



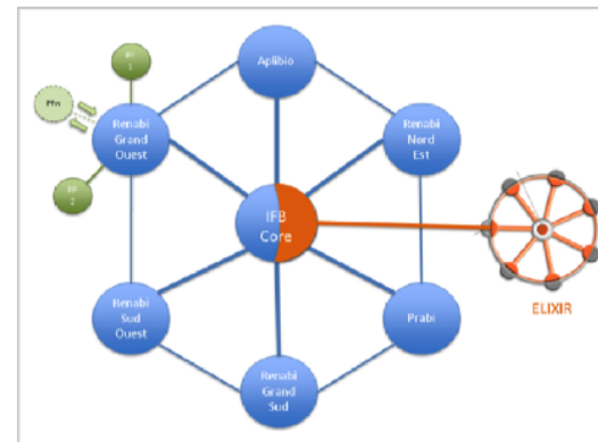
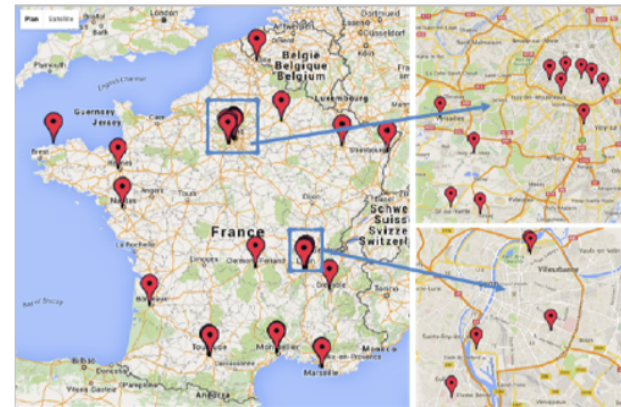
IFB-Biosphère

Services cloud pour l'analyse des
données des sciences de la vie

Structure de l'Institut Français de Bioinformatique (IFB)



- Tutelles : CNRS, Inserm, INRA, CEA, INRIA
- **32 plateformes** organisées en 6 pôles régionaux.
 - 398 personnes, dont 275 permanents et 123 CDD.
- Un nœud national, **IFB-core**, chargé d'impulser et de coordonner la mise en place de l'infrastructure.
- Nœud français du réseau européen ELIXIR (infra bioinformatique).



www.france-bioinformatique.fr

Missions de l'IFB

- Fournir une infrastructure physique et logicielle de services en bioinformatique.
- Appui aux programmes de recherche en biologie, santé, agronomie et environnement, via une expertise et des compétences mutualisées.
- Formations en bioinformatique pour biologistes et bioinformaticiens.
- Développer une vision stratégique pour maintenir la France au plus haut niveau d'expertise pour l'analyse des données biologiques, et donner accès aux technologies de pointe dans le domaine bioinformatique.
- Servir de levier pour la conception et la mise en œuvre de projets de recherche nationaux ambitieux.
- Assurer la représentation internationale de la communauté bioinformatique française, en particulier au sein du réseau européen ELIXIR ([https:// www.elixir-europe.org/](https://www.elixir-europe.org/)).



Biosphère

Qu'est-ce que c'est ?

