et qui exécute l'action "deploy"
(1 des 6 remotes actions: "deploy" "undeploy", "suspend", "unsuspend", "refresh",
"recreateauthorizedkeys") sur le serveur de déploiement (par exemple pour Dolibarr,
cela appelle les scripts <strong>action_deploy_undeploy.sh</strong> ou
<strong>action_suspend_unsuspend.sh</strong> selon le code action) pour créer/détruire
ou suspendre/réactiver l'instance du client. Voir le chapitre <a
href="#remote_actions">Description des 8 remote actions</a>.</p>

```

```

</li>
<li>
<p>Edit contract/subscription with status "DEPLOYED" if result of remote action is
OK.</p>
</li>
<li>
<p>Send an email to user: Show result to user and send en email (if subscriptions is
done from backoffice, this option is off).</p>
</li>
</ul>
</div>
</li>
</ul>
</div>
</div>
<div>
<h3 id="user-content-remote_actions"><a id="user-content-description-des-8-remote-
actions" class="anchor" aria-hidden="true" href="#description-des-8-remote-
actions"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1"
width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775
3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0
.75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25
1.25zm-4.69
9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95
0l-
2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83
0z"></path></svg></a>Description des 8 remote actions</h3>
<div>
<h4 id="user-content-deploy-deployall"><a id="user-content-deploy--deployall"
class="anchor" aria-hidden="true" href="#deploy--deployall"><svg class="octicon
octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-
hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-
1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95
0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0
012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-
1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg></a>deploy /
deployall</h4>
<div>
<p>Les étapes réalisées par l'agent et la remote action "deploy" ou "deployall"
sont:</p>
</div>
<div>
<ul>
<li>
<p>Create unix user, pass and home with a restricted shell</p>
</li>
<li>
<p>Add a dns entry</p>
</li>
<li>
<p>Create a database</p>
</li>
<li>

```

<p>Create database user with password and permissions to access the database.</p>

<p>Create a virtual host apache</p>

<p>Deploy files with cp -pr pathtogitofpackage/*

/home/jail/home/usrABCDEFGHIK/appAZERTYUIOP</p>

<p>Deploy documents with cp -pr pathtogitofpackagebis/*

/home/jail/home/usrABCDEFGHIK/appAZERTYUIOP</p>

<p>Copy/create/update configartion files and update them with all variables.</p>

<p>Copy/create/update cron file and update them with all variables.</p>

</div>

</div>

<div>

<h4 id="user-content-undeploy-undeployall"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 01.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg>undeploy / undeployall</h4>

<div>

<p>Les étapes réalisées par l'agent et la remote action "undeploy" sont:</p>

</div>

<div>

<p>Toutes les actions inverses de le actions "deploy" (à l'exception de la première action pour le "undeploy": "undeploy" ne détruit pas l'utilisateur Unix, mais "undeployall" oui).</p>

</div>

</div>

<div>

<h4 id="user-content-suspend"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 01.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25

```

1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0
00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2
2 0 01-2.83 0z"></path></svg></a>suspend</h4>
<div>
<p>Les étapes réalisées par l'agent et la remote action "suspend" sont:</p>
</div>
<div>
<ul>
<li>
<p>Désactivation du virtual host et reload apache.</p>
</li>
</ul>
</div>
<div>
<p>Le but est de bloquer l'accès à l'instance avec un lien vers la dashboard pour
mettre à jour son mode de paiement, sans toucher à l'instance.</p>
</div>
</div>
<div>
<h4 id="user-content-unsuspend"><a id="user-content-unsuspend" class="anchor" aria-
hidden="true" href="#unsuspend"><svg class="octicon octicon-link" viewBox="0 0 16 16"
version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd"
d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-
2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25
1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0
00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2
2 0 01-2.83 0z"></path></svg></a>unsuspend</h4>
<div>
<p>Les étapes réalisées par l'agent et la remote action "unsuspend" sont:</p>
</div>
<div>
<ul>
<li>
<p>Réactivation du virtual host et reload apache.</p>
</li>
</ul>
</div>
</div>
<div>
<h4 id="user-content-rename"><a id="user-content-rename" class="anchor" aria-
hidden="true" href="#rename"><svg class="octicon octicon-link" viewBox="0 0 16 16"
version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd"
d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-
2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25
1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0
00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2
2 0 01-2.83 0z"></path></svg></a>rename</h4>
<div>
<p>Les étapes réalisées par l'agent et la remote action "rename" sont:</p>
</div>
</div>

```



