

# Intro



BigBlueButton et Greenlight : serveur  
vidéoconférence et gestion d'utilisateurs et de  
sessions

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Linux Meetup Montréal  
7 avril 2020



BigBlueButton - Mozilla Firefox  
File Edit View History Bookmarks Tools Help

http://bbb.evocatio.net/client/BigBlueButton.html#

BigBlueButton

French Canadian Aide Déconnexion

Conférence web

Accès	Nom	Statut
	francois	
	<b>Jackt (you)</b>	
	Martial	
	phil	
	phéippe goupil	
	Saile Pacru	

Changer de prés...

Conférence voix

	André Cotte	
	darvel	
	david cote-tremblay	
	Martial	
	phil	

LinuxMeetup OrdreDuJour...2011-07-05

### Linux-Meetup de Québec (Linux-Causerie)

- > **Introduction :**
  - > Mot de bienvenue
  - > Définition des Linux-Meetup (pour les nouveaux)
  - > Déjà 5 ans et 2 mois déjà dans la région de Québec !!!
- > **Présentation individuelle de 30 à 60 sec. MAX. ( et + pour les nouveaux ) :**
  - > Combien de Linux-Meetup avez-vous participé ?
  - > Profession ? Compagnie ?
  - > Linuxien(ne) depuis quand ?
  - > Vos distributions Linux préférées (principale et secondaires) ?
  - > Votre % d'utilisation de Linux/LL (à la maison et au travail/école) ?
  - > Expertise principale en Linux ?
- > **Questions du mois :**
  - > Quel est votre éditeur de texte préféré ?
  - > Vos anecdotes-Linux ou découvertes-Linux du mois
- > **Nouvelles du mois (dans les semaines à venir) :**
  - > Activités Linux du mois
  - > Nouvelles versions Linux
  - > Trucs-Linux du mois
- > **Thèmes de discussions ... ouverts et libres :**
  - > Lieu du prochain Linux-Meetup (2 août)
  - > Tour de table pour avoir des sujets de discussion



dupeguru 20 02  
Do nguyen (pas sur du nom) 20 02  
je peux donc aller mettre ma brassée de linge à sécher si on a autant de temps :) 20 02  
fait des applications web 20 02  
bureau linux 20 03  
maison 90% linux 20 03  
php ? 20 03  
gestion de réseaux et systèmes 20 03  
vim vi 20 03  
ctax ? pour indexer sources 20 04

