Widgets

XML Configuration

Widget's development process consists of a few simple steps to let your widget start work for you.

XML configuration file:

The core of the whole widget. This one specifies visibility for specific groups, determines in which module should widget be located and how should it be called in the panel. The syntax and layout configuration is similar to every XML OTRS configuration.

There are two ways to configure widgets in the module:

- **Specifying the widgets array directly in the module's configuration file:**

```
   <Setting Name="OTRSFrontendModule::LatestActivity" Required="0" Valid="0">
        <Description Translatable="1">Customer user latest activity menu
module.</Description>
        <Navigation>CustomerFrontend</Navigation>
        <Value>
            <Hash>
                <Item Key="id">LatestActivity</Item>
                <Item Key="type">module</Item>
                <Item Key="text">Latest Activity</Item>
                <Item Key="to">/module/LatestActivity</Item>
                <Item Key="icon">timeline</Item>
                <Item Key="priority">110</Item>
                <Item ValueType="Textarea" Key="widgets">
                    [
                        {
                        "props": {
                        },
                        "id": "5",
                        "widgetFile": "WIDGET_Timeline.js",
```

```
                    "compiled": false,
                    "view" : "Dashboard",
                    "slot" : "slot3",
                    "name": "Latest Activity"
                  }
                ]
            </Item>
        </Hash>
    </Value>
</Setting>
```

- **Specifying widget as a separate configuration:**

```
<?xml version="1.0" encoding="UTF-8" ?>
<otrs_config version="2.0" init="Application">


    <!--Core configuration containing module settings and additional properties-->
    <!--Setting location's name should be set in "OTRSFrontendModule::XYZ-->
    <Setting Name="OTRSFrontendModule::<MODULE_NAME>Widget#1000" Required="0"
Valid="1">
        <!--Description visible in system configuration-->
        <Description Translatable="1">Additional Ticket module widget for Intalio Customer
Panel.</Description>
        <Navigation>CustomerFrontend</Navigation>
        <Value>
            <Hash>
                <!--JSON configuration file-->
                <Item ValueType="Textarea" Key="schema">
                    {
                        "props": {
                        },
                        "id": "1000",
                        "widgetFile": "WIDGET_XYZ.js",
                        "compiled": false,
                        "view" : "TicketPreview",
                        "slot" : "slot4",
                        "name": "XYZ"
                    }
                </Item>
```

```
            </Hash>
        </Value>
    </Setting>


</otrs_config>
```

Schema

The schema file is a JSON file. It specifies the most important aspects of the whole widget.

```
{
  "props": {
    "predefined_property": true
  },
  "id": "1000",
  "widgetFile": "WIDGET_Contract.js",
  "compiled": false,
  "view" : "TicketPreview",
  "slot" : "slot4",
  "name": "Contracts"
}
```

- ***<props>***

  Specify predefined properties that could be referenced in the template file

- ***<id>***

  An **identification key** for your widget. Should be unique for every module**.** Id is responsible for creating unique widget settings for every user.

- ***<widgetFile>***

  Template file's name - see more on the widget's template file.

- ***<view>***

  Specify the primary module where should widget be located. You can choose between multiple options starting, from predefined modules ending up to your own custom modules. You can find a more detailed explanation on the administration section,

- ***<compiled>***

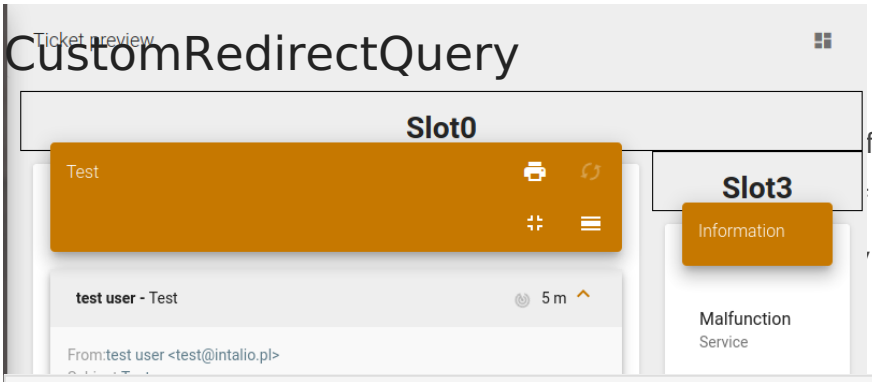
  ????????,

- ***<slot>***

  This label specifies a place on the layout where should widget be put in the module.

<**Slot**> property is required while creating a widget in the TicketPreview module.

