INFO4 Projet : 18, CampusIot

Soutenance de projet

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CampusIot

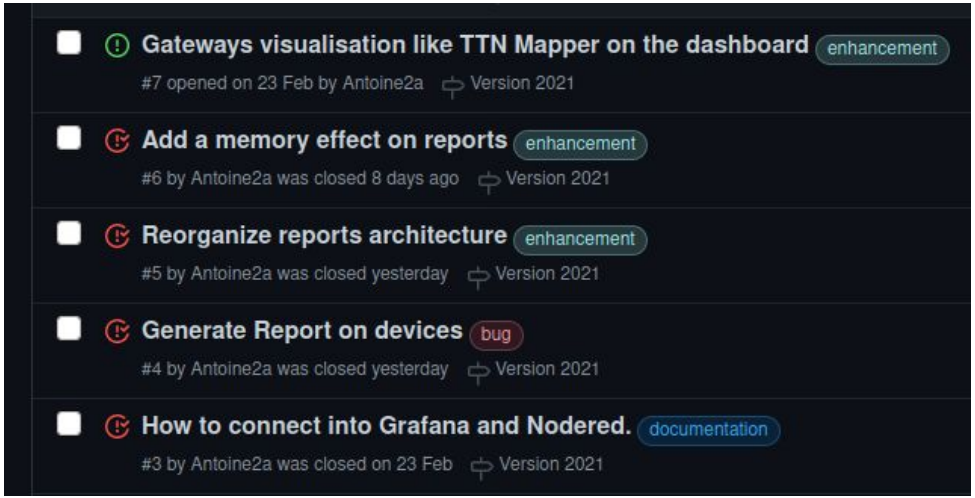
Le projet INFO4 2020-2021 a pour objectif le développement d'outils de supervision de la plateforme CampusIoT.

Ces outils permettent le **suivi de gateways** (dashboard) et la **production de rapports** (reports) réguliers donnant des métriques sur ces objets.

Cela permettra entre autres d’informer de l’activité des objets et donc de cerner des possibles défaillances.

Organisation

- Brainstorming en équipe afin de bien cerner les subtilités du projet ainsi que des besoins de celui-ci
- Séparation de tâches pour être indépendant et plus efficace. Utilisation des Issues.

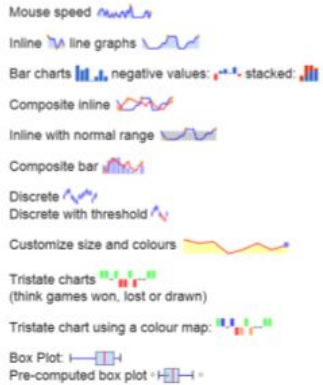


- Réunions régulières en équipe afin de pouvoir faire un point et rassembler nos idées