```

<ul>
<li>
<p>Renommer le nom de domaine et/ou le nom de domaine personnalisé (recrée les
fichiers virtual hosts).</p>
</li>
</ul>
</div>
</div>
<div>
<h4 id="user-content-refresh"><a id="user-content-refresh" class="anchor" aria-
hidden="true" href="#refresh"><svg class="octicon octicon-link" viewBox="0 0 16 16"
version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd"
d="M7.775 3.275a.75.75 0 01.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-
2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25
1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0
00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2
2 0 01-2.83 0z"></path></svg></a>refresh</h4>
</div>
<p>Les étapes réalisées par l'agent et la remote action "refresh" sont:</p>
</div>
<div>
<ul>
<li>
<p>Execution du calcul des métriques shell et renvoi des valeurs.</p>
</li>
</ul>
</div>
</div>
<div>
<h4 id="user-content-backup"><a id="user-content-backup" class="anchor" aria-
hidden="true" href="#backup"><svg class="octicon octicon-link" viewBox="0 0 16 16"
version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd"
d="M7.775 3.275a.75.75 0 01.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-
2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25
1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0
00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2
2 0 01-2.83 0z"></path></svg></a>backup</h4>
</div>
<p>Les étapes réalisées par l'agent et la remote action "backup" sont:</p>
</div>
<div>
<ul>
<li>
<p>Appel du script backup_instance pour exécuter le sauvegarde d'une instance</p>
</li>
</ul>
</div>
</div>
<div>
<h4 id="user-content-recreateauthorizedkeys"><a id="user-content-
recreateauthorizedkeys" class="anchor" aria-hidden="true"

```

```

href="#recreateauthorizedkeys"><svg class="octicon octicon-link" viewBox="0 0 16 16"
version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd"
d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-
2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25
1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0
00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2
2 0 01-2.83 0z"></path></svg></a>recreateauthorizedkeys</h4>
<div>
<p>Cette remote action ne sert que pour le logiciel Dolibarr ERP CRM. Elle est inutile
et inutilisé pour le déploiement d'autres logiciels.
Les étapes réalisées par l'agent et la remote action "recreateauthorizedkeys":</p>
</div>
<div>
<ul>
<li>
<p> Mise à jour du fichier ssh authorized_keys avec les clés publiques passées en
paramètres.</p>
</li>
</ul>
</div>
</div>
</div>
<div>
<h3 id="user-content-quelques-règles-de-fonctionnement-métier-de-sellyoursaas"><a
id="user-content-quelques-règles-de-fonctionnement-métier-de-sellyoursaas"
class="anchor" aria-hidden="true" href="#quelques-règles-de-fonctionnement-métier-de-
sellyoursaas"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1"
width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775
3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75
0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69
9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-
2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83
0z"></path></svg></a>Quelques règles de fonctionnement métier de SellYourSaas</h3>
<div>
<ul>
<li>
<p>Le traitement qui valide les factures à l'état brouillon ne valide qu'une seule
facture par client à la fois. Si il y en a 2 en attente, il faudra donc 2 lancements
du batch de validation des factures pour les valider toutes les 2.</p>
</li>
<li>
<p>Un traitement régulier renouvelle la période de fin de contrat 1 ou 2 jours avant
l'expiration du service, mais uniquement si aucune facture impayée n'est ouverte pour
le client.</p>
</li>
<li>
<p>Si une instance a expirée depuis N jours (N paramétrable et différent si
utilisateur avec mode de paiement saisie ou pas), le batch de suspension suspend
l'instance.</p>
</li>
<li>

```