You can display slot layout by adding query parameter - "dev=1" to the URL parameters eg. '/customer-panel/ticketPreview/000014/?dev=1'



CustomRedirectQuery

for the list of tickets, you can define

you add a new parameter in

manage them in the TicketPreview

```
[
   {
      "id" : "8",
      "widgetFile" : "ticket-list",
      "name" : "Tickets: Example queue",
      "view" : "module",
      "compiled" : true,
      "props" : {
         "defaultConfig" : {
            "customRedirectQuery" : {
               "queue" : "ExampleQueryParam"
            }
         }
      }
   }
]
```

In this example clicking on the specific ticket in the ticket list will result with URL like this:

`https://<OTRS_URL>/otrs/route.pl/customer-panel/ticketPreview/<TICKET_NUMBER>?queue=ExampleQueryParam`

Template

Template file

The template file is the backbone of the whole widget. It is built on the simple JavaScript function returning vue Instance object. Each Vue instance has a unique id. It serves this purpose for easy saving of the user settings, user's data, and preferences. In the runtime "CustomModuleName_DynamicID" is being replaced with proper widget's id for further actions.

```
(function (internalName) {
    var internalID = internalName;
    return {
        moduleName: internalID,
        component: Vue.component(internalID, {
            props: [],
            data:,
            mounted() {},
            activated() {},
            deactivated() {},
            methods: {},
            computed: {},
            template: ``
        }),
    }

}("CustomModuleName_DynamicID"));
```

Working with database

Every Customer Panel launch system checks if the configuration for a specific customer already exists in the database. If it doesn't exist, it is being created, and then return to the frontend, or in the case, it already exists, simply return.

The system creates the configuration with the following pattern:

- <module_name>_<module_id>_<user_login>_hkrOUgHKUi_<invoking_module_name>_Settings
- <module_name>_<module_id>_<user_login>_hkrOUgHKUi_<invoking_module_name>_Data

Saving with Settings prefix is used for storing widget's configuration taken from the global widget's settings.

Saving with Data prefix is used for storing user's saved data. [settings configuration/user's actions/notes]

Set

Setting a user's data can be resolved with the following endpoint:

```
POST <OTRS_URL>/customer.pl?Action=CustomerFrontend;Subaction=SetWidgetData;ID=<moduleName>
```

```
sendNote:  _.debounce(function () {
        axios.post(this.$store.getters["globalConfig/OTRS_URL"] +
"customer.pl?Action=CustomerFrontend;Subaction=SetWidgetData;ID=" + this.moduleName,
{
            note:  this.note
        }).then((response) => {
            console.log("Send note!")
        }).catch((error) => {
            console.log("ERROR [setWidgetConfig] ", error)
        });
    }, 300),
```

Get

Getting a user's data can be resolved with the following endpoints:

```
GET <OTRS_URL>/customer.pl?Action=CustomerFrontend;Subaction=GetWidgetData;ID=<moduleName>
```

```
getNote() {
        axios.get(this.$store.getters["globalConfig/OTRS_URL"] +
"customer.pl?Action=CustomerFrontend;Subaction=GetWidgetData;ID=" +
this.moduleName).then((response) => {
            if (response.data.success) {
```

```
            this.note = response.data.data.note
        }})}}
```

> These operations easily describe the whole idea of the template mechanism.

Global Storage

> Global storage contains the most important information about OTRS and current CustomerPanel instance.

You can refer to its values by the keyword `this.$store` and retrieve properties with `getters`. Example of useful values:


```
[
"account/getSessionId": "lkDT71THevxijoiKprX9LoHmehkoWu4emCa",
"globalConfig/BACKEND_VERSION": "1.2.54",
"globalConfig/FRONTEND_VERSION": "1.1.40",
"globalConfig/OTRS_DEFAULT_LANG": "en",
"globalConfig/OTRS_FQDN": "http://customotrsinstance.com",
"globalConfig/OTRS_ScriptAlias": "/otrs/",
"globalConfig/OTRS_URL": "http://customotrsinstance.com/otrs/",
]
```


These are very useful while working on your widgets. They allow you to connect to OTRS API our display information about currently previewed tickets.

```
getContractInfo() {
  axios.get(this.$store.getters["globalConfig/OTRS_URL"] +
`customer.pl?Action=ContractWidget;Subaction=GetContractInfo;Tn=${this.$route.params.ticketNumb
=> {
      if (response.data.success === false) {
          this.contract_info = null
          this.contractLoading = false
      } else {
          this.contract_info = response.data.information
          this.contractLoading = false
```

```
    }
  })
}
```

Accessing for nested objects in global storage can be easily realized by referencing other elements eg. `this.$store.getters["ticketPreview/ticketArticles"][0]['Age']`

> You can display whole global storage content by simply printing this.$store.getters in the console.

