



Phoenix System

UserGuide v9.0.0

Table of Contents

| | |
|--|----|
| Overview..... | 1 |
| Installation..... | 1 |
| Prepare Ubuntu 16.04..... | 1 |
| Online installation..... | 2 |
| Offline installation..... | 2 |
| Local registry method..... | 2 |
| Remote registry method..... | 3 |
| Applications Launch Control..... | 3 |
| Helper Scripts..... | 4 |
| Adaptive Verification..... | 4 |
| Configuration..... | 5 |
| Phoenix configuration..... | 5 |
| Sysconfig..... | 5 |
| Daemons..... | 9 |
| Example Config..... | 10 |
| Adaptive Verification (adaptive_verification)..... | 18 |
| Amqp Api (amqp_api)..... | 19 |
| Blobstore (blobstore)..... | 20 |
| CameraServer (camera_server)..... | 20 |
| Database (database)..... | 20 |
| Implementation (implementation)..... | 20 |
| Installation Type (installation_type)..... | 21 |
| Identification (identification)..... | 22 |
| Instant Photo Analytics (ipa)..... | 22 |
| Person Management (person_management)..... | 23 |
| Photobooth (photobooth)..... | 24 |
| WebServer (web_server)..... | 24 |
| Workflow (workflow)..... | 25 |
| Camera rules (camera_rules)..... | 26 |
| Current Config..... | 28 |
| Face Recognition Customization file..... | 29 |
| Camera Server configuration..... | 30 |
| Secure Admin Panel by Nginx basic access authentication..... | 30 |
| Secure Admin Panel by Keycloak..... | 31 |
| Camera Server Admin Panel..... | 32 |

Overview

Phoenix system consists of several components: *Phoenix*, *Camera Server* and their dependencies. This manual describes installation process of *Phoenix system* and its settings.

Installation

Prepare Ubuntu 16.04



If you use CoreOS Linux you don't need to follow steps in this section.

- Install docker (version higher than 17.04). Use official manual to get instructions: <https://docs.docker.com/engine/installation/linux/docker-ce/ubuntu/#install-using-the-repository>
- Remove IPv6 records from /etc/hosts associated with hostname.
- Install nvidia driver.

```
sudo apt update
sudo apt-get install nvidia-384
```

- Reboot the system.
- Install SAM util from deb-package

```
wget http://dl.smilart.com/download.php?file=f2b73c1aa3eabc039c6097fe1caec148 -O
sam-1.27.deb
sudo apt install ./sam-1.27.deb
```

- Add Smilart repository to the SAM util

```
sudo -i
sam addrepo --default --name packages --server packages.smilart.com --username
admin --password admin
```

- Install base Smilart image

```
sam install smilartos-install:1855.4.0_150
```



Now you can continue to install Phoenix system.



Because Phoenix system was not adapt to install on Ubuntu, you must to do following steps AFTER installation Phoenix system:

- Check file `/etc/hosts` or check dns settings. Hostname mustn't be resolved into `127.x.y.z`.
- The file `/etc/hosts` must contain the string: `172.17.0.1 <Hostname>`

Online installation

- Add Smilart repository to the SAM util (under root). Skip this step if you did it before.

```
sam addrepo --default --name packages --server packages.smilart.com --username  
admin --password admin
```

Run **installproduct** command without parameters to run installation prouduct utility in interactive mode.

```
installproduct
```



To use this method your server must have internet connection. You should be ready to download about 5GB of data.

- First window show the list of products. Choose *Phoenix system*;
- Second window show the list of product versions. Choose 8.0.0 or another version which you want to install;
- Confirm changes;
- Wait finishing installation;
- Reboot the system.



Products, installed before, will be removed.

Offline installation

Local registry method

Requirements: `smilartos-install:1855.4.0_150`

- Install necessary version of *registry-phoenix_system*. The version of *registry-phoenix_system* must match with the version of *Phoenix system* which you want to install. To install *_registry-phoenix_system* from the Internet use command:

```
sam in ./registry-phoenix_system-9.0.0_XX.tar.gz
```



You should write email to support@smilart.com to get file with `_registry-phoenix_system`.



Detail information about SAM util you can find in SAM util documentation.

- Run `installproduct localhost` to start installation. Next steps are the same as in *Online installation*.

Remote registry method

This method provides to deploy registry on any computer and use it to install *Phoenix system*



docker must be installed on the computer where you want to deploy the registry.

- Load file with registry into docker. Write request to support@smilart.com to get link to the file.

```
docker load < <file>
```

- Run registry

```
docker run -d --name=smilart-registry -p 5000:5000 -p 5001:5001 smilart/registry-phoenix_system:9.0.0_XX
```

- On the computer where you want to install *Phoenix system* you must turn on insecure mode for docker. To do that add `{ "insecure-registries":["<server address>:5000"] }` setting to `/etc/docker/daemon.json`
- Run `installproduct` with registry ip address.

```
installproduct 192.168.10.56
```

- Next steps are the same as in *Online installation*

Applications Launch Control

Once installed, the application will automatically start up and automatically restart in the event of an emergency shutdown. It will also start automatically when the server restarts.

To stop the application, you must execute the command:

```
$ systemctl stop phoenix
```

To start the application, you must execute the command:

```
$ systemctl start phoenix
```

To restart the application, you must execute the command:

```
$ systemctl restart phoenix
```

To view the status of the application (started, stopped, terminated with an error), you must execute the command:

```
$ systemctl status phoenix
```

To turn off the application autorun, execute the command:

```
$ systemctl disable phoenix
```

To turn on the application autorun, execute the command:

```
$ systemctl enable phoenix
```

Helper Scripts

After **Phoenix System** is installed, these scripts will be available on the server.



The **Phoenix** should be running.

Adaptive Verification

Delete all sampled photos:

```
$ phoenix_remove_all_sampled_photos
```

Delete all sampled photos by camera pid:

```
$ phoenix_remove_sampled_photos_by_camera <CameraPid>
```

Delete all sampled photos by person id:

```
$ phoenix_remove_sampled_photos_by_person <PersonId>
```

Configuration

Two components of *Phoenix system* need configuration: *Phoenix* and *Camera Server*

Phoenix configuration

Phoenix provides configuration capability via set of configuration files.

Sysconfig

Rationale: low level configuration file only for Tech Support staff.

File modification policy: overwritten by the system every time the system is **installed**.

Typical reasons to change this file: switch from GPU to CPU daemons or change the number of the daemon instances.

Location: `/etc/phoenix/current/sys.config.orig`.

File post-modification action: `systemctl restart phoenix`.