```

<p>Si une instance est suspendue depuis M jours (M paramétrable et différent si client
avec mode de paiement saisi ou pas), le batch de désinstallation désinstalle
l'instance.</p>
</li>
<li>
<p>Si un utilisateur met à jour son mode de paiement, on regarde les factures impayées
et on essaie d'encaisser le solde. Si ok, le mode de paiement est validé, sinon
refusé.</p>
</li>
<li>
<p>Quand une facture est payée, si il n'y a plus de facture impayées et si l'instance
du client avait été suspendu, elle est réactivée.</p>
</li>
<li>
<p>Si un client a une facture impayée, la facture suivante reste à l'état
brouillon.</p>
</li>
<li>
<p>Quand une instance est détruite définitivement, les factures brouillons qui lui
sont liées sont aussi détruites.</p>
</li>
<li>
<p>Les sauvegardes des bases et fichiers des instances ne se font que pour les clients
SellYourSaas payants (ayant saisi au moins une fois un mode de paiement).</p>
</li>
</ul>
</div>
<div></div>
</div>
</div>
<div>
<h2 id="user-content-annexes"><a id="user-content-annexes" class="anchor" aria-
hidden="true" href="#annexes"><svg class="octicon octicon-link" viewBox="0 0 16 16"
version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd"
d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-
2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25
1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0
00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2
2 0 01-2.83 0z"></path></svg></a>Annexes</h2>
<div>
<div>
<h3 id="user-content-quelques-url-type-pour-les-objectifs-google-analytics-ou-
statistiques-datadog"><a id="user-content-quelques-url-type-pour-les-objectifs-google-
analytics-ou-statistiques-datadog" class="anchor" aria-hidden="true" href="#quelques-
url-type-pour-les-objectifs-google-analytics-ou-statistiques-datadog"><svg
class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16"
aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06
1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5
3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-
2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5

```

0 004.95 4.9511.25-1.25a.75.75 0 00-1.06-1.061-1.25 1.25a2 2 0 01-2.83
0z"></path></svg>Quelques URL type pour les objectifs Google Analytics ou
Statistiques DataDog</h3>

<div>

<p>Pour activer les statistiques Google Analytics, mettre le tag dans la configuration
du module sellyoursaas.</p>

</div>

<div>

<p>Pour activer les statistiques DataDog, renseigner les constantes :</p>

</div>

<div>

<p>SELYOURSAAS_DATADOG_ENABLED à 1</p>

<p>SELYOURSAAS_DATADOG_APIKEY avec la clé API de DataDog</p>

<p>SELYOURSAAS_DATADOG_APPKEY avec la clé APP de DataDog</p>

</div>

<div>

<p>Voici le détail des événement ou URL qui peuvent être trackées:</p>

</div>

<div>

<p>Page affichée lorsqu'on affiche le formulaire d'inscription</p>

<div>

<p>URL: /register.php (peut servir d'objectif Google Analytics "Prospect
intéressé")</p>

<p>Event DataDog: Aucun</p>

</div>

<p>Page affichée suite à une inscription faite jusqu'au bout</p>

<div>

<p>URL: /index.php?welcomid= (peut servir d'objectif Google Analytics
"Prospect inscrit")</p>


```

<p>Event DataDog: Aucun</p>
</li>
</ul>
</div>
</li>
<li>
<p>Page affichée lorsqu'un mode de paiement est ajouté pour la première fois avec succès = Nouveau client</p>
<div>
<ul>
<li>
<p>URL: /index.php?paymentrecorded=1 (peut servir d'objectif <strong>Google Analytics "Client gagné"</strong>)</p>
</li>
<li>
<p>Event Datadog: <strong>sellyoursaas.paymentmodeadded</strong></p>
</li>
</ul>
</div>
</li>
<li>
<p>Page affichée lorsqu'un mode de paiement est modifié avec succès</p>
<div>
<ul>
<li>
<p>URL: /index.php?paymentmodified=1</p>
</li>
<li>
<p>Event Datadog: <strong>sellyoursaas.paymentmodemodified</strong></p>
</li>
</ul>
</div>
</li>
<li>
<p> Paiement réalisé (avec la valeur 1)</p>
<div>
<ul>
<li>
<p>URL: Aucune</p>
</li>
<li>
<p>Event DataDog: <strong>sellyoursaas.paymentdone</strong></p>
</li>
</ul>
</div>
</li>
<li>
<p> Paiement réalisé (avec la valeur du montant du paiement)</p>
<div>
<ul>
<li>

```