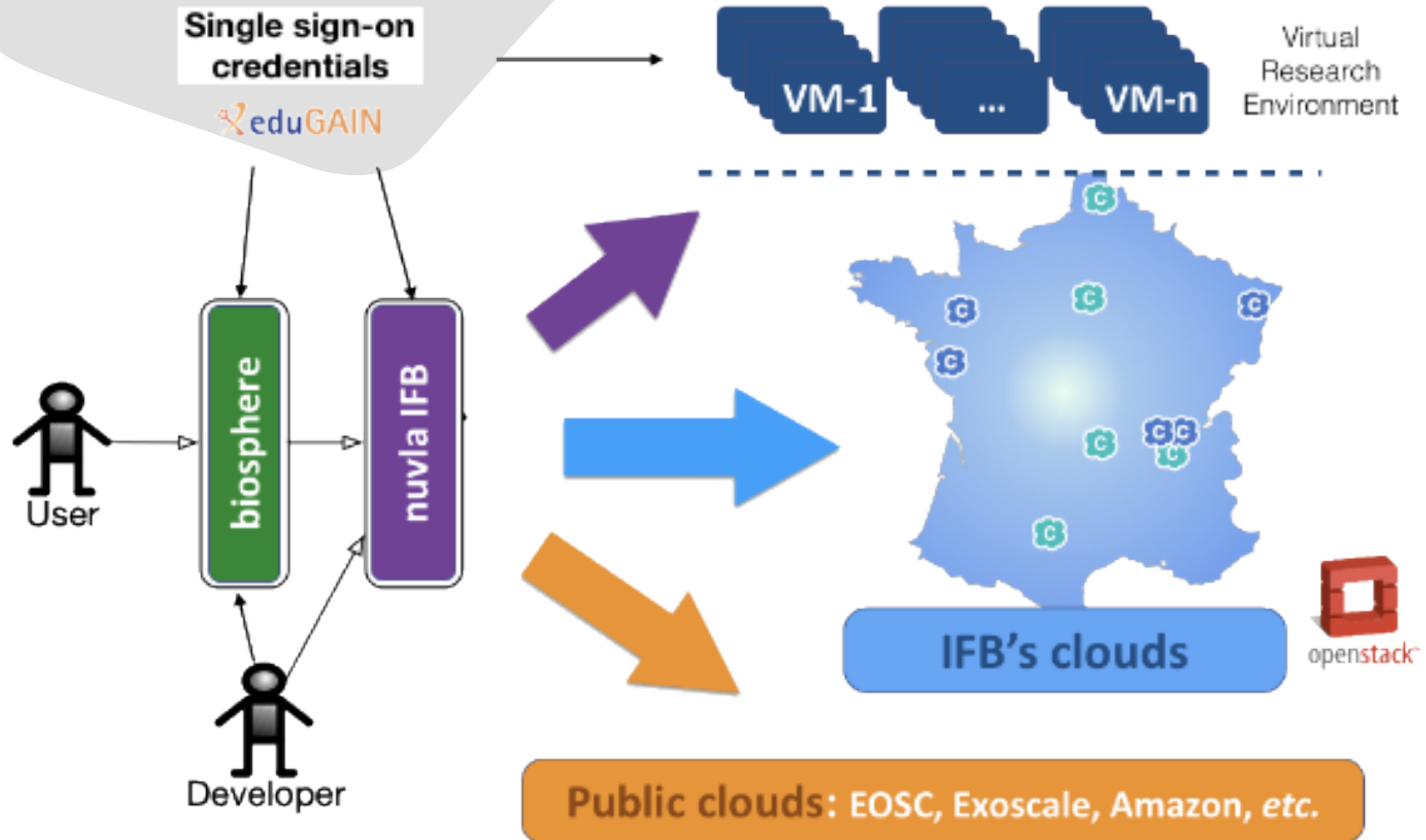
Biosphère - Qu'est-ce que c'est ?

- Fédération de clouds
 - Cloud agnostic
 - Basé pour l'instant uniquement sur des clouds Openstack
- Portail unique
 - Catalogue applicatif
 - Déploiement Simple ou Avancé
 - Déploiement multi-cloud
- Recettes reproductibles
- 5 sites pilotes depuis 2016, 1 nouveau site depuis 2019, 4 en attente de déploiement pour intégration

Biosphère - en chiffres

Cloud	#core	Storage TB	RAM GB
ifb-core-cloud	2000	1000	18000
ifb-genouest	384	50	2048
ifb-prabi	104	144	1500
ifb-bird	448	50	1500
ifb-bistro	480	12	3000

Biosphere - Comment ça marche ?



Biosphère - le catalogue

The screenshot displays the 'Biosphere' website interface. At the top left, the 'ifb Biosphere' logo is visible, along with navigation links for 'RAINBio', 'myVM', and 'DATA'. On the top right, there are links for 'Support', 'Admin', and a user profile icon, with the email address 'jean-francois.guillaume@univ-nantes.fr (eduGAIN)' displayed below. The main heading is 'RAINBIO - BIOINFORMATICS CLOUD APPLIANCES', followed by a subtitle: 'Catalog of bioinformatics cloud appliances, which you can browse and filter according to the predefined keywords of the EDAM ontology or with natural language.' Below this, there are tabs for 'App Store (33)', 'Appliances', 'Tools', and 'Topics', and a search box labeled 'enter filter'. The main content area is a grid of appliance cards, each with a title, a list of associated tools or services, and a set of icons (star, lightning bolt, wrench) representing different features or categories. The cards include: 'Bacterial genomics (Insyght)', 'Bioimage Fiji/Icy', 'BioPipes', 'bistar', 'CentOS', 'Cytoscape', 'Debian 9', 'EBAME 2018 - Marine Microbiome', 'EBAME 2018 - Metabolic Network', 'EBAME 2018 - Microbial Ecological Networks', 'formation LBBE-NGS 2019', and 'Galaxy'.

ifb Biosphere RAINBio myVM DATA Support Admin jean-francois.guillaume@univ-nantes.fr (eduGAIN)

RAINBIO - BIOINFORMATICS CLOUD APPLIANCES

Catalog of bioinformatics cloud appliances, which you can browse and filter according to the predefined keywords of the EDAM ontology or with natural language.