Text after `%%` is a comment

```
[
  {sml_phoenix, [
    {limiter, [
%%      {max_fps, 10} %% FPS limit
    ]},
    {daemons, [
%% Demons description format
% {DaemonModule,
%   {varied_daemons, #{
%     daemons=>
%     % List of configs for daemons (daemons numbers = configs number)
%     [
%       #{name=> "daemon_name", % Required!
%         GenDaemonSettings
%       },...
%     ]
%   }
%   % OR
%   {similar_daemons, #{
%     % Numbers of Daemons
%     count=> 3,
%     % Config for all these daemons
```

```

%   GenDaemonSettings
%   }}
%   % when GenDaemonSettings has next format
%   logging=> {default, debug | info | warning | error} | without_spec_file |
%   {manual, #{file=>"daemons/fd/fd_gpu_o.log"}}, % See 'log_tracing' config
%   exec=> {docker, #{
%   docker_image => "smilart/daemon.fd_mtcnn.cuda.x86_64:1.1.3",
%   docker_opts => #{privileged => true},
%   daemon_args => [{"gpu", 0}]
%   }}
% }

{fd_mtcnn, {varied_daemons, #{
  daemons => [
    #{
      name => "fd_gpu_0",
      logging => {default, info},
      exec => {docker, #{
        docker_image => "smilart/daemon.fd_mtcnn.cuda.x86_64:1.1.3",
        docker_opts => #{
          privileged => true,
          volume_from => ["nvidia-driver:ro"],
          env => ["LD_LIBRARY_PATH=/usr/local/lib/nvidia/opengl/"
        ],
        daemon_args => [
          {"gpu", 0}
        ]
      }}
    ]
  }
}},
{fr_kenya, {varied_daemons, #{
  daemons => [
    #{name => "fr_gpu_0",
      logging => {default, info},
      exec => {docker, #{
        docker_image => "smilart/daemon.fr_kenya.cuda.x86_64:2.1.0",
        docker_opts => #{
          privileged => true,
          volume_from => ["nvidia-driver:ro"],
          env => ["LD_LIBRARY_PATH=/usr/local/lib/nvidia/opengl/"
        ],
        daemon_args => [
          {"gpu", 0}
        ]
      }}
    ]
  }
}},
  ],
  max_base_size=>300000
}},
{fpf, {similar_daemons, #{

```



```

    count => 3,
    logging => {default, info},
    exec => {docker, #{
      docker_image => "smilart/daemon.fpf.cpu.x86_64:2.0.1",
      docker_opts => #{},
      daemon_args => [
        {"openmp-max-threads", 1}
      ]
    }}
  }},
  {shm_writer, {similar_daemons, #{
    count => 3,
    logging=> {default, info},
    exec=> {docker, #{
      docker_image => "smilart/daemon.shm_writer.cpu.x86_64:5.0.1",
      daemon_args => []
    }}
  }},
  %% The following daemons ignore "count" settings
  {exif_reader, {similar_daemons, #{
    logging=> {default, info},
    exec=> {docker, #{docker_image =>
"smilart/daemon.exif_reader.cpu.x86_64:3.0.1"}}
  }},
  {exif_writer, {similar_daemons, #{
    logging=> {default, info},
    exec=> {docker, #{docker_image =>
"smilart/daemon.exif_writer.cpu.x86_64:3.0.1"}}
  }},
  {shm_reader, {similar_daemons, #{
    logging=> {default, info},
    exec=> {docker, #{docker_image =>
"smilart/daemon.shm_reader.cpu.x86_64:3.1.0"}}
  }}
  ]},

  {log_tracing, [
    %% {trace_name, #{
    %   file=> "PathToLogFile.log",
    %% Next opts applied by default
    %   config=> [{formatter, lager_default_formatter},
    %     {formatter_config, [date, " ", time, " ", message, "\r\n"]},
    %     {size, 104857600}, {date, ""}, {count, 4}
    %   ],
    %   level=> debug
    % }},

    {api_router_amqp, #{file => "amqp_api/router.log"}},
    {api_camera_amqp, #{file => "amqp_api/camera.log"}},
    {api_person_amqp, #{file => "amqp_api/person.log"}},
    {api_photobooth_amqp, #{file => "amqp_api/photobooth.log"}},

```

```

    {api_verification_amqp, #{file => "amqp_api/verification.log"}},
    {api_vca_amqp, #{file => "amqp_api/vca.log"}},
    {api_ipa_amqp, #{file => "amqp_api/ipa.log"}},
    {api_adaptive_verification_amqp, #{file =>
"amqp_api/adaptive_verification.log"}},

    {api_cameras, #{file => "erl_api/camera.log"}},
    {api_cameras_sup, #{file => "erl_api/cameras_sup.log"}},
    {api_person, #{file => "erl_api/person.log"}},
    {api_photobooth, #{file => "erl_api/photobooth.log"}},
    {api_photobooth_event_sender, #{file => "erl_api/photobooth_event_sender.log"}},
    {api_ipa, #{file => "erl_api/ipa.log"}},
    {api_vca, #{file => "erl_api/vca.log"}},
    {api_vca_event_sender, #{file => "erl_api/vca_event_sender.log"}},
    {api_verification, #{file => "erl_api/verification.log"}},
    {api_verification_core, #{file => "erl_api/verification_core.log"}},
    {api_verification_event, #{file => "erl_api/verification_event.log"}},
    {api_verification_event_sender, #{file =>
"erl_api/verification_event_sender.log"}},
    {api_persons_event_sender, #{file => "erl_api/persons_event_sender.log"}},
    {api_adaptive_verification, #{file => "erl_api/adaptive_verification.log"}},

    {camera_mjpeg_stream, #{file => "http_api/camera_mjpeg_stream.log"}},
    {adaptive_verification_info, #{file => "adaptive_verification_info.log"}},
    {license, #{file => "license.log"}},
    {config, #{file => "config.log"}},
    {vitality, #{file => "vitality.log"}},
    {db_sync_service, #{file => "person_base_init.log"}}
  ]}
}],

{sml_docker, [
  % {daemon_socket, "/var/run/docker.sock"} %% Path to docker.sock
]},

{sml_multicast, [
  {reciver_opts, [
    {ip, {239, 10, 11, 12}},
    {port, 50000}
  ]},
  {sender_opts, [
    {ip, {239, 10, 11, 13}},
    {port, 50001}
  ]}
]},

{sml_event_tracer, [ %% System events publishing
%   {tracing, {zipkin, [
%     {host, "${zipkin_host}"},
%     {tick_time, 1000},
%     {service_name, "phoenix"}

```

```

%   ]}},
    {event_sender, {influx_udp, [
      {host, "${influx_host}"},
      {port, 4444},
      {pool_size, 5},
      {max_overflow, 10}
    ]}}
  ]},

  {lager, [
    {log_root, "log"},
    {async_threshold, 100},
    {async_threshold_window, 25},
    {crash_log_size, 104857600},
    {crash_log_date, ""},
    {crash_log_count, 4},
    {handlers, [
%%     {lager_console_backend, error},
%%     {lager_file_backend, [{file, "debug.log"}, {level, debug}, {size, 104857600},
{date, ""}, {count, 4}]},
      {lager_file_backend, [{file, "info.log"}, {level, info}, {size, 104857600},
{date, ""}, {count, 4}]},
      {lager_file_backend, [{file, "warning.log"}, {level, warning}, {size,
104857600}, {date, ""}, {count, 4}]},
      {lager_file_backend, [{file, "error.log"}, {level, error}, {size, 104857600},
{date, ""}, {count, 4}]}
    ]},
    {extra_sinks, [
      {sml_lager_lager_event, [
        {async_threshold, 100},
        {async_threshold_window, 25}
      ]}
    ]}
  ]},
  {sasl, [
%   {sasl_error_logger, {file, "fdcam_sasl.log"}}
    {sasl_error_logger, false}
  ]}
].