Language support

To use predefined language strings, depending on the user's default language settings you can simply reference them in the template file like this:

```
 widgetTitle() {
    return this.$t('Widget name')
}
```

or directly in the HTML template:

```
<span> {{$t('Contract loading')}}</span>
```

Multilanguage translation support

To create a translation for the template file we have to create a separate file:

- XYZ_translations_strings.json
- xyzWidget.pm

In the installation process, XYZ_translations_strings.json is being merged to the global translations list. Depends on the user preferences strings a system iterate over the right prefix and look for appropriate translations. Look on the example below:

- XYZ_translations_strings.json

```
[
 'Contract number",
 'Contract name",
 'Remaining time",
 'Support start date",
 'Support end date",
 'Number of hours in the support",
 'Service information",
 'left",
 'exceeded",
 'h",
 'No service assigned",
 'Contract loading..."
]
```

- pl_xyzWidget.pm

> Be careful correctly type the module path!

```
```

```
package Kernel::Language::pl_xyzWidget;

use strict;
use warnings;
use utf8;
use vars qw(@ISA $VERSION);

sub Data {
    my $Self = shift;

    $Self->{Translation}->{"Contract loading..."} = "Ładowanie kontraktu...";
    $Self->{Translation}->{"Contract number"} = "Numer kontraktu";
    $Self->{Translation}->{"Contract name"} = "Nazwa kontraktu";
    $Self->{Translation}->{"Remaining time"} = "Pozostały czas";
    $Self->{Translation}->{"Support start date"} = "Początek wsparcia";
    $Self->{Translation}->{"Support end date"} = "Koniec wsparcia";
    $Self->{Translation}->{"Number of hours in the support"} = "Godziny w ramach wsparcia";
    $Self->{Translation}->{"Service information"} = "Informacje o usłudze";
    $Self->{Translation}->{"left"} = "pozostało";
    $Self->{Translation}->{"exceeded"} = "przekroczono";
    $Self->{Translation}->{"h"} = "godz.";
    $Self->{Translation}->{"No service assigned"} = "Brak przypisanej usługi";

    return 1;
}
1;
```

Installation file .sopm

Installation file

The installation process contains a standard OTRS package installation file.

Basic installation file:

> Basic installation doesn't differ much from the standard OTRS module installation if you do not plan to enable a multilanguage support mechanism.

```
<?xml version="1.0" encoding="utf-8" ?>
<otrs_package version="1.0">
    <Name>Contract Widget</Name>
    <Version>1.x.x</Version>
    <Framework>6.x.x</Framework>
    <Vendor>Company</Vendor>
    <URL>https://www.xyz.pl/</URL>
    <License>GNU AFFERO GENERAL PUBLIC LICENSE Version 3, November 2007</License>
    <Description Lang="en">XYZ Widget for Intalio Customer Panel.</Description>
    <IntroInstall Type="post" Lang="en" Title="Thank you!">Thank you for choosing the XYZ
Widget for Intalio Customer Panel module.</IntroInstall>
    <BuildDate>?</BuildDate>
    <BuildHost>?</BuildHost>

     <Filelist>
        <File Permission="644"
Location="Kernel/Config/Files/XML/XYZWidget.xml"></File>
        <File Permission="644" Location="Kernel/Modules/XYZWidget.pm"></File>
        <File Permission="644" Location="Kernel/Language/pl_XYZ.pm"></File>

        <!-- FRONTEND -->
        <File Permission="644" Location="var/httpd/htdocs/customer-
panel/modules/WIDGET_XYZ.js"></File>
```

```
        <!-- TRANSLATION STRINGS -->
        <File Permission="644" Location="var/intalio-customer-
panel/xyz_translation_strings.json"/>
    </Filelist>
</otrs_package>
```

Multilanguage support:

Enabling additional language support requires adding additional translation strings to the global list. Include this code below in the installation file.

> Script will look after every json file containing substring translation_strings.json!