Architecture Global + Technologies

Reports

curl & **jq** scripts
generate an **HTML report** of the gateways



Sparkline

Dashboard

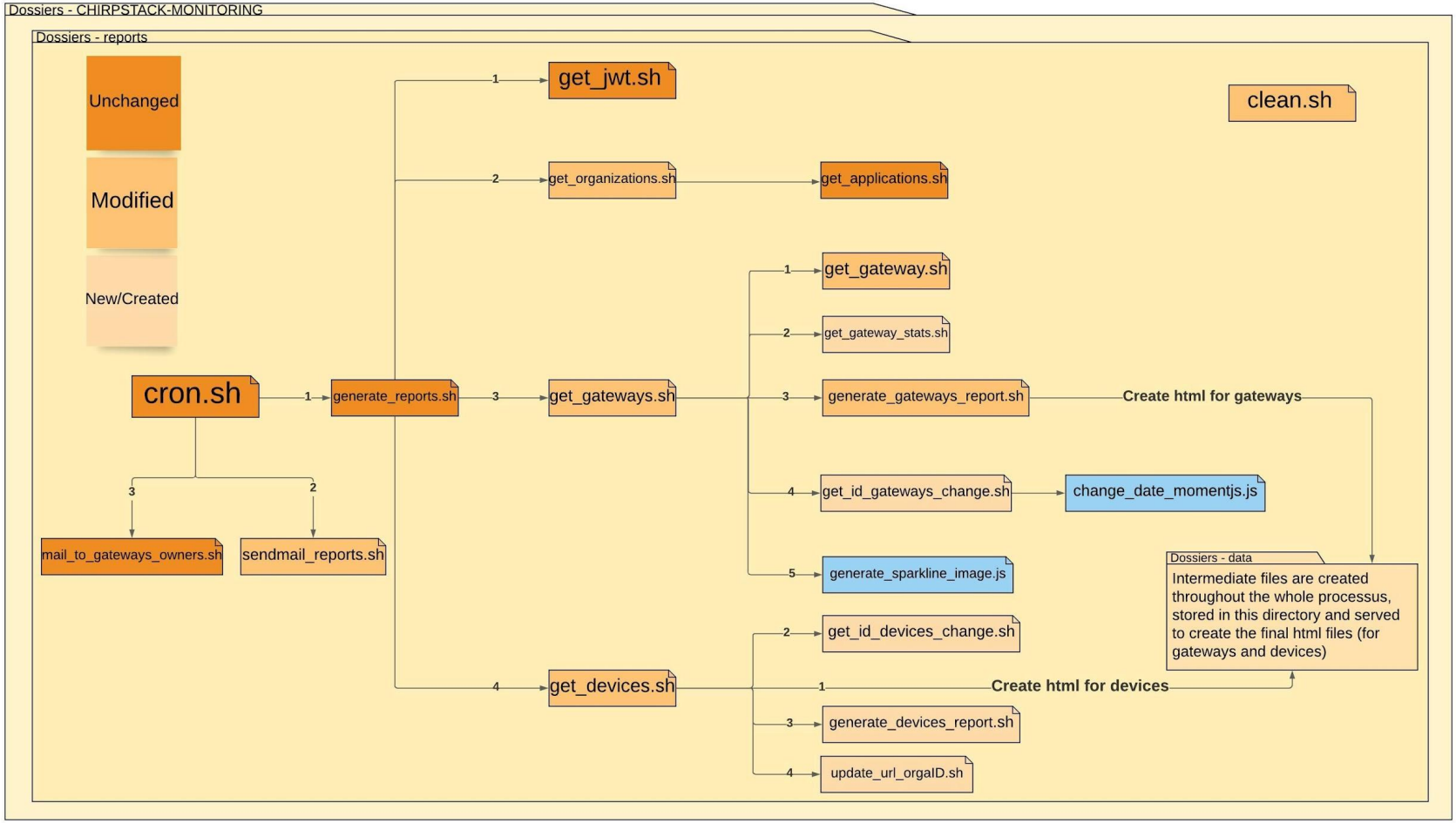
Process for displaying informations of the gateways and endpoints into a dashboard view

ChirpStack

Node-RED

influxdb

Grafana


Dossiers - CHIRPSTACK-MONITORING
Dossiers - reports
Unchanged
Modified
New/Created
cron.sh
1
generate_reports.sh
3
get_gateways.sh
1
get_jwt.sh
2
get_organizations.sh
get_applications.sh
4
get_devices.sh
clean.sh
1
get_gateway.sh
2
get_gateway_stats.sh
3
generate_gateways_report.sh
Create html for gateways
4
get_id_gateways_change.sh
change_date_momentjs.js
5
generate_sparkline_image.js
2
get_id_devices_change.sh
1
Create html for devices
3
generate_devices_report.sh
4
update_url_orgaID.sh
3
mail_to_gateways_owners.sh
2
sendmail_reports.sh
Dossiers - data
Intermediate files are created throughout the whole processus, stored in this directory and served to create the final html files (for gateways and devices)

Difficultés

- Continuation d’un projet déjà commencé
  - Comprehension du code présent
  - Nombreuses technologies à appréhender, installer, et savoir utiliser
  - Être rigoureux et apprendre pas à pas
- Compatibilité des différentes technologies
- Retranscrire nos idées en code avec les langages donnés
- Une implémentation toujours améliorable

Conclusion

- **Metrics** https://gricad-gitlab.univ-grenoble-alpes.fr/Projets-INFO4/20-21/18/

  58 commits de code `40 files changed, 878 insertions(+), 185 deletions(-)`. 25 de documentations.