```

<p>URL: Aucune</p>
</li>
<li>
<p>Event DataDog: <strong>sellyoursaas.payment</strong></p>
</li>
</ul>
</div>
</li>
<li>
<p>Client perdu, lorsqu'une instance payante est désinstallé (avec la valeur 1), que ce soit par le batch en automatique ou sur demande du client depuis l'espace client</p>
<div>
<ul>
<li>
<p>URL: Aucune</p>
</li>
<li>
<p>Event DataDog: <strong>sellyoursaas.payingcustomerlost</strong></p>
</li>
</ul>
</div>
</li>
</ul>
</div>
<div>
<p>Exemple de supervision de sellyoursaas avec DataDog:</p>
</div>
<div>
<div>
<a target="_blank" rel="noopener noreferrer"
href="/eldy/sellyoursaas/blob/master/doc/img/Example_screen_datadog.png"></a>
</div>
</div>
</div>
<div>
<h3 id="user-content-options-cachées"><a id="user-content-options-cachées"
class="anchor" aria-hidden="true" href="#options-cachées"><svg class="octicon octicon-link"
viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-hidden="true"><path fill-rule="evenodd"
d="M7.775 3.275a.75.75 0 01.06 1.06l1.25-1.25a2 2 0 112.83 2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06
1.06 3.5 3.5 0 004.95 0 12.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2
2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0 12.5-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75
0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83 0z"></path></svg></a>Options
cachées</h3>
<div>
<p>You can force different values for some setup parameters when the customer has registered itself from a page with <strong>mydomain.com</strong> as main domain.</p>
</div>

```

```

<div>
<ul>
<li>
<p>SELLYOURSAAS_NAME_FORDOMAIN-myseconddomain.com = My Service name bis</p>
</li>
<li>
<p>SELLYOURSAAS_ACCOUNT_URL-myseconddomain.com = <a
href="https://myaccount.myseconddomain.com"
rel="nofollow">https://myaccount.myseconddomain.com</a></p>
</li>
<li>
<p>SELLYOURSAAS_ALLOW_RESELLER_PROGRAM-myseconddomain.com = 0</p>
</li>
<li>
<p>SELLYOURSAAS_MAIN_EMAIL_FORDOMAIN-myseconddomain.com = <a
href="mailto:contact@myseconddomain.com">contact@myseconddomain.com</a></p>
</li>
<li>
<p>SELLYOURSAAS_MAIN_EMAIL_PREMIUM_FORDOMAIN-myseconddomain.com = <a
href="mailto:contact+premium@myseconddomain.com">contact+premium@myseconddomain.com</a
></p>
</li>
<li>
<p>SELLYOURSAAS_NOREPLY_EMAIL_FORDOMAIN-myseconddomain.cloud = <a
href="mailto:noreply@myseconddomain.com">noreply@myseconddomain.com</a></p>
</li>
<li>
<p>SELLYOURSAAS_RESELLER_URL-myseconddomain.com = <a
href="https://www.myseconddomain.com/resellers.php"
rel="nofollow">https://www.myseconddomain.com/resellers.php</a></p>
</li>
</ul>
</div>
<div>
<p>To define account to use getipintel API for VPN probability.
* SELLYOURSAAS_GETIPIINTEL_EMAIL = <a
href="mailto:contact+checkcustomer@mydomain.com">contact+checkcustomer@mydomain.com</a
></p>
</div>
<div>
<p>To enable native Datadog reporting (datadog-agent must just be installed)
* SELLYOURSAAS_DATADOG_ENABLED = 1</p>
</div>
<div>
<p>If you use an external db server (same value of "databasehost" and "databaseport"
in sellyoursaas.conf)
* SELLYOURSAAS_FORCE_DATABASE_HOST = ip or host name of your external mysql server
* SELLYOURSAAS_FORCE_DATABASE_PORT = port of your external mysql server</p>
</div>
<div>
<p>If you use an ssh port other than 22