The scipt workflow looks like that:

`opening main translation_strings.json => looking for module's translations files => iterating over list and appending translations which are not already in the main translation_strings.json`

The translations are then correctly retreived in the Customer Panel.

```
<CodeInstall Type="post"><![CDATA[

        ###
        # Adding new module's translations to the global phrase list of the otrs-frontend
module
        ###
        use JSON::PP;
        use Data::Dumper;

        my $TranslationStringsDir = '/opt/otrs/var/intalio-customer-panel/';

        my $MainObject = $Kernel::OM->Get('Kernel::System::Main');
        my $json = JSON::PP->new->pretty->allow_nonref;
        $json = $json->allow_blessed;
        $json = $json->allow_unknown;
        $json = $json->convert_blessed;

        my $MainTranslationStringsRef = $MainObject->FileRead(
            Location => '/opt/otrs/var/intalio-customer-
```

```
panel/translation_strings.json',
        );

        my @MainTranslationStrings = @{$json->decode( ${$MainTranslationStringsRef}
)};

        opendir(DH, $TranslationStringsDir);
        my @TranslationStringsFiles = readdir(DH);
        closedir(DH);

        foreach my $TranslationStringsFile (@TranslationStringsFiles) {
            # skip . and .. .. other than .json and other than main translation strings
file
            next if($TranslationStringsFile =~ /^\.$/);
            next if($TranslationStringsFile =~ /^\.\.$/);
            next if(not $TranslationStringsFile =~ /\.json$/);
            next if($TranslationStringsFile =~ /^translation_strings\.json$/);

            print STDERR "-------------------------------------\n";
            print STDERR "Opening and decoding file: $TranslationStringsFile\n";
            my $TranslationStringsRef = $MainObject->FileRead(
                Location => $TranslationStringsDir . $TranslationStringsFile,
            );

            my @TranslationStrings = @{$json->decode( ${$TranslationStringsRef}
)};

            foreach my $TranslationString (@TranslationStrings) {
                my $IsTranslationStringAlreadyInMainTranslationStrings = 0;

                foreach my $MainTranslationString(@MainTranslationStrings)
{
                    $IsTranslationStringAlreadyInMainTranslationStrings = 1 if
($TranslationString eq $MainTranslationString);
                }

                if (not $IsTranslationStringAlreadyInMainTranslationStrings)
{
                    print STDERR "Adding string: $TranslationString\n";
                    push(@MainTranslationStrings, $TranslationString);
```

```
                } else {
                    print STDERR "String already in main translation strings:
$TranslationString\n";
                }
            }
            print STDERR "-------------------------------------\n\n";
        }

        print STDERR "Final Main Translation Strings\n";
        foreach my $MainTranslationString( @MainTranslationStrings) {
            print STDERR $MainTranslationString ."\n";
        }

        my $MainTranslationStringsResult = $json->encode( \@MainTranslationStrings );

        $MainObject->FileWrite(
            Directory => '/opt/otrs/var/intalio-customer-panel/',
            Filename  => "translation_strings.json",
            Content   => \$MainTranslationStringsResult,
        );

    ]]></CodeInstall>

    <CodeReinstall Type="post"><![CDATA[

        ###
        # Adding new module's translations to the global phrase list of the otrs-frontend
module
        ###
        use JSON::PP;
        use Data::Dumper;

        my $TranslationStringsDir = '/opt/otrs/var/intalio-customer-panel/';

        my $MainObject = $Kernel::OM->Get('Kernel::System::Main');
        my $json = JSON::PP->new->pretty->allow_nonref;
        $json = $json->allow_blessed;
        $json = $json->allow_unknown;
        $json = $json->convert_blessed;
```

```
        my $MainTranslationStringsRef = $MainObject->FileRead(
            Location => '/opt/otrs/var/intalio-customer-
panel/translation_strings.json',
        );

        my @MainTranslationStrings = @{$json->decode( ${$MainTranslationStringsRef}
)};

        opendir(DH, $TranslationStringsDir);
        my @TranslationStringsFiles = readdir(DH);
        closedir(DH);

        foreach my $TranslationStringsFile (@TranslationStringsFiles) {
            # skip . and .. .. other than .json and other than main translation strings
file
            next if($TranslationStringsFile =~ /^\.$/);
            next if($TranslationStringsFile =~ /^\.\.$/);
            next if(not $TranslationStringsFile =~ /\.json$/);
            next if($TranslationStringsFile =~ /^translation_strings\.json$/);

            print STDERR "--------------------------------------\n";