```

Daemons

In this section gathered settings related to daemons. Each daemon has its own parameters set. Configuring a daemon may require professional assistance.

| Name | Type | Description |
|--------------------------|--------|---|
| fr_kenya.varied_daemons. | object | fr_kenya daemon startup parameters. Number of daemons equals list size. |

| | | |
|---------------------------------|---------|---|
| fd_mtcnn.varied_daemons.daemons | object | fd_mtcnn daemon startup parameters. Number of daemons equals list size. |
| fpf.similar_daemons.count | integer | Number of fpf daemons that will be started. |

Example Config

Rationale: exploration of the default options and configuration scheme.

File modification policy: overwritten by the system every time the system is **started**.

Typical reasons to change this file: none, the content of this file does not affect the operation of the system.

Location: `/etc/phoenix/config/example.config`.

File post-modification action: none.

Text after %% is a comment

```
%% Workflow options.
{workflow, [
  {verification_and_identification, [
    {write_to_shm, [
      %% The value should have 'integer' type. Min value: 500.
      {request_timeout_ms,1000}
    ]},
    {write_exif, [
      %% The value should have 'integer' type. Min value: 500.
      {request_timeout_ms,1000}
    ]},
    {detect, [
      %% The value should have 'integer' type. Min value: 500.
      {request_timeout_ms,1000}
    ]},
    {create_template, [
      %% The value should have 'integer' type. Min value: 500.
      {request_timeout_ms,1000}
    ]}
  ]},
  {verification, [
    {correlation, [
      %% The value should have 'integer' type. Min value: 500.
      {request_timeout_ms,1000},
      %% The value should have 'integer' type. Min value: 1.
      {limit,3}
    ]}
  ]},
]}
```

```

{photobooth, [
  {write_to_shm, [
    %% The value should have 'integer' type. Min value: 500.
    {request_timeout_ms,1000}
  ]},

  {write_exif, [
    %% The value should have 'integer' type. Min value: 500.
    {request_timeout_ms,1000}
  ]},

  {fpf, [
    %% The value should have 'integer' type. Min value: 500.
    {request_timeout_ms,1000}
  ]},

  {detect, [
    %% The value should have 'integer' type. Min value: 500.
    {request_timeout_ms,1000}
  ]}
]},

{identification, [
  %% The value should have 'float' type. Min value: 0. Max value: 1.
  {threshold,0.6},

  {correlation, [
    %% The value should have 'integer' type. Min value: 500.
    {request_timeout_ms,1000},

    %% The value should have 'integer' type. Min value: 1.
    {limit,10}
  ]}
]}

}}.

%% Http services options(blobstore and mjpeg).
{web_server, [
  %% The value should have 'integer' type. Min value: 1. Max value: 1000000.
  {port,"${BLOBSTORE_PORT}"},

  %% The value should have 'string' type. Min length: 1.
  {hostname,"${cowboy_host}"}
]}

%% Photobooth Service options.
{photobooth, [
  %% The value should have 'integer' type. Min value: 1.
  {sampling_time_limit_seconds,20},

  %% The value should have 'mixed' type.

```

```

{partitioning_scheme,{grid3x3,[
    %% The value should have 'enumeration' type. Possible values:
[cross,horizontal,forward_turn,all_inner_poses].
    {stratums_of_interest,cross},

    %% The value should have 'mixed' type.
    {stratum_sampling,{rook,[
        %% The value should have 'float' type. Min value: 0. Max value: 1.
        {min_stratum_coverage_ratio,0.4}
    ]}},

    %% The value should have 'integer' type. Min value: 0. Max value: 90.
    {outer_square_side_size,60},

    %% The value should have 'integer' type. Min value: 0. Max value: 90.
    {inner_square_side_size,20}
]}},

{fpf_extended_check, [
    %% The value should have 'integer' type. Min value: 0. Max value: 60.
    {max_angle_deviation_degrees,4},

    %% The value should have 'float' type. Min value: -1. Max value: 1.
    {face_quad_scaling_ratio,-0.05}
]}
]].

%% Person Management Service options.
{person_management, [
    %% FR request settings.
    {fr_request_settings, [
        %% Maximum response time.
        %% The value should have 'integer' type. Min value: 500. Max value: 1000000.
        {request_timeout_ms,1000}
    ]},

    %% FD request settings.
    {fd_request_settings, [
        %% Maximum response time.
        %% The value should have 'integer' type. Min value: 500. Max value: 1000000.
        {request_timeout_ms,1000},

        {mtcnn, [
            %% The value should have 'float' type. Min value: 0. Max value: 1.
            {refine_net_threshold,0.9},

            %% The value should have 'float' type. Min value: 0. Max value: 1.
            {proposal_net_threshold,0.8},

            %% The value should have 'float' type. Min value: 0. Max value: 1.
            {output_net_threshold,0.9}
        ]}
    ]}
]}

```

```

    ]},

    %% Minimum face quad side size.
    %% The value should have 'integer' type. Min value: 100. Max value: 1000000.
    {min_face_side_px,100},

    %% Maximum number of faces in FD response.
    %% The value should have 'integer' type. Min value: 1. Max value: 1000000.
    {max_searched_faces_on_frame,1000000},

    %% Maximum face quad side size.
    %% The value should have 'integer' type. Min value: 100. Max value: 1000000.
    {max_face_side_px,1000000}
  ]},

  %% Exif Writer request settings.
  {exif_writer_request_settings, [
    %% Maximum response time.
    %% The value should have 'integer' type. Min value: 500. Max value: 1000000.
    {request_timeout_ms,1000}
  ]},

  %% Exif Reader request settings.
  {exif_reader_request_settings, [
    %% Maximum response time.
    %% The value should have 'integer' type. Min value: 500. Max value: 1000000.
    {request_timeout_ms,1000}
  ]}
  ]}.

  %% Full path to license.
  %% The value should have 'string' type. Min length: 1.
  {path_to_license,"/var/lib/smilart_srv/license/license"}.

  %% Instant Photo Analytics Service options.
  {ipa, [
    %% The value should have 'integer' type. Min value: 500. Max value: 1000000.
    {request_timeout_ms,5000},

    %% The value should have 'integer' type. Min value: 1. Max value: 200.
    {queue_size,20},

    {identification, [
      %% The value should have 'float' type. Min value: 0. Max value: 1.
      {threshold,0.6}
    ]},

    {detect, [
      {fd_request_settings, [
        %% The value should have 'integer' type. Min value: 500. Max value: 1000000.
        {request_timeout_ms,1000},