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* SELLYOURSAAS_SSH_SERVER_PORT = port of your ssh server</p>
</div>
<div>
<p>If the path of "documents" directory (DOL_DATA_ROOT) is different in deployment
server (same value of "newdoldataroot" in sellyoursaas.conf)
* SELLYOURSAAS_FORCE_DOL_DATA_ROOT =
/path/of/dolibarr/documents/in/deployment/server</p>
</div>
<div>
<p>To activate Jailkit, a chroot security system (see Jailkit configuration)
* SELLYOURSAAS_SSH_JAILKIT_ENABLED = 1</p>
</div>
</div>
<div>
<h3 id="user-content-troubleshooting"><a id="user-content-troubleshooting"
class="anchor" aria-hidden="true" href="#troubleshooting"><svg class="octicon octicon-
link" viewBox="0 0 16 16" version="1.1" width="16" height="16" aria-
hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06 1.06l1.25-
1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5 3.5 0 004.95
012.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-2.83l2.5-2.5a2 2 0
012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-
1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83
0z"></path></svg></a>TroubleShooting</h3>
<div>
<h4 id="user-content-error-imap-toolkit-crash-unselectable-socket-in-ssl_getdata"><a
id="user-content-error-imap-toolkit-crash-unselectable-socket-in-ssl_getdata"
class="anchor" aria-hidden="true" href="#error-imap-toolkit-crash-unselectable-socket-
in-ssl_getdata"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1"
width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775
3.275a.75.75 0 001.06 1.06l1.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75
0 00-1.06 1.06 3.5 3.5 0 004.95 012.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69
9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-
2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83
0z"></path></svg></a>ERROR "IMAP toolkit crash: unselectable socket in
ssl_getdata()"</h4>
<div>
<p>Sur le serveur de déploiement dans <strong>/var/log/syslog</strong> en utilisant la
fonction IMAP PHP:</p>
</div>
<div>
<div>
<pre>ERROR "IMAP toolkit crash: unselectable socket in ssl_getdata()"</pre>
</div>
</div>
<div>
<p>=> Check that you have less than 1024 instances on same deployment server.
=> Check that error log file for instances is shared (instead one log file is open per
instance with same unix account leading to troubles).</p>
</div>
</div>
<div>

```



```

<h4 id="user-content-erreur-lors-de-lenvoi-demail-dans-varlogmail-log"><a id="user-
content-erreur-lors-de-lenvoi-demail-dans-varlogmaillog" class="anchor" aria-
hidden="true" href="#erreur-lors-de-lenvoi-demail-dans-varlogmaillog"><svg
class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16"
aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 01.06
1.0611.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5
3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-
2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5
0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83
0z"></path></svg></a>Erreur lors de l'envoi d'email dans
<strong>/var/log/mail.log</strong></h4>
<div>
<p>Erreur lors de l'envoi d'email dans <strong>/var/log/mail.log</strong>:</p>
</div>
<div>
<div>
<pre>Mar  2 22:41:59 novafirstcloud6 postfix/error[12146]: 7E69E17DC50:
to=&lt;admin@novafirstcloud5.localdomain&gt;; orig_to=&lt;admin&gt;; relay=none,
delay=164458, delays=164458/0.06/0/0, dsn=4.4.3, status=deferred (delivery temporarily
suspended: Host or domain name not found. Name service error for
name=smtp.seendgrid.net type=A: Host not found, try again)</pre>
</div>
</div>
<div>
<p>=> Check you have a file <strong>/etc/resolv.conf</strong> and that it point to
127.0.0.1 (if not, create it and restart postfix)</p>
</div>
</div>
<div>
<h4 id="user-content-php-sessions-files-in-varlibphpsessions-are-not-purged"><a
id="user-content-php-sessions-files-in-varlibphpsessions-are-not-purged"
class="anchor" aria-hidden="true" href="#php-sessions-files-in-varlibphpsessions-are-
not-purged"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1"
width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775
3.275a.75.75 0 001.06 1.0611.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75
0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69
9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-
2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83
0z"></path></svg></a>php sessions files in /var/lib/php/sessions are not purged</h4>
<div>
<p>php session purge can be done by
    /etc/cron.d/php
or if systemd is available by
    systemctl status phpsessionclean.timer</p>
</div>
<div>
<p>Check the correct one is enabled.</p>
</div>
</div>
<div>
<h4 id="user-content-error-fail2ban-does-not-work-on-postfix-sasl-rule"><a id="user-