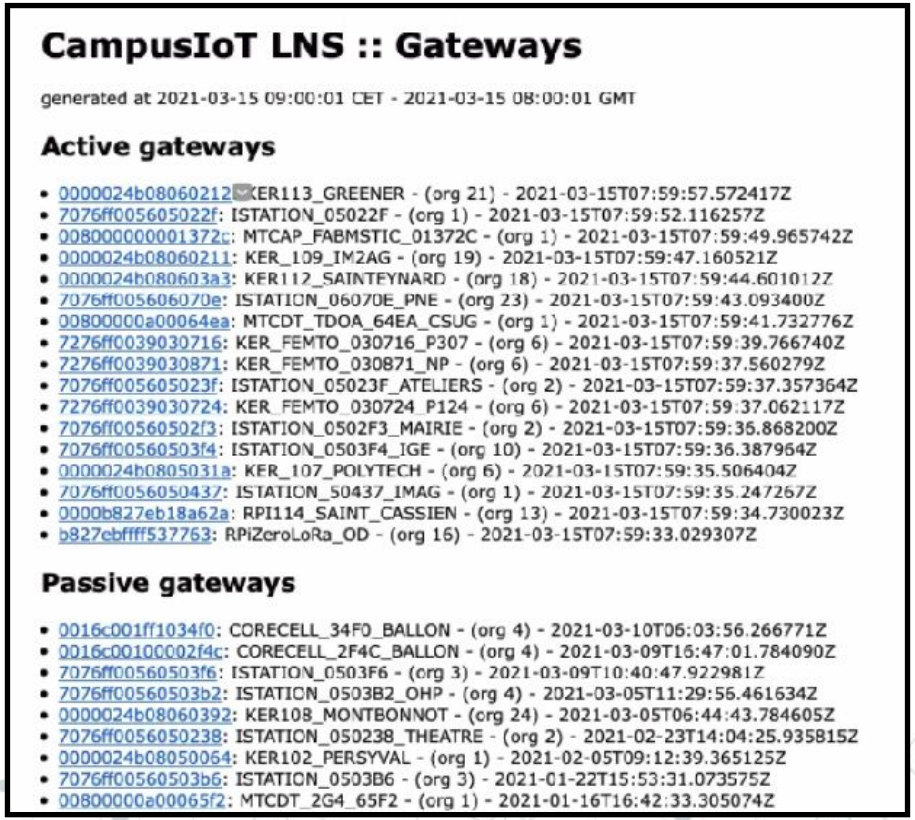
  Principalement des lignes réalisés en langage Script Shell.
- **Features implémentés**
  - Sparkline dans le rapport
  - MomentJS Formating Time
  - Adaptation Devices
  - Effet Memoire (active / passive)
  - Email avec Sparkline en PJ
- **Features abandonnées**
  - Duty Cycle sur Grafana
  - TTN Mapper
- **Améliorations possibles**
  - Emails with Sparkline.

Merci.

Sources :

https://air.imag.fr/index.php/Monitoring_de_la_plateforme_CampusIoT

Annexe A



CampusIoT LNS :: Gateways

generated at 2021-03-15 09:00:01 CET - 2021-03-15 08:00:01 GMT

Active gateways

- 0000024b08060212: KER113_GREENER - (org 21) - 2021-03-15T07:59:57.572417Z
- 7076ff005605022f: ISTATION_05022F - (org 1) - 2021-03-15T07:59:52.116257Z
- 008000000001372c: MTCAP_FABMSTIC_01372C - (org 1) - 2021-03-15T07:59:49.965742Z
- 0000024b08060211: KER_109_IM2AG - (org 19) - 2021-03-15T07:59:47.160521Z
- 0000024b080603a3: KER112_SAINTEYNARD - (org 18) - 2021-03-15T07:59:44.601012Z
- 7076ff005606070e: ISTATION_06070E_PNE - (org 23) - 2021-03-15T07:59:43.093400Z
- 00800000a00064ea: MTCDT_TDOA_64EA_CSUG - (org 1) - 2021-03-15T07:59:41.732776Z
- 7276ff0039030716: KER_FEMTO_030716_P307 - (org 6) - 2021-03-15T07:59:39.766740Z
- 7276ff0039030871: KER_FEMTO_030871_NP - (org 6) - 2021-03-15T07:59:37.560279Z
- 7076ff005605023f: ISTATION_05023F_ATELIERS - (org 2) - 2021-03-15T07:59:37.357364Z
- 7276ff0039030724: KER_FEMTO_030724_P124 - (org 6) - 2021-03-15T07:59:37.062117Z
- 7076ff00560502f3: ISTATION_0502F3_MAIRIE - (org 2) - 2021-03-15T07:59:35.868200Z
- 7076ff00560503f4: ISTATION_0503F4_IGE - (org 10) - 2021-03-15T07:59:36.387964Z
- 0000024b0805031a: KER_107_POLYTECH - (org 6) - 2021-03-15T07:59:35.506404Z
- 7076ff0056050437: ISTATION_50437_IMAG - (org 1) - 2021-03-15T07:59:35.247267Z
- 0000b827eb18a62a: RPI114_SAINT_CASSIEN - (org 13) - 2021-03-15T07:59:34.730023Z
- b827ebffff537763: RPiZeroLoRa_OD - (org 16) - 2021-03-15T07:59:33.029307Z