```

```

{mtcnn, [
  %% The value should have 'float' type. Min value: 0. Max value: 1.
  {refine_net_threshold,0.9},

  %% The value should have 'float' type. Min value: 0. Max value: 1.
  {proposal_net_threshold,0.8},

  %% The value should have 'float' type. Min value: 0. Max value: 1.
  {output_net_threshold,0.9}
]},

%% The value should have 'integer' type. Min value: 100. Max value: 1000000.
{min_face_side_px,100},

%% The value should have 'integer' type. Min value: 1. Max value: 1000000.
{max_searched_faces_on_frame,1000000},

%% The value should have 'integer' type. Min value: 100. Max value: 1000000.
{max_face_side_px,1000000}
]},

{exif_writer_request_settings, [
  %% The value should have 'integer' type. Min value: 500. Max value: 1000000.
  {request_timeout_ms,1000}
]},

{exif_reader_request_settings, [
  %% The value should have 'integer' type. Min value: 500. Max value: 1000000.
  {request_timeout_ms,1000}
]},

%% The value should have 'integer' type. Min value: 1. Max value: 1000000.
{default_faces_limit,1000000}
]},

%% The value should have 'integer' type. Min value: 1. Max value: 200.
{count_workers,10},

{correlation, [
  {fr_request_settings, [
    %% The value should have 'integer' type. Min value: 500. Max value: 1000000.
    {request_timeout_ms,1000},

    %% The value should have 'integer' type. Min value: 1. Max value: 1000000.
    {correlations_limit,10}
  ]}
]}
]].

%% Identification options.

```



```

{identification, [
    %% The value should have 'integer' type. Min value: 1.
    {max_base_size,300000}
]}.

%% Persons storage options.
{database, [
    %% The value should have 'mixed' type.
    {installation_type,{master,[]}},

    %% The value should have 'mixed' type.
    {implementation,{mongodb,[
        %% The value should have 'string' type. Regular expression to check value:
        ^mongodb://.*
        {uri,"mongodb://{mongodb_host}/similar?readPreference=nearest"}
    ]}}
]}.

%% Camera Server connection options.
{camera_server, [
    %% Erlang Node name.
    %% The value should have 'string' type. Min length: 1.
    {node,"sml_camserver@camera_server"},

    %% Minimum time between reconnections.
    %% The value should have 'integer' type. Min value: 1.
    {min_resubscribe_timeout_ms,100},

    %% Maximum time between reconnections.
    %% The value should have 'integer' type. Min value: 1.
    {max_resubscribe_timeout_ms,60000},

    %% The value should have 'list' type. Min length: 1. List element type: (The value
    should have 'string' type. Min length: 1.).
    {groups,["phoenix"]},

    %% Cookie.
    %% The value should have 'string' type. Min length: 1.
    {cookie,"sml_camserver"}
]}.

%% Rules for camera groups.
%% The value should have 'list' type. List element type: (The value should have
'config' type. ).
{camera_rules,[]}.

%% In-memory blob storage.
{blobstore, [
    %% The value should have 'integer' type. Min value: 1000.
    {timeout_ms,30000},

```

```

%% The value should have 'integer' type. Min value: 1024.
{size_byte,52428800}
]].

%% Amqp Api options.
{amqp_api, [
  {verification_event, [
    %% The value should have 'integer' type. Min value: 1000.
    {session_timeout_ms,30000},

    %% The value should have 'string' type. Min length: 1.
    {exchange_type,"direct"},

    %% The value should have 'string' type. Min length: 1.
    {exchange_name,"platform-api.verification"}
  ]},

  {verification, [
    %% The value should have 'integer' type. Min value: 1.
    {max_verification_timeout_seconds,30}
  ]},

  {vca, [
    %% The value should have 'integer' type. Min value: 1000.
    {session_timeout_ms,30000},

    %% The value should have 'string' type. Min length: 1.
    {exchange_type,"direct"},

    %% The value should have 'string' type. Min length: 1.
    {exchange_name,"platform-api.vca"}
  ]},

  {router, [
    %% The value should have 'string' type. Min length: 1.
    {routing_key,"#"},

    %% The value should have 'string' type. Min length: 1.
    {exchange_type,"fanout"},

    %% The value should have 'string' type. Min length: 1.
    {exchange_name,"platform-api"}
  ]},

  {photobooth, [
  ]},

  %% The parameter is responsible for the activity of the service.
  %% The value should have 'boolean' type.
  {enable,true},

```

```

{amqp_settings, [
  %% The value should have 'string' type. Min length: 1.
  {user,"guest"},

  %% The value should have 'string' type. Min length: 1.
  {password,"guest"},

  %% The value should have 'string' type. Min length: 1.
  {host,"${rabbitmq_host}"}
]}
]].

%% Adaptive Verification Service options.
{adaptive_verification, [
  %% Options for setting verification thresholds.
  {thresholds, [
    %% Type of photo selection.
    %% The value should have 'enumeration' type. Possible values:
    [person_photos_per_camera,all_person_photos].
    {selection_type,person_photos_per_camera},

    %% The influence of the selection size on the threshold name during verification.
    %% The value should have 'list' type. Min length: 1. List element type: (The value
    should have 'string' type. Min length: 1.). Can consist duplicated elements.
    {selection_size_to_verification_threshold_names,["UltraLow","Low","Normal"]}
  ]},

  {scoring, [
    %% The value should have 'integer' type. Min value: 0.
    {init_photo_time_score_sec,864000},

    %% The value should have 'integer' type. Min value: 0.
    {correlation_deviation_weight,80}
  ]},

  %% Restricting of the sampling of photos to add to a person.
  {sampling_restrictions, [
    %% The minimum time between adding a photo to a person for a camera.
    %% The value should have 'integer' type. Min value: 1.
    {sampling_throttle_sec,7200}
  ]},

  {photo_validation, [
    {fpf_check, [
      %% The value should have 'integer' type. Min value: 0. Max value: 60.
      {yaw,35},

      %% The value should have 'integer' type. Min value: 0. Max value: 60.
      {roll,30},

      %% The value should have 'integer' type. Min value: 0. Max value: 60.

```

```

    {pitch,25},

    %% The value should have 'integer' type. Min value: 0. Max value: 60.
    {max_angle_deviation_degrees,4},

    %% The value should have 'float' type. Min value: -1. Max value: 1.
    {face_quad_scaling_ratio,-0.05}
  ]}
}},

%% The maximum number of photos that can be added to a person from one camera.
%% The value should have 'integer' type. Min value: 1. Max value: 100.
{max_photos_per_camera,5},

%% The parameter is responsible for the activity of the service.
%% The value should have 'boolean' type.
{enable,false}
}}.