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content-error-fail2ban-does-not-work-on-postfix-sasl-rule" class="anchor" aria-
hidden="true" href="#error-fail2ban-does-not-work-on-postfix-sasl-rule"><svg
class="octicon octicon-link" viewBox="0 0 16 16" version="1.1" width="16" height="16"
aria-hidden="true"><path fill-rule="evenodd" d="M7.775 3.275a.75.75 0 001.06
1.0611.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75 0 00-1.06 1.06 3.5
3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69 9.64a2 2 0 010-
2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-2.5 2.5a3.5 3.5
0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83
0z"></path></svg></a>Error fail2ban does not work on postfix-sasl rule</h4>
<div>
<p>We found into log file /var/log/fail2ban.log</p>
</div>
<div>
<div>
<pre>2020-09-19 00:57:16,902 fail2ban.actions [1182]: ERROR Failed to execute
ban jail 'postfix-sasl' action 'iptables-multiport' info 'ActionInfo</pre>
</div>
</div>
<div>
<p>Edit the file /etc/fail2ban/jail/conf to replace <strong>imap3</strong> (it does
not exists) into <strong>imap</strong> for rule postfix-sasl</p>
</div>
</div>
<div>
<h4 id="user-content-extracting-a-zip-file-extract-files-into-filename-with-path-with-
including-into-name"><a id="user-content-extracting-a-zip-file-extract-files-into-
filename-with-path-with--including-into-name" class="anchor" aria-hidden="true"
href="#extracting-a-zip-file-extract-files-into-filename-with-path-with--including-
into-name"><svg class="octicon octicon-link" viewBox="0 0 16 16" version="1.1"
width="16" height="16" aria-hidden="true"><path fill-rule="evenodd" d="M7.775
3.275a.75.75 0 001.06 1.0611.25-1.25a2 2 0 112.83 2.83l-2.5 2.5a2 2 0 01-2.83 0 .75.75
0 00-1.06 1.06 3.5 3.5 0 004.95 0l2.5-2.5a3.5 3.5 0 00-4.95-4.95l-1.25 1.25zm-4.69
9.64a2 2 0 010-2.83l2.5-2.5a2 2 0 012.83 0 .75.75 0 001.06-1.06 3.5 3.5 0 00-4.95 0l-
2.5 2.5a3.5 3.5 0 004.95 4.95l1.25-1.25a.75.75 0 00-1.06-1.06l-1.25 1.25a2 2 0 01-2.83
0z"></path></svg></a>Extracting a zip file extract files into filename with path with
\ including into name</h4>
<div>
<p>The problem is into the zip file (may be generated by the bugged Powershell). To
solve this after unzip:</p>
</div>
<div>
<div>
<pre>for file in *\*; do target="${file//\\/}"; mkdir -p "${target%/*}"; mv -v
"$file" "$target"; done</pre>
</div>
</div>
</div>
</div>
</div></article>
</div>
```

```
</div>
```

```
<details class="details-reset details-overlay details-overlay-dark" id="jumpto-line-
details-dialog">
  <summary data-hotkey="l" aria-label="Jump to line"></summary>
  <details-dialog class="Box Box--overlay d-flex flex-column anim-fade-in fast
linejump" aria-label="Jump to line">
    <!-- "'` --><!-- </textarea></xmp> --></option></form><form class="js-jump-to-
line-form Box-body d-flex" action="" accept-charset="UTF-8" method="get">
      <input class="form-control flex-auto mr-3 linejump-input js-jump-to-line-
field" type="text" placeholder="Jump to line&hellip;" aria-label="Jump to line"
autofocus>
      <button type="submit" class="btn" data-close-dialog>Go</button>
</form> </details-dialog>
</details>
```