            print STDERR "Opening and decoding file: $TranslationStringsFile\n";
            my $TranslationStringsRef = $MainObject->FileRead(
                Location => $TranslationStringsDir . $TranslationStringsFile,
            );

            my @TranslationStrings = @{$json->decode( ${$TranslationStringsRef}
)};

            foreach my $TranslationString (@TranslationStrings) {
                my $IsTranslationStringAlreadyInMainTranslationStrings = 0;

                foreach my $MainTranslationString(@MainTranslationStrings)
{
                    $IsTranslationStringAlreadyInMainTranslationStrings = 1 if
($TranslationString eq $MainTranslationString);
                }

                if (not $IsTranslationStringAlreadyInMainTranslationStrings)
{
```

```
                    print STDERR "Adding string: $TranslationString\n";
                    push(@MainTranslationStrings, $TranslationString);
                } else {
                    print STDERR "String already in main translation strings:
$TranslationString\n";
                }
            }
            print STDERR "-------------------------------------\n\n";
        }

        print STDERR "Final Main Translation Strings\n";
        foreach my $MainTranslationString(@MainTranslationStrings) {
            print STDERR $MainTranslationString ."\n";
        }

        my $MainTranslationStringsResult = $json->encode( \@MainTranslationStrings );

        $MainObject->FileWrite(
            Directory => '/opt/otrs/var/intalio-customer-panel/',
            Filename  => "translation_strings.json",
            Content   => \$MainTranslationStringsResult,
        );
    ]]></CodeReinstall>

    <CodeUpgrade Type="post"><![CDATA[
        ###
        # Adding new module's translations to the global phrase list of the otrs-frontend
module
        ###
        use JSON::PP;
        use Data::Dumper;

        my $TranslationStringsDir = '/opt/otrs/var/intalio-customer-panel/';

        my $MainObject = $Kernel::OM->Get('Kernel::System::Main');
        my $json = JSON::PP->new->pretty->allow_nonref;
        $json = $json->allow_blessed;
        $json = $json->allow_unknown;
        $json = $json->convert_blessed;
```

```
        my $MainTranslationStringsRef = $MainObject->FileRead(
            Location => '/opt/otrs/var/intalio-customer-
panel/translation_strings.json',
        );

        my @MainTranslationStrings = @{$json->decode( ${$MainTranslationStringsRef}
)};

        opendir(DH, $TranslationStringsDir);
        my @TranslationStringsFiles = readdir(DH);
        closedir(DH);

        foreach my $TranslationStringsFile (@TranslationStringsFiles) {
            # skip . and .. .. other than .json and other than main translation strings
file
            next if($TranslationStringsFile =~ /^\.$/);
            next if($TranslationStringsFile =~ /^\.\.$/);
            next if(not $TranslationStringsFile =~ /\.json$/);
            next if($TranslationStringsFile =~ /^translation_strings\.json$/);

            print STDERR "--------------------------------------\n";
            print STDERR "Opening and decoding file: $TranslationStringsFile\n";
            my $TranslationStringsRef = $MainObject->FileRead(
                Location => $TranslationStringsDir . $TranslationStringsFile,
            );

            my @TranslationStrings = @{$json->decode( ${$TranslationStringsRef}
)};

            foreach my $TranslationString (@TranslationStrings) {
                my $IsTranslationStringAlreadyInMainTranslationStrings = 0;

                foreach my $MainTranslationString(@MainTranslationStrings)
{
                    $IsTranslationStringAlreadyInMainTranslationStrings = 1 if
($TranslationString eq $MainTranslationString);
                }

                if (not $IsTranslationStringAlreadyInMainTranslationStrings)
{
```

```
                    print STDERR "Adding string: $TranslationString\n";
                    push(@MainTranslationStrings, $TranslationString);
                } else {
                    print STDERR "String already in main translation strings:
$TranslationString\n";
                }
            }
            print STDERR "--------------------------------------\n\n";
        }

        print STDERR "Final Main Translation Strings\n";
        foreach my $MainTranslationString(@MainTranslationStrings) {
            print STDERR $MainTranslationString ."\n";
        }

        my $MainTranslationStringsResult = $json->encode( \@MainTranslationStrings );

        $MainObject->FileWrite(
            Directory => '/opt/otrs/var/intalio-customer-panel/',
            Filename  => "translation_strings.json",
            Content   => \$MainTranslationStringsResult,
        );
    ]]></CodeUpgrade>
```