```

Adaptive Verification (adaptive_verification)

The following formula is used to calculate the score of a sampled photo:

$$\text{score} = \text{init_photo_time_score_sec} + \text{last_verification_time_sec} - \text{now_sec} + (\text{correlation_deviation_weight} * (\text{average_verification_coeff} - \text{get_threshold_by_name}(\text{"high"})) + \text{number_of_successful_verifications}) * 86400$$

if **score** is less than 0 then this photo can be replaced by **Adaptive Verification**.

| Name | Type | Description |
|---|---------------------|--|
| enable | boolean | The parameter is responsible for the activity of the service. |
| thresholds | object | Options for setting verification thresholds. |
| thresholds.selection_type | enumeration | Type of photo selection, available values: person_photos_per_camera,all_person_photos. |
| thresholds.selection_size_t o_verification_threshold_n ames | array of strings | The influence of the selection size on the threshold name during verification. |
| scoring | object | Options for scoring of sampled photos. |
| scoring.init_photo_time_sc ore_sec | integer | Parameter used in calculating the score. |
| scoring.correlation_deviati on_weight | integer | Parameter used in calculating the score. |
| sampling_restrictions | object | Restrictions settings for adding sampled photos. |
| sampling_restrictions.samp ling_throttle_sec | integer | The minimum time between adding sampled photos for one camera per person. |
| photo_validation | object | Options for photo validation. |

| | | |
|--|---------|---|
| photo_validation.fpf_check | object | Options for fpf photo validation. |
| photo_validation.fpf_check.yaw | integer | The maximum deviation of the yaw angle from the central angle. |
| photo_validation.fpf_check.roll | integer | The maximum deviation of the roll angle from the central angle. |
| photo_validation.fpf_check.pitch | integer | The maximum deviation of the pitch angle from the central angle. |
| photo_validation.fpf_check.max_angle_deviation_degrees | integer | The maximum angle deviation from second result of fpf. |
| photo_validation.fpf_check.face_quad_scaling_ratio | float | Face scaling ratio option to get second result of fpf. |
| max_photos_per_camera | integer | The maximum number of photos that can be added to a person from one camera. |

Amqp Api (amqp_api)

Parameters:

| Name | Type | Description |
|---|---------|---|
| enable | boolean | The parameter is responsible for the activity of the service. |
| amqp_settings | object | Connection settings for RabbitMQ |
| amqp_settings.host | string | RabbitMQ Host |
| amqp_settings.user | string | RabbitMQ User |
| amqp_settings.password | string | RabbitMQ Password |
| router | object | RPC Amqp Api options |
| router.routing_key | string | Routing key for Api |
| router.exchange_name | string | Name of exchange for Api |
| router.exchange_type | string | Type of exchange for Api |
| vca | object | Amqp VCA options |
| vca.exchange_name | string | Name of exchange |
| vca.exchange_type | string | Type of exchange |
| vca.session_timeout_ms | integer | The lifetime of a session without renewing subscription |
| verification | object | Amqp VCA options |
| verification.max_verification_timeout_seconds | integer | Maximum waiting time for a positive verification result |
| verification_event | object | Amqp Verification Event publishing Options |
| verification_event.exchange_name | string | Name of exchange |
| verification_event.exchange_type | string | Type of exchange |

| | | |
|---------------------------------------|---------|---|
| verification_event.session_timeout_ms | integer | The lifetime of a session without renewing subscription |
|---------------------------------------|---------|---|

Blobstore (blobstore)

| Name | Type | Description |
|------------|---------|-------------------------------------|
| timeout_ms | integer | Maximum time to store a single item |
| size_byte | integer | Storage capacity |

CameraServer (camera_server)

| Name | Type | Description |
|----------------------------|------------------|--|
| node | string | Camera server node name in {NAME}@{HOST} format |
| cookie | string | Camera server erlang cookie. |
| min_resubscribe_timeout_ms | integer | Minimum interval between attempts to connect to camera server. |
| max_resubscribe_timeout_ms | integer | Maximum interval between attempts to connect to camera server. |
| groups | array of strings | Groups of cameras with which phoenix works. |

Database (database)

| Name | Type | Description |
|-------------------|--------|------------------------------|
| implementation | object | Database implementation used |
| installation_type | object | Installation type used |

Implementation (implementation)

implementation is a type of database used in Phoenix. It can be one of those types:

- mongodb — Default choice. It's highly advisable to use this database.
- memory — Stores data in memory, empties itself on restart. Can be used for a small dataset.

MongoDB settings

| Name | Type | Description |
|------|--------|---------------------------|
| uri | string | MongoDB connection string |

URI string format:

```
mongodb://[username:password@]host1[:port1][,host2[:port2],...
[,hostN[:portN]]][/[database][?options]]
```

Full format description URI <https://docs.mongodb.com/manual/reference/connection-string/>

Available options:

| Name | Type | w |
|----------------------|-------------------------|--------------------------|
| custom | readPreference | enumeration |
| journal | bool | localThresholdMS |
| integer | connectTimeoutMS | integer |
| socketTimeoutMS | integer | serverSelectionTimeoutMS |
| integer | waitQueueTimeoutMS | integer |
| heartbeatFrequencyMS | integer | minPoolSize |
| integer | minHeartbeatFrequencyMS | integer |
| maxPoolSize | integer | wtimeoutMS |

Installation Type (installation_type)

Type of Phoenix installation:

- master — In this mode Phoenix node has exclusive access to person database manipulation. Available for any database type. Propagation of changes from the database to the entire system takes a finite time. In most cases this is almost instantaneous;
- slave — In this mode Phoenix node synchronizes its state with database once in `sync_timeout_sec` seconds, and prohibited from manipulating person database. Propagation of changes from the database to the entire system is similar to eventual consistency. In most cases this takes about `sync_timeout_sec` seconds.

Slave options

| Name | Type | Description |
|------------------|---------|---|
| sync_timeout_sec | integer | Interval between synchronization attempts |

Cluster mode settings:

To configure Phoenix in cluster mode one Phoenix must be chosen as a master node and will have the ability to manipulate persons. Machine with master Phoenix instance should also host master MongoDB instance.

To configure Phoenix instance as master `readPreference` parameter for this instance must be set to `primary`. Also this Phoenix instance must be connected to master node of MongoDB.



Hostname in MongoDB connection URI must be the same as a name of this MongoDB instance in cluster.



In cluster mode only one Phoenix master instance is allowed.

All other Phoenix instances must be configured in **slave** mode.

Identification (identification)

| Name | Type | Description |
|---------------|---------|---|
| max_base_size | integer | Maximum number of photos that can be loaded into face recognition daemon. |

Instant Photo Analytics (ipa)

This section contains IPA settings.