```
</div>
```

```
</div>
```

```
</main>
```

```
</div>
```

```
</div>
```

```
<div class="footer container-xl width-full p-responsive" role="contentinfo">
  <div class="position-relative d-flex flex-row-reverse flex-lg-row flex-wrap flex-lg-
nowrap flex-justify-center flex-lg-justify-between pt-6 pb-2 mt-6 f6 text-gray border-
top border-gray-light ">
    <ul class="list-style-none d-flex flex-wrap col-12 col-lg-5 flex-justify-center
flex-lg-justify-between mb-2 mb-lg-0">
      <li class="mr-3 mr-lg-0">&copy; 2020 GitHub, Inc.</li>
      <li class="mr-3 mr-lg-0"><a data-ga-click="Footer, go to terms, text:terms"
href="https://github.com/site/terms">Terms</a></li>
      <li class="mr-3 mr-lg-0"><a data-ga-click="Footer, go to privacy,
text:privacy" href="https://github.com/site/privacy">Privacy</a></li>
      <li class="mr-3 mr-lg-0"><a data-ga-click="Footer, go to security,
text:security" href="https://github.com/security">Security</a></li>
      <li class="mr-3 mr-lg-0"><a href="https://githubstatus.com/" data-ga-
click="Footer, go to status, text:status">Status</a></li>
      <li><a data-ga-click="Footer, go to help, text:help"
href="https://docs.github.com">Help</a></li>
    </ul>
```

```

    <a aria-label="Homepage" title="GitHub" class="footer-octicon d-none d-lg-block
mx-lg-4" href="https://github.com">
      <svg height="24" class="octicon octicon-mark-github" viewBox="0 0 16 16"
version="1.1" width="24" aria-hidden="true"><path fill-rule="evenodd" d="M8 0C3.58 0 0
3.58 0 8c0 3.54 2.29 6.53 5.47 7.59.4.07.55-.17.55-.38 0-.19-.01-.82-.01-1.49-2.01-3.7-
2.53-.49-2.69-.94-.09-.23-.48-.94-.82-1.13-.28-.15-.68-.52-.01-.53.63-.01 1.08.58
1.23.82.72 1.21 1.87.87 2.33.66.07-.52.28-.87.51-1.07-1.78-.2-3.64-.89-3.64-3.95 0-
.87.31-1.59.82-2.15-.08-.2-.36-1.02.08-2.12 0 0 .67-.21 2.2.82.64-.18 1.32-.27 2-
.27.68 0 1.36.09 2 .27 1.53-1.04 2.2-.82 2.2-.82.44 1.1.16 1.92.08 2.12.51.56.82
1.27.82 2.15 0 3.07-1.87 3.75-3.65 3.95.29.25.54.73.54 1.48 0 1.07-.01 1.93-.01 2.2 0
.21.15.46.55.38A8.013 8.013 0 0016 8c0-4.42-3.58-8-8-8z"></path></svg>
</a>
    <ul class="list-style-none d-flex flex-wrap col-12 col-lg-5 flex-justify-center
flex-lg-justify-between mb-2 mb-lg-0">
      <li class="mr-3 mr-lg-0"><a data-ga-click="Footer, go to contact,
text:contact" href="https://github.com/contact">Contact GitHub</a></li>
      <li class="mr-3 mr-lg-0"><a href="https://github.com/pricing" data-ga-
click="Footer, go to Pricing, text:Pricing">Pricing</a></li>
      <li class="mr-3 mr-lg-0"><a href="https://docs.github.com" data-ga-
click="Footer, go to api, text:api">API</a></li>
      <li class="mr-3 mr-lg-0"><a href="https://services.github.com" data-ga-
click="Footer, go to training, text:training">Training</a></li>
      <li class="mr-3 mr-lg-0"><a href="https://github.blog" data-ga-click="Footer,
go to blog, text:blog">Blog</a></li>
      <li><a data-ga-click="Footer, go to about, text:about"
href="https://github.com/about">About</a></li>
    </ul>
  </div>
  <div class="d-flex flex-justify-center pb-6">
    <span class="f6 text-gray-light"></span>
  </div>