App Store (33) Appliances Tools Topics

- Bacterial genomics (Insyght)**
 - ★ BLAST+, HMMER, Insyght, SGE - GridEngine, Ubuntu, Web interface
 - ⚡ Protein folds and structural domains, Sequence comparison, Sequence composition, complexity and
 - 🔧
- Bioimage Fiji/Icy**
 - ★ Ansible, bioconda, Bureau virtuel, Docker, Icy, ImageJ-Fiji, X2Go, XFCE
 - ⚡ Bioinformatics, Informatics, Data visualisation, Imaging
 - 🔧
- BioPipes**
 - ★ bioconda, cwltool, Docker, Docker Compose, Nextflow, Snakemake
 - ⚡ Informatics, Bioinformatics, Workflows
 - 🔧
- bistar**
 - ★ bioconda, bowtie2, FastQC, Snakemake
 - ⚡ Bioinformatics, Sequence alignment, Workflows, Sequence analysis
 - 🔧
- CentOS**
 - ★ Ansible, bioconda, Docker
 - ⚡ Informatics, Bioinformatics
 - 🔧
- Cytoscape**
 - ★ Bureau virtuel, Cytoscape, X2Go, XFCE
 - ⚡ Bioinformatics, Data visualisation, Molecular interactions, path
 - 🔧
- Debian 9**
 - ★ Ansible, bioconda, Docker
 - ⚡ Bioinformatics, Informatics
 - 🔧
- EBAME 2018 - Marine Microbiome**
 - ★ MMseqs2, R, RStudio
 - ⚡ Data architecture, analysis and design, Sequence analysis, Sequence a
 - 🔧
- EBAME 2018 - Metabolic Network**
 - ★ COBRAPy, Jupyter, Matplotlib, pandas
 - ⚡ Data architecture, analysis and design, Mathematics, Statistics and probability
 - 🔧
- EBAME 2018 - Microbial Ecological Networks**
 - ★ Bioconductor, Jupyter, R, SpiecEasi
 - ⚡ Data architecture, analysis and design, Statistics, Bioinformatics, Data
 - 🔧
- formation LBBE-NGS 2019**
 - ★ ABySS, BEDTools, Bioconductor, BUSCO, FastQC, HISAT2, IGV - Integrative
 - ⚡ Bioinformatics, Computational biology, Data management, Statistics and probability
 - 🔧
- Galaxy**
 - ★ bioconda, Docker, Galaxy portal
 - ⚡ Informatics, Bioinformatics, Comparative genomics, Functional genomics
 - 🔧

Biosphere - le dashboard

CLOUD

Deployments

ID	Name	Start	Groups	Spec	Cloud	Access
8311	CentOS (7) z10h15	BIRD	1 4 70	ifb-core-cloud	ssh
8310	CentOS (7) a10h15	BIRD	1 2 20	ifb-prabi-girofle	ssh

Terminating deployments [See all \(2\)](#)

Bookmarked appliances and deployments | Last terminated deployments | Quotas

ID	Name	Last start	Custom

Logos: cea, cnrs, INRA SCIENCE & IMPACT, Inria, Inserm, elixir, INVESTISSEMENTS D'AVENIR

DEPLOYMENT 8310: A ☆

Deployment details

Name	a
Scalable	no
Status	Running
Status message	
Appliance	CentOS (7)
Started	Oct 16 2019 10h15
Duration	0H13:11.752124

Events

Ready	2019-10-16T08:27:40.100Z (UTC)
Provisioning	2019-10-16T08:16:39.259Z (UTC)
Initializing	2019-10-16T08:15:37.357Z (UTC)

Specifications

1 VM	1 core
2 GB	20 GB

Total consumption

VCPU	0.22 vCPU.h
RAM	0.44 GB.h
Storage	0.00 TB.h

Reports: [machine_report_2019-10-16T082728Z.tgz](#)

Hostnames

Cloud	Hostname/ip
ifb-prabi-girofle	134.214.213.83

Manage Deployment

[Terminate deployment](#)

Access

name	uri	command
ssh	🔗	ssh -A centos@134.214.213.83
scp		scp \${local_file} centos@134.214.213.83:\${remote_file}

Syntax of an ssh command:
ssh -A -P <port> <user>@<machine name or address>

Liens

- Biosphere: <https://biosphere.france-bioinformatique.fr/>
- Contact :
contact-nncr-cloud-request@groupes.france-bioinformatique.fr
- IFB : <https://www.france-bioinformatique.fr/>
- BiRD : <https://pf-bird.univ-nantes.fr/>