| Name | Type | Description |
|---|---------|---|
| count_workers | integer | Number of workers to process requests parallel. |
| queue_size | integer | Request queue size. |
| request_timeout_ms | integer | Maximum response time in milliseconds. |
| detect | object | Detect settings. |
| detect.default_faces_limit | integer | Default number of faces to search for. |
| detect.fd_request_settings | object | FD request settings. |
| detect.fd_request_settings.max_searched_faces_on_frame | integer | Max number of faces in FD response. |
| detect.fd_request_settings.min_face_side_px | integer | Minimum face quad side size. |
| detect.fd_request_settings.max_face_side_px | integer | Maximum face quad side size. |
| detect.fd_request_settings.request_timeout_ms | integer | Maximum FD response time in milliseconds. |
| detect.fd_request_settings.mtcnn | object | MTCNN face detector options. |
| detect.fd_request_settings.mtcnn.proposal_net_threshold | float | MTCNN threshold for the proposal net. |
| detect.fd_request_settings.mtcnn.refine_net_threshold | float | MTCNN threshold for the refine net. |
| detect.fd_request_settings.mtcnn.output_net_threshold | float | MTCNN threshold for the output net. |
| detect.fpf_request_settings | object | FPF request settings. |
| detect.fpf_request_settings.request_timeout_ms | integer | Maximum FPF response time in milliseconds. |

| | | |
|--|---------|--|
| detect.exif_writer_request_settings | object | ExifWriter request settings. |
| detect.exif_writer_request_settings.request_timeout_ms | integer | Maximum ExifWriter response time in milliseconds. |
| detect.exif_reader_request_settings | object | ExifReader request settings. |
| detect.exif_reader_request_settings.request_timeout_ms | integer | Maximum ExifReader response time in milliseconds. |
| correlation | object | Correlation settings. |
| correlation.fr_request_settings | object | FR request settings. |
| correlation.fr_request_settings.correlations_limit | integer | Maximum number of correlations included in the correlation result. |
| correlation.fr_request_settings.request_timeout_ms | integer | Maximum FR response time in milliseconds. |
| identification | object | Identification settings. |
| identification.threshold | float | Identification threshold. |

Person Management (person_management)

This section contains Person Management Service settings.

| Name | Type | Description |
|---|---------|---|
| exif_reader_request_settings | object | ExifReader request settings. |
| exif_reader_request_settings.request_timeout_ms | integer | Maximum ExifReader response time in milliseconds. |
| exif_writer_request_settings | object | ExifWriter request settings. |
| exif_writer_request_settings.request_timeout_ms | integer | Maximum ExifWriter response time in milliseconds. |
| fr_request_settings | object | FR request settings. |
| fr_request_settings.request_timeout_ms | integer | Maximum FR response time in milliseconds. |
| fd_request_settings | object | FD request settings. |
| fd_request_settings.request_timeout_ms | integer | Maximum FD response time in milliseconds. |
| fd_request_settings.max_searched_faces_on_frame | integer | Maximum number of faces in FD response. |
| fd_request_settings.min_face_side_px | integer | Minimum face quad side size. |

| | | |
|--|---------|---------------------------------------|
| fd_request_settings.max_face_side_px | integer | Maximum face quad side size. |
| fd_request_settings.mtcnn | object | MTCNN face detector options. |
| fd_request_settings.mtcnn.proposal_net_threshold | float | MTCNN threshold for the proposal net. |
| fd_request_settings.mtcnn.refine_net_threshold | float | MTCNN threshold for the refine net. |
| fd_request_settings.mtcnn.output_net_threshold | float | MTCNN threshold for the output net. |

Photobooth (photobooth)

This section contains photobooth settings.

| Name | Type | Description |
|--|---------|--|
| partitioning_scheme | object | See below. |
| sampling_time_limit_seconds | integer | Maximum time photobooth will gather detects before it yields result. |
| fpf_extended_check | object | Options for extended check. |
| fpf_extended_check.max_angle_deviation_degrees | integer | The maximum angle deviation from second result of fpf. |
| fpf_extended_check.face_quad_scaling_ratio | float | Face scaling ratio option to get second result of fpf. |

partitioning_scheme grid3x3:

| Name | Type | Description |
|------------------------|-------------|---|
| stratums_of_interest | enumeration | Areas of interest, available values: cross, horizontal, forward_turn, all_inner_poses |
| stratum_sampling | object | Type of stratum sampling. |
| outer_square_side_size | integer | The size of the outer square of the partitioning scheme. |
| inner_square_side_size | integer | the size of the inner square of the partitioning scheme. |

stratum_sampling rook

| Name | Type | Description |
|----------------------------|-------|--------------------------------|
| min_stratum_coverage_ratio | float | Minimum stratum coverage ratio |

WebServer (web_server)

| Name | Type | Description |
|----------|--------|---|
| hostname | string | Name of a host that will be used in urls generated by Phoenix |

| | | |
|------|---------|--------------------------|
| port | integer | Port to access blobstore |
|------|---------|--------------------------|



If you change port in Phoenix setting you also need to change this port forwarding in systemd service file.

Workflow (workflow)

This section contains settings for Workflow.

| Name | Type | Description |
|--|---------|--|
| verification_and_identification | object | Verification and Identification settings. |
| verification_and_identification.write_to_shm | object | Write to shm request settings. |
| verification_and_identification.write_to_shm.request_timeout_ms | integer | Maximum response time in milliseconds. |
| verification_and_identification.detect | object | Detect request settings. |
| verification_and_identification.detect.request_timeout_ms | integer | Maximum response time in milliseconds. |
| verification_and_identification.write_exif | object | Write exif request settings. |
| verification_and_identification.write_exif.request_timeout_ms | integer | Maximum response time in milliseconds. |
| verification_and_identification.create_template | object | Create template request settings. |
| verification_and_identification.create_template.request_timeout_ms | integer | Maximum response time in milliseconds. |
| identification | object | Identification settings. |
| identification.threshold | float | Identification threshold. |
| identification.correlation | object | Correlation request settings. |
| identification.correlation.request_timeout_ms | integer | Maximum response time in milliseconds. |
| identification.correlation.limit | integer | Maximum number of correlations included in the correlation result. |
| verification | object | Verification settings. |
| verification.correlation | object | Correlation request settings. |
| verification.correlation.request_timeout_ms | integer | Maximum response time in milliseconds. |

| | | |
|--|---------|--|
| verification.correlation.limit | integer | Maximum number of correlations included in the correlation result. |
| photobooth | object | Photobooth settings. |
| photobooth.write_to_shm | object | Write to shm request settings. |
| photobooth.write_to_shm.request_timeout_ms | integer | Maximum response time in milliseconds. |
| photobooth.write_exif | object | Write exif request settings. |
| photobooth.write_exif.request_timeout_ms | integer | Maximum response time in milliseconds. |
| photobooth.detect | object | Detect request settings. |
| photobooth.detect.request_timeout_ms | integer | Maximum response time in milliseconds. |
| photobooth.fpf | object | FPF request settings. |
| photobooth.fpf.request_timeout_ms | integer | Maximum response time in milliseconds. |

Camera rules (camera_rules)

Frame processing options by camera groups.



Please contact to Tech Support to change this options.

Options example:

```

{camera_rules, [
  #{
    one_of=>["phoenix"],
    then_apply=>#{
      fd=>#{
        min_face_side_px=>100,
        max_face_side_px=>1000000,
        max_searched_faces_on_frame=>1000000,
        mtcnn=>#{
          proposal_net_threshold=>0.8,
          refine_net_threshold=>0.9,
          output_net_threshold=>0.9
        }
      }
    }
  }
]}.

```

%% or

```

{camera_rules, [
  [
    {one_of, ["phoenix"]},
    {then_apply,[
      {fd,[
        {min_face_side_px,100},
        {max_face_side_px,1000000},
        {max_searched_faces_on_frame,1000000},
        {mtcnn,[
          {proposal_net_threshold,0.8},
          {refine_net_threshold,0.9},
          {output_net_threshold,0.9}
        ]}
      ]}
    ]}
  ]}
]}.