Writing a first customer-panel widget

Main assumptions

Our goal is to create a simple widget that can be added to the Dashboard view. It will include the number of new tickets assigned to the specific customer user.

Module Structure

The widget will be built as a standard OTRS package, easy to build and deploy. It will contain all necessary configuration needed for proper running. We will create a separate hidden module in which we will put our widget. Our whole package's structure will look like this:

```
otrs-ticket-information/
├── install.sopm
├── Kernel
│   ├── Config
│   │   └── Files
│   │       └── XML
│   │           └── TicketInformationWidget.xml
│   ├── Language
│   │   └── pl_TicketInformationWidget.pm
│   └── Modules
│       └── TicketInformation.pm
└── var
    ├── httpd
    │   └── htdocs
    │       └── customer-panel
    │           └── modules
    │               └── WIDGET_NewTickets.js
    └── intalio-customer-panel
        └── ticket_widget_translation_strings.json
```

XML Configuration

What we do here is registering the OTRS module - TIcketInformation, which will be referenced when calling our API for retrieving the ticket's information. Furthermore, we register our CustomerPanel module and assign 'Open tickets counter' to him.

```
<otrs_config version="2.0" init="Application">
    <Setting Name="CustomerFrontend::Module###ContractWidget" Required="1" Valid="1">
        <Description Translatable="1">FrontendModuleRegistration for TicketInformation
module.</Description>
        <Navigation>Frontend::Customer::ModuleRegistration</Navigation>
        <Value>
            <Item ValueType="FrontendRegistration">
                <Hash>
                    <Item Key="Group">
                        <Array>
                            <Item>users</Item>
                        </Array>
                    </Item>
                    <Item Key="Description"
Translatable="1">TicketInformation.</Item>
                    <Item Key="Title"
Translatable="1">TicketInformation</Item>
                    <Item Key="NavBarName">TicketInformation</Item>
                </Hash>
            </Item>
        </Value>
    </Setting>
    <Setting Name="OTRSFrontendModule::TicketInformation" Required="0" Valid="1">
        <Description Translatable="1">This is module for a small ticket's informations
widgets</Description>
        <Navigation>CustomerFrontend</Navigation>
        <Value>
            <Hash>
                <Item Key="id">TicketInformation</Item>
                <Item Key="type">hidden</Item>
                <Item Key="text">Contract</Item>
                <Item Key="to">/module/TicketInformation</Item>
```

```
                <Item Key="priority">110</Item>
                <Item ValueType="Textarea" Key="widgets">
                    [
                        {
                            "props": {},
                            "id": "20",
                            "widgetFile": "WIDGET_NewTickets.js",
                            "compiled": false,
                            "view" : "Dashboard",
                            "name": "Open tickets counter"
                        }
                    ]
                </Item>
            </Hash>
        </Value>
    </Setting>
</otrs_config>
```

OTRS Module

In the previous subthread, we defined OTRS module ['TicketInformation'] which will be our bridge to OTRS API. We will define there whole logic connecting to the database and returning it to the web caller. In this case, we will retrieve number of new tickets.

```
package Kernel::Modules::TicketInformation;

use strict;
use warnings;
use utf8;
use JSON::PP;
use Data::Dumper;
use Kernel::System::VariableCheck qw(:all);

our $ObjectManagerDisabled = 1;

sub new {
    my ( $Type, %Param ) = @_;

    # allocate new hash for object
```

```
    my $Self = {%Param};
    bless( $Self, $Type );
    $Self->{ParamObject} = $Kernel::OM->Get('Kernel::System::Web::Request');

    return $Self;
}

sub Run {
    my ( $Self, %Param ) = @_;

    if($Self->{Subaction} eq 'GetNewTicketsCount') {

            my $UserLogin = $Self->{UserLogin};

            my $ResultJSON = {
                success => 0,
                message => "An unknown error occurred. Please contact the
administrator.",
            };



            my $DBObject = $Kernel::OM->Get('Kernel::System::DB');

            $DBObject->Prepare(
                SQL => "SELECT
                            COUNT(t.id)
                        FROM
                            ticket t
                        JOIN
                            ticket_state ts ON ts.id =
t.ticket_state_id
                        JOIN
                            ticket_state_type tst ON tst.id =
ts.type_id
                        WHERE
                                customer_user_id = ?
                            AND
                                tst.id = 1",
                Bind => [\$Param{UserLogin}],
            );
```

```
            while( my @Row = $DBObject->FetchrowArray()) {
                $ResultJSON->{data} = $Row[0];
            }

            if (exists $ResultJSON->{data}) {
              $ResultJSON->{success} = \1;
              $ResultJSON->{message} = "OK";
            }

            return $ResultJSON;
        }
}
1;
```

You can read more on creating frontend modules in the official OTRS developer guide. Basically, based on the passed UserLogin we retrieve tickets with the 'new' state and return a simple JSON response.