Passive gateways

- 0016c001ff1034f0: CORECELL_34F0_BALLON - (org 4) - 2021-03-10T06:03:56.266771Z
- 0016c00100002f4c: CORECELL_2F4C_BALLON - (org 4) - 2021-03-09T16:47:01.784090Z
- 7076ff00560503f6: ISTATION_0503F6 - (org 3) - 2021-03-09T10:40:47.922981Z
- 7076ff00560503b2: ISTATION_0503B2_OHP - (org 4) - 2021-03-05T11:29:56.461634Z
- 0000024b08060392: KER108_MONTBONNOT - (org 24) - 2021-03-05T06:44:43.784605Z
- 7076ff0056050238: ISTATION_050238_THEATRE - (org 2) - 2021-02-23T14:04:25.935815Z
- 0000024b08050064: KER102_PERSYVAL - (org 1) - 2021-02-05T09:12:39.365125Z
- 7076ff00560503b6: ISTATION_0503B6 - (org 3) - 2021-01-22T15:53:31.073575Z
- 00800000a00065f2: MTCDT_2G4_65F2 - (org 1) - 2021-01-16T16:42:33.305074Z

Annexe B

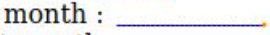
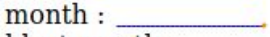
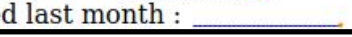
CampusIoT LNS :: Gateways

generated at 2021-04-06 23:50:53 CEST - 2021-04-06 21:50:53 GMT

Active gateways

7276ff0039030871: KER_FEMTO_030871_NP - (org 6) - a few seconds ago - packets received last month :
0000024b0805031a: KER_107_POLYTECH - (org 6) - a few seconds ago - packets received last month :
7276ff0039030724: KER_FEMTO_030724_P124 - (org 6) - a few seconds ago - packets received last month :
7276ff0039030716: KER_FEMTO_030716_P307 - (org 6) - a few seconds ago - packets received last month :

Passive gateways

080027ffff052e4a: LRWAN2_2E4A - (org 5) - - packets received last month :
0080e1ffff015abf: LRWAN3_5ABF_EU433 - (org 5) - - packets received last month : 
0080e1ffff0153f1: LRWAN2_0153F1_KEKA - (org 5) - - packets received last month : 
0080e1ffff0153d7: LRWAN2_153D7_SONZOGNI - (org 5) - - packets received last month : 

Annexe C

CampusIoT LNS :: Devices

generated at 2021-04-07 07:50:34 CEST - 2021-04-07 05:50:34 GMT

Active devices

- 0025ca0a000004db: LAIRD_Nico (profile OTAA_CLASS_A_LAIRD ,org) - a few seconds ago
- a81758fffe032273: ELSYS_ELT2_2273 (profile OTAA_CLASS_A_ELSYS ,org) - 4 minutes ago
- 70b3d58ff1004297: LW12TERPM_004297 (profile OTAA_CLASS_A_LW12TERPM ,org) - 7 minutes ago
- 0025ca0a000004d2: LAIRD (profile OTAA_CLASS_A_LAIRD ,org) - 14 minutes ago
- 70b3d58ff1012b89: LW12CO2_2B89 (profile OTAA_CLASS_A_MCF88_LW12CO2 ,org) - 27 minutes ago
- 244e7b0002000814: Tekelec_Tank_0814 (profile OTAA_CLASS_A_TEKELEK ,org) - 3 hours ago

Passive devices

- e24f43fffe44cf7c: INUCLEO_CF7C_BINOME5_QCR (profile OTAA_CLASS_A_LPP ,org) - 16 hours ago
- e24f43fffe44cff3: LRWAN2_CFF3_BINOME4 (profile OTAA_CLASS_A_LPP ,org) - 17 hours ago
- e24f43fffe44cf96: INUCLE_CF96_BINOME3_Robert (profile OTAA_CLASS_A_LPP ,org) - 17 hours ago
- e24f43fffe44d05f: LRWAN2_D05F (profile OTAA_CLASS_A_LPP ,org) - 18 hours ago
- e24f43fffe44c2c8: NODE_I_NUCLEO_LRWAN1_LPP (profile OTAA_CLASS_A_LPP ,org) - 19 hours ago
- e24f43fffe44d333: IESE5_MAINGUET (profile OTAA_CLASS_A_LPP ,org) - 3 days ago
- 1111111111111111: STM32-Polytech (profile OTAA_CLASS_A_AQUAPONIE ,org) - 6 days ago
- e24f43fffe44d13a: Endpoint_FM_GJ (profile OTAA_CLASS_A_LPP ,org) - 2 months ago