```

Properties

| Property Name | Value Type | Description |
|---------------------------|------------------|---|
| camera_rules | array | Ordered list of rules for frames processing for VCA and Verification services. First matching rule will be applied. |
| camera_rules[].one_of | array of strings | If camera belongs to one of these specified groups. |
| camera_rules[].then_apply | object | Then following options for frames processing will be applied. |

| | | |
|---|---------------|---|
| camera_rules[].then_apply. fd | object | FD options. |
| camera_rules[].then_apply. fd.min_face_side_px | integer | Minimum face quad side size. default: 100, min: 100, max: 1000000. |
| camera_rules[].then_apply. fd.max_face_side_px | integer | Maximum face quad side size. default: 1000000, min: 100, max: 1000000. |
| camera_rules[].then_apply. fd.max_searched_faces_on_frame | integer | Max number of faces in FD response. default: 1000000, min: 1, max: 1000000. |
| camera_rules[].then_apply. fd.mtcnn | nested object | MTCNN face detector options. |
| camera_rules[].then_apply. fd.mtcnn.proposal_net_threshold | float | MTCNN threshold for the proposal net. |
| camera_rules[].then_apply. fd.mtcnn.refine_net_threshold | float | MTCNN threshold for the refine net. |
| camera_rules[].then_apply. fd.mtcnn.output_net_threshold | float | MTCNN threshold for the output net. |

Basically face detection works in three steps. First, it searches for faces with face quad in `[minFaceSizePx, maxFaceSizePx]` and sorts faces found by size. Second, it applies `maxSearchedFacesOnFrame` and chooses only the biggest faces. And last, it confirms faces chosen in step two and because of this some faces can be discarded.



If there are three faces on frame and `maxSearchedFacesOnFrame` is equal to 1 and the biggest face would not be confirmed then the answer with no faces on frame will be received.

- Decrease of `maxFaceSizePx` or `maxSearchedFacesOnFrame` parameters will reduce the number of detected faces and face detection time.
- Increase of `minFaceSizePx` parameter will reduce the number of detected faces and face detection time.
- Increase any of MTCNN thresholds will reduce the number of detected faces and face detection time.



Current Config

Rationale: preserve configuration changes between system updates. In the case of an empty file all system options will be set by default, which were displayed by the system in the [Example Config](#).

File modification policy: each time the system starts up, it tries to preserve meaningful specified options (except the unknown options) in this file, but can change its structure, which shouldn't affect the desired behavior of the system.



Some changes to the service states that should be saved upon restart are also saved to this file.

Typical reasons to change this file: change system wide options for a regular system administrator.

Location: `/etc/phoenix/config/current.config`.

File post-modification action: `systemctl restart phoenix`.

Face Recognition Customization file

Rationale: preserve the recognition options associated with a particular version of the recognition (defined in the file name: `fr-<version>.json`) between system updates.

File modification policy: creates and fullfills with default values by the system if not exists.

Typical reasons to change this file: change recongition thresholds, define new threshold names in the system.



Please contact to Tech Support to change the options in this file and in the case of modification of the file associated with another version of recognition.

Location: `/etc/phoenix/customizations/fr-3.json`.

File post-modification action: `systemctl restart phoenix`.

File scheme:

```
{
  "defaultVerificationThreshold":float
  "verificationThresholds": {
    <thresholdName>:float
  }
}
```

Properties

| Property Name | Value Type | Description |
|---|------------|---|
| defaultVerificationThreshold | float | Default thresholds for verification. Will be used if no verification threshold name was specified in request. |
| verificationThresholds | object | Custom thresholds map for verification. |
| verificationThresholds.<threshold Name> | float | Defines verification threshold with name <code>thresholdName</code> . |



It highly recommended to create new items in `verificationThresholds` instead of overriding `defaultVerificationThreshold`.

Camera Server configuration

You can manage **Camera Server** through **Camera Server Admin Panel**.

To access **Admin Panel** go to http://<your_server>:8082/ (you can change the port in **Camera Server** config)

By default there is no authorization for **Admin Panel**, but it is possible to add some.

1. By using **Nginx** basic authorization.
2. By using **Keycloak** (<https://www.keycloak.org/>).

Secure Admin Panel by Nginx basic access authentication

Install and setup **Nginx** (<https://smilart.atlassian.net/wiki/spaces/PS/pages/173670407/Install+nginx+for+basic+access+authentication>).

For instance we want to have access to **Admin Panel** by <http://nginx-address/cs/>. And assume that Nginx can get **Admin Panel** by <http://192.168.1.39:8082>

To get that you have to change file (/etc/nginx/nginx.conf) by adding **location** rules to your **http server** which on port 80.

```
#...
http {
#...
server {
    listen      80;
#...

# Next rule is to get Admin Panel resources files
location /cs/ {
    proxy_pass http://192.168.1.39:8082/; # note the trailing slash!
}

# Next used for interanl Camera Server API
location /cs/api/csi {
    proxy_pass http://192.168.1.39:8082/api/csi;
    proxy_http_version 1.1;
    proxy_set_header Upgrade $http_upgrade;
    proxy_set_header Connection "upgrade";
    proxy_read_timeout 2073600; #maximum supported is 24 days
}

#...
}
}
#...
```




Applying changes in the config needs restart **Nginx** by `systemctl restart nginx`.

After that follow next steps to close **Camera Server Admin Panel** port:

1) Create file `/var/lib/iptables/rules-save` and edit like in example below.

```
*filter
-A INPUT -p tcp -m tcp --dport 8082 -j DROP
COMMIT
```

2) Enable iptables-restore `systemctl enable iptables-restore`.

3) Reboot.

Secure Admin Panel by Keycloak

Install and setup **Keycloak** (<https://smilart.atlassian.net/wiki/spaces/PS/pages/164102281/Install+keycloak>).

Change **Camera Server** config parameter `admin_panel` (`/etc/camera_server/current/sys.config.orig`).

```
% - makes comment until end of line
% ...
  {admin_panel, [
    %% {authentication, none | {keycloak, [ ...]} }
    {authentication,
      {keycloak, [
        {host, "${keycloak_host}"},
        {port, 8080},
        {role, "cs_admin"},
        {client_id, "cs_admin_panel"},
        {realm, "smilart"}
      ]}
    ],
    {port, "${ADMIN_PANEL_PORT}"
  ]},
% ...
```

Properties

| Name | Type | Description |
|---|---------|--|
| <code>admin_panel</code> | object | Settings for Admin Panel . |
| <code>admin_panel.port</code> | integer | Admin Panel port. By default will get from env. <code>\${ADMIN_PANEL_PORT}</code> , which is 8082 by default. |
| <code>admin_panel.authentication</code> | object | Can be <code>none</code> or <code>keycloak</code> . |

| | | |
|---|---------|--|
| admin_panel.authentication.keycloak.host | string | Host name of Keycloak . By default will get from env. <code>\${keycloak_host}</code> , which is hostname of station with the Camera Server . |
| admin_panel.authentication.keycloak.port | integer | Port of Keycloak . By default <code>8080</code> . |
| admin_panel.authentication.keycloak.role | string | Required role of Keycloak user to access Admin Panel . By default <code>cs_admin</code> . |
| admin_panel.authentication.keycloak.client_id | string | Name of Keycloak 'Client' for Admin Panel . By default <code>cs_admin_panel</code> . |
| admin_panel.authentication.keycloak.realm | string | Keycloak realm to use. By default <code>similar</code> . |



If you change **Admin Panel** port you also need to change this port forwarding in systemd unit file (`/etc/systemd/system/camera_server.service`).