</div>

  <div id="ajax-error-message" class="ajax-error-message flash flash-error">
    <svg class="octicon octicon-alert" viewBox="0 0 16 16" version="1.1" width="16"
height="16" aria-hidden="true"><path fill-rule="evenodd" d="M8.22 1.754a.25.25 0 00-
.44 0L1.698 13.132a.25.25 0 00.22.368h12.164a.25.25 0 00.22-.368L8.22 1.754zm-1.763-
.707c.659-1.234 2.427-1.234 3.086 0l6.082 11.378A1.75 1.75 0 0114.082 15H11.918a1.75
1.75 0 01-1.543-2.575L6.457 1.047zM9 11a1 1 0 11-2 0 1 1 0 012 0zm-.25-5.25a.75.75 0
00-1.5 0v2.5a.75.75 0 001.5 0v-2.5z"></path></svg>
    <button type="button" class="flash-close js-ajax-error-dismiss" aria-
label="Dismiss error">
      <svg class="octicon octicon-x" viewBox="0 0 16 16" version="1.1" width="16"
height="16" aria-hidden="true"><path fill-rule="evenodd" d="M3.72 3.72a.75.75 0 011.06
0L8 6.94l3.22-3.22a.75.75 0 11.06 1.06L9.06 8l3.22 3.22a.75.75 0 01-1.06 1.06L8
9.06l-3.22 3.22a.75.75 0 01-1.06-1.06L6.94 8 3.72 4.78a.75.75 0 010-1.06z"></path></svg>

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</button>
  You can't perform that action at this time.
</div>

<div class="js-stale-session-flash flash flash-warn flash-banner" hidden
  >
  <svg class="octicon octicon-alert" viewBox="0 0 16 16" version="1.1" width="16"
height="16" aria-hidden="true"><path fill-rule="evenodd" d="M8.22 1.754a.25.25 0 00-
.44 0L1.698 13.132a.25.25 0 00.22.368h12.164a.25.25 0 00.22-.368L8.22 1.754zm-1.763-
.707c.659-1.234 2.427-1.234 3.086 0L6.082 11.378A1.75 1.75 0 0114.082 15H1.918a1.75
1.75 0 01-1.543-2.575L6.457 1.047zM9 11a1 1 0 11-2 0 1 1 0 012 0zm-.25-5.25a.75.75 0
00-1.5 0v2.5a.75.75 0 001.5 0v-2.5z"></path></svg>
  <span class="js-stale-session-flash-signed-in" hidden>You signed in with another
tab or window. <a href="">Reload</a> to refresh your session.</span>
  <span class="js-stale-session-flash-signed-out" hidden>You signed out in another
tab or window. <a href="">Reload</a> to refresh your session.</span>
</div>
  <template id="site-details-dialog">
  <details class="details-reset details-overlay details-overlay-dark lh-default text-
gray-dark hx_rsm" open>
  <summary role="button" aria-label="Close dialog"></summary>
  <details-dialog class="Box Box--overlay d-flex flex-column anim-fade-in fast
hx_rsm-dialog hx_rsm-modal">
  <button class="Box-btn-octicon m-0 btn-octicon position-absolute right-0 top-0"
type="button" aria-label="Close dialog" data-close-dialog>
  <svg class="octicon octicon-x" viewBox="0 0 16 16" version="1.1" width="16"
height="16" aria-hidden="true"><path fill-rule="evenodd" d="M3.72 3.72a.75.75 0 011.06
0L8 6.94L3.22-3.22a.75.75 0 111.06 1.06L9.06 8L3.22 3.22a.75.75 0 11-1.06 1.06L8
9.06L3.22 3.22a.75.75 0 01-1.06-1.06L6.94 8 3.72 4.78a.75.75 0 010-
1.06z"></path></svg>
  </button>
  <div class="octocat-spinner my-6 js-details-dialog-spinner"></div>
</details-dialog>
</details>
</template>

  <div class="Popover js-hovercard-content position-absolute" style="display: none;
outline: none;" tabindex="0">
  <div class="Popover-message Popover-message--bottom-left Popover-message--large Box
box-shadow-large" style="width:360px;">
  </div>
</div>

</body>
</html>

```