Template File

After adding backend logic we are ready to create our template file. This contains a simple syntax built on vue instance.

```
(function (internalName) {
    var internalID = internalName;
    return {
        name: internalID,
        component: Vue.component(internalID, {
            props: [],
            data: function () {
                return {
                    moduleName: internalID,
                    count: "0",
                    lastUpdate: "",
                }
            },
            mounted() {
                console.log("WIDGET_NumberOfNewTickets loaded!")
```

```
axios.get(this.$store.getters["globalConfig/OTRS_URL"] +
`customer.pl?Action=TicketInformation;Subaction=GetNewTicketsCount`).then((response) =>
{
                    this.count = response.data.data.toString()
                })
                this.lastUpdate = new Date().toLocaleTimeString().slice(0,5)
            },
            activated() {
            },
            deactivated() {
            },
            template: `
                <v-flex xs12 md3>
                    <material-stats-card
                            style="margin-top:0px !important;"
                            color="success"
                            icon="new_releases"
                            :title="$t('Number of new tickets')"
                            :value="count"
                            sub-icon="calendar_today"
                            sub-icon-color="secondary"
                            :sub-text="$t('Last update')+'
' +lastUpdate"
                            sub-text-color="text-primary"
                    />
                </v-flex>
            `
        }),
    }
}("CustomModuleName_DynamicID"));
```

What we do here is returning **vue instance** object with its own ID, which is assigned to every CustomerUser. It allows us to easily manipulate and save the user's own personal settings (If we provide such options).

Here, we used a simple call to our earlier defined frontend module and retrieve the new ticket number. Then, we displayed it in the material-stats-card template as a simple card.

Language support

Note, that we used here a mechanism to include a multilanguage translation. This will depend on the user's default language's setting. We will create now two different files needed to be included in the module to properly translate your labels.

ticket_widget_translation_strings.json

```
[
    'Number of new tickets",
    'Last update"
]
```

pl_TicketInformationWidget.pm

```
package Kernel::Language::pl_TicketInformationWidget;

use strict;
use warnings;
use utf8;

use vars qw(@ISA $VERSION);

sub Data {
    my $Self = shift;

    $Self->{Translation}->{"Number of new tickets"} = "Liczba nowych zgłoszeń";
    $Self->{Translation}->{"Last update"} = "Ostatnia aktualizacja";

    return 1;
}
1;
```

Note you can use every language you need - it's completely up to you!