Host name and port of **Keycloak** must be reachable from `camera_server` docker container and from client side of **Admin Panel**.



Applying changes in the config needs restart **Camera Server** by `systemctl restart camera_server`.

Camera Server Admin Panel

User interface for administration of Camera Server.

Provides capabilities:

- Add/Configure/Delete MJPEG, RTSP, Basler cameras.
- View live stream from camera.
- View license information.
- View actual information about cameras.

Smilart Camera Server. Admin Web Panel 2017-11-22 10:43:05 Administrator

License will expire soon. 4 days remains before expiration of the license.

License was successfully verified. Serial number: 8C31C3B7-D1ED-49A6-A7ED-4571F29CDF49; Max active cameras: 2; activity period: 2017-11-22 - 2017-11-26.

Cameras

| | | | | | | | | | | | | | | | | | | | | |
|--|---|---------|--|---------------|--|-------------------|----------------|---|------------|----|--|-------------------|---|--|---------------------------|---------------------|--|---------------------------|---------------------|--|
| ▼ | | basler1 | 🔥 N/A ⓘ | Basler camera | <input type="button" value="Configure"/> ⓘ | | | | | | | | | | | | | | | |
| <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">State Info</td> <td>Camera is down</td> <td style="text-align: right;">✕</td> </tr> <tr> <td>FPS</td> <td>0</td> <td></td> </tr> <tr> <td>Last Error</td> <td colspan="2">Basler camera driver finishes due to an error: Camera Error has occurred while creating camera object: No device is available or no device contains the provided device info properties</td> </tr> <tr> <td>Time of Last Error</td> <td colspan="2">2017-11-22 10:42:23</td> </tr> <tr> <td>Next Retry at</td> <td colspan="2">2017-11-22 10:42:27</td> </tr> </table> | | | | | | State Info | Camera is down | ✕ | FPS | 0 | | Last Error | Basler camera driver finishes due to an error: Camera Error has occurred while creating camera object: No device is available or no device contains the provided device info properties | | Time of Last Error | 2017-11-22 10:42:23 | | Next Retry at | 2017-11-22 10:42:27 | |
| State Info | Camera is down | ✕ | | | | | | | | | | | | | | | | | | |
| FPS | 0 | | | | | | | | | | | | | | | | | | | |
| Last Error | Basler camera driver finishes due to an error: Camera Error has occurred while creating camera object: No device is available or no device contains the provided device info properties | | | | | | | | | | | | | | | | | | | |
| Time of Last Error | 2017-11-22 10:42:23 | | | | | | | | | | | | | | | | | | | |
| Next Retry at | 2017-11-22 10:42:27 | | | | | | | | | | | | | | | | | | | |
| ▼ | | mjpeg1 | ✔ Running ⓘ | MJPEG camera | <input type="button" value="Configure"/> ⓘ | | | | | | | | | | | | | | | |
| <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">State Info</td> <td>Initialized</td> <td style="text-align: right;">✕</td> </tr> <tr> <td>FPS</td> <td>20</td> <td></td> </tr> <tr> <td>Uptime</td> <td colspan="2">00d 00h 00m 13s</td> </tr> <tr> <td>Available Since</td> <td colspan="2">2017-11-22 10:42:12</td> </tr> <tr> <td>Time of Last Frame</td> <td colspan="2">2017-11-22 10:42:25</td> </tr> </table> | | | | | | State Info | Initialized | ✕ | FPS | 20 | | Uptime | 00d 00h 00m 13s | | Available Since | 2017-11-22 10:42:12 | | Time of Last Frame | 2017-11-22 10:42:25 | |
| State Info | Initialized | ✕ | | | | | | | | | | | | | | | | | | |
| FPS | 20 | | | | | | | | | | | | | | | | | | | |
| Uptime | 00d 00h 00m 13s | | | | | | | | | | | | | | | | | | | |
| Available Since | 2017-11-22 10:42:12 | | | | | | | | | | | | | | | | | | | |
| Time of Last Frame | 2017-11-22 10:42:25 | | | | | | | | | | | | | | | | | | | |
| > | | rtsp1 | ! Not Active ⓘ | RTSP camera | <input type="button" value="Configure"/> ⓘ | | | | | | | | | | | | | | | |

Figure 1. Main page

Smilart Camera Server. Admin Web Panel 2017-11-22 10:25:21 Administrator

New Camera

The fields marked with * are required.

| | |
|--|--|
| Type * | <input type="text" value="MJPEG"/> |
| Name * | <input type="text" value="mjpeg1"/> |
| Active ⓘ | <input checked="" type="checkbox"/> |
| Groups * | <input type="text" value="phoenix"/> |
| Stream URL * | <input type="text" value="http://192.168.0.16/mjpeg"/> |
| Authentication | <input type="text" value="login:password"/> |
| <input type="button" value="Hide Advanced Options"/> | |
| Camera Rotation | <input type="text" value="0"/> |
| <input type="button" value="Add"/> <input type="button" value="Cancel"/> | |

Figure 2. Panel of MJPEG camera

New Camera

The fields marked with * are required.

| | |
|--|-------------------------------------|
| Type * | RTSP |
| Name * | rtsp1 |
| Active ⓘ | <input checked="" type="checkbox"/> |
| Groups * | phoenix |
| Stream URL * | rtsp://192.168.0.18/rtsp |
| Authentication | login:password |
| Hide Advanced Options | |
| Use RTSP over TCP | <input checked="" type="checkbox"/> |
| RTSP Session Timeout Sec ⓘ | 0 |
| Camera Rotation | 0 |
| <input type="button" value="Add"/> <input type="button" value="Cancel"/> | |

Figure 3. Panel of RTSP camera

New Camera

The fields marked with * are required.

| | | | |
|--|-------------------------------------|--|----------------------|
| Type * | Basler | | |
| Name * | basler1 | | |
| Active ⓘ | <input checked="" type="checkbox"/> | | |
| Groups * | phoenix | | |
| Device Location | Basler Type * | GigE | |
| | Find * | <input type="radio"/> by MAC | <input type="text"/> |
| | | <input checked="" type="radio"/> by IP | <input type="text"/> |
| | | <input type="radio"/> by Serial | <input type="text"/> |
| | | <input type="radio"/> by ID | <input type="text"/> |
| | | <input type="radio"/> Any | |
| Hide Advanced Options | | | |
| Max FPS * | 0 | | |
| Camera Rotation | 0 | | |
| <input type="button" value="Add"/> <input type="button" value="Cancel"/> | | | |

Figure 4. Panel of Basler camera