Installation file

Now on the top of our project, we create installation file - **install.sopm**. It will be responsible for building our .opm package and merging our translation strings to the global list.

```
<?xml version="1.0" encoding="utf-8" ?>
<otrs_package version="1.0">
    <Name>Ticket Information</Name>
    <Version>1.0.0</Version>
    <Framework>6.0.x</Framework>
    <Vendor>CustomCompany</Vendor>
    <URL>https://www.custom_company.pl/</URL>
    <License>GNU AFFERO GENERAL PUBLIC LICENSE Version 3, November 2007</License>
    <Description Lang="en">Module for Customer Panel.</Description>
    <IntroInstall Type="post" Lang="en" Title="Thank you!">Thank you for choosing the
Customer Widget.</IntroInstall>
    <BuildDate>?</BuildDate>
    <BuildHost>?</BuildHost>

     <Filelist>
        <File Permission="644"
Location="Kernel/Config/Files/XML/TicketInformation.xml"></File>
        <File Permission="644" Location="Kernel/Modules/TicketInformation.pm"></File>
        <File Permission="644"
Location="Kernel/Language/pl_TicketInformationWidget.pm"></File>

        <!-- FRONTEND -->
        <File Permission="644" Location="var/httpd/htdocs/customer-
panel/modules/WIDGET_OpenTickets.js"></File>

        <!-- TRANSLATION STRINGS -->
        <File Permission="644" Location="var/intalio-customer-
panel/ticket_widget_translation_strings.json"/>
    </Filelist>

    <CodeInstall Type="post"><![CDATA[
        use JSON::PP;
        use Data::Dumper;
        my $MainObject = $Kernel::OM->Get('Kernel::System::Main');
        my $GlobalTranslationStringsStrRef = $MainObject->FileRead(
            Location => '/opt/otrs/var/intalio-customer-
```

```
panel/translation_strings.json',
        );
        my $TranslationStrings = ${$GlobalTranslationStringsStrRef};

        my $json = JSON::PP->new->pretty->allow_nonref;
        $json = $json->allow_blessed;
        $json = $json->allow_unknown;
        $json = $json->convert_blessed;

        my @RequiredStrings = @{$json->decode( $TranslationStrings )};

        my $MyTranslationStringsStrRef = $MainObject->FileRead(
            Location => '/opt/otrs/var/intalio-customer-
panel/ticket_widget_translation_strings.json',
        );
        my $MyTranslationStrings = ${$MyTranslationStringsStrRef};
        my @TranslationStrings = @{$json->decode( $MyTranslationStrings )};

        print STDERR "RequiredStrings: ".Dumper(\@RequiredStrings);
        print STDERR "TranslationStrings: ".Dumper(\@TranslationStrings);
        @RequiredStrings = (@RequiredStrings, @TranslationStrings);

        my $TranslationStringsResult = $json->encode( \@RequiredStrings );
        print STDERR "Result: $TranslationStringsResult\n";

        my $FileLocation = $MainObject->FileWrite(
            Directory => '/opt/otrs/var/intalio-customer-panel/',
            Filename  => "translation_strings.json",
            Content   => \$TranslationStringsResult,
        );
    ]]></CodeInstall>

    <CodeReinstall Type="post"><![CDATA[
        use JSON::PP;
        use Data::Dumper;
        my $MainObject = $Kernel::OM->Get('Kernel::System::Main');
        my $GlobalTranslationStringsStrRef = $MainObject->FileRead(
            Location => '/opt/otrs/var/intalio-customer-
panel/translation_strings.json',
        );
```

```
        my $TranslationStrings = ${$GlobalTranslationStringsStrRef};

        my $json = JSON::PP->new->pretty->allow_nonref;
        $json = $json->allow_blessed;
        $json = $json->allow_unknown;
        $json = $json->convert_blessed;

        my @RequiredStrings = @{$json->decode( $TranslationStrings )};

        my $MyTranslationStringsStrRef = $MainObject->FileRead(
            Location => '/opt/otrs/var/intalio-customer-
panel/ticket_widget_translation_strings.json',
        );
        my $MyTranslationStrings = ${$MyTranslationStringsStrRef};
        my @TranslationStrings = @{$json->decode( $MyTranslationStrings )};

        print STDERR "RequiredStrings: ".Dumper(\@RequiredStrings);
        print STDERR "TranslationStrings: ".Dumper(\@TranslationStrings);
        @RequiredStrings = (@RequiredStrings, @TranslationStrings);

        my $TranslationStringsResult = $json->encode( \@RequiredStrings );
        print STDERR "Result: $TranslationStringsResult\n";

        my $FileLocation = $MainObject->FileWrite(
            Directory => '/opt/otrs/var/intalio-customer-panel/',
            Filename  => "translation_strings.json",
            Content   => \$TranslationStringsResult,
        );
    ]]></CodeReinstall>

    <CodeUpgrade Type="post"><![CDATA[
        ###
        # Dodanie nowych tłumaczeń tego modułu do globalnej listy fraz modułu otrs-
frontend.
        ###
        use JSON::PP;
        use Data::Dumper;
        my $MainObject = $Kernel::OM->Get('Kernel::System::Main');
        my $GlobalTranslationStringsStrRef = $MainObject->FileRead(
            Location => '/opt/otrs/var/intalio-customer-
```

```
panel/translation_strings.json',
        );
        my $TranslationStrings = ${$GlobalTranslationStringsStrRef};

        my $json = JSON::PP->new->pretty->allow_nonref;
        $json = $json->allow_blessed;
        $json = $json->allow_unknown;
        $json = $json->convert_blessed;

        my @RequiredStrings = @{$json->decode( $TranslationStrings )};

        my $MyTranslationStringsStrRef = $MainObject->FileRead(
            Location => '/opt/otrs/var/intalio-customer-
panel/ticket_widget_translation_strings.json',
        );
        my $MyTranslationStrings = ${$MyTranslationStringsStrRef};
        my @TranslationStrings = @{$json->decode( $MyTranslationStrings )};

        print STDERR "RequiredStrings: ".Dumper(\@RequiredStrings);
        print STDERR "TranslationStrings: ".Dumper(\@TranslationStrings);
        @RequiredStrings = (@RequiredStrings, @TranslationStrings);

        my $TranslationStringsResult = $json->encode( \@RequiredStrings );
        print STDERR "Result: $TranslationStringsResult\n";

        my $FileLocation = $MainObject->FileWrite(
            Directory => '/opt/otrs/var/intalio-customer-panel/',
            Filename  => "translation_strings.json",
            Content   => \$TranslationStringsResult,
        );
    ]]></CodeUpgrade>

</otrs_package>
```

OTRS Installation

Now we can build our package and deploy it to the system.

```
otrs> /opt/otrs/bin/otrs.Console.pl Dev::Package::Build --module-directory ./ install.sopm ./
```

The following command will generate complete installation package with .**opm** file extension

Now exerything left to do is to install generated package with one of the provided methods:

The following instruction explains how to install the package using one of the provided methods.

1. Admin Interface

Log in to your system as user with admin privileges and go to menu Admin ⇨ Package Manager. Select module file (with .opm extension) in the "Actions" panel and click "Install Package" button.

2. Command line

```
otrs> /opt/otrs/bin/otrs.Console.pl Admin::Package::Install /path/to/package/.opm
```

Summary

As You might see writiring your own widget is pretty straightforward and easy. It enables You to extend your CustomerPanel with powerful tools that highly depends on your needs.