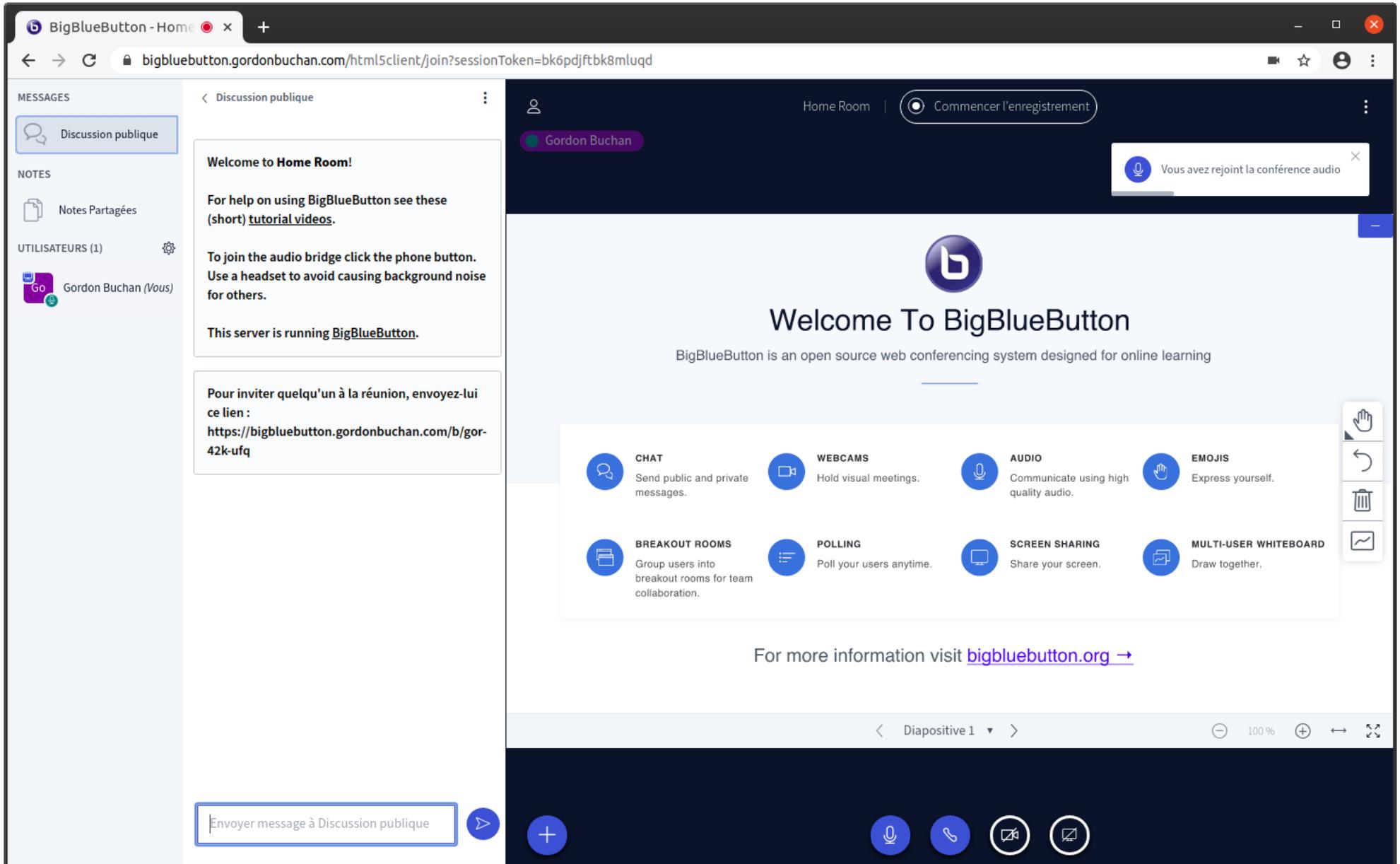
Envoyer

Saile Pacru Martial André Cotte



(c) 2009, BigBlueButton version 3798 2011-01-18 - Pour plus d'information, visitez <http://www.bigbluebutton.org/>

Transferring data from ajax.googleapis.com... 70.81.230.115



The screenshot shows the BigBlueButton web interface in a browser window. The browser address bar shows the URL: `bigbluebutton.gordonbuchan.com/html5client/join?sessionToken=bk6pdjftbk8mluqd`. The interface is split into three main sections:

- Left Sidebar (Messages):** Contains a "Discussion publique" section with a welcome message: "Welcome to Home Room! For help on using BigBlueButton see these (short) [tutorial videos](#). To join the audio bridge click the phone button. Use a headset to avoid causing background noise for others. This server is running [BigBlueButton](#)." Below this is an invitation link: "Pour inviter quelqu'un à la réunion, envoyez-lui ce lien : <https://bigbluebutton.gordonbuchan.com/b/gor-42k-ufq>". At the bottom is a text input field "Envoyer message à Discussion publique" and a send button.
- Top Header:** Shows "Home Room" and a "Commencer l'enregistrement" button. A notification bubble says "Vous avez rejoint la conférence audio".
- Main Content Area:** Features the BigBlueButton logo and the heading "Welcome To BigBlueButton". Below the heading is the text: "BigBlueButton is an open source web conferencing system designed for online learning". A central grid of icons lists features: CHAT (Send public and private messages), WEBCAMS (Hold visual meetings), AUDIO (Communicate using high quality audio), EMOJIS (Express yourself), BREAKOUT ROOMS (Group users into breakout rooms for team collaboration), POLLING (Poll your users anytime), SCREEN SHARING (Share your screen), and MULTI-USER WHITEBOARD (Draw together). At the bottom of this section is the text: "For more information visit [bigbluebutton.org](https://bigbluebutton.org)".
- Bottom Bar:** Includes a navigation bar with "Diapositive 1" and a footer with a plus sign and icons for audio, phone, chat, and screen sharing.

# Vue d'ensemble



Serveur de vidéoconférence logiciel libre

Client web HTML5 – pas besoin d'installer application client

Red5 media server

Kurento media server

Apache Tomcat/Java

Freeswitch

MongoDB

NGINX web server

Difficile à installer à la mitaine : build script fonctionne  
seulement avec serveur Ubuntu 16.04LTS

Le serveur doit être propre: aucun serveur web ou autre  
configuration en place

Exige beaucoup de bande passante : faut être hébergé dans  
un centre de données avec upload de  $\geq 30$ Mbps

# Business Case



Serveur vidéoconférence

Gestion d'usagers et sessions (Greenlight)

Intégration avec autres plateformes (Moodle)

# Concurrents marché



Services propriétaires :

Zoom

Webex

Gotomeeting

Solutions libres :

Jitsi

Nextcloud Talk

OpenMeetings

# Exigences d'installation



Serveur Ubuntu 16.04LTS propre, pas de serveur web ou autres services configurés, et dédié

≥ 4GO mémoire vive ou install script refuserait de lancer.

Conseillé : ≥ 4 CPU cores, ≥ 30Mbps de bande passante.

Adresse IP et ports publiques.

Nom de domaine et hôte défini et associé en DNS avec l'adresse publique du serveur.

Selon <http://docs.bigbluebutton.org/2.2/install.html#bbb-installsh> :

To set up for a successful install of BigBlueButton, we recommend starting with a 'clean' Ubuntu 16.04 64-bit server dedicated for BigBlueButton.

By 'clean' we mean the server does not have any previous web applications installed (such as plesk, webadmin, or apache) that are binding to port 80/443. By 'dedicated' we mean that this server won't be used for anything else besides BigBlueButton (and BigBlueButton-related applications such as Greenlight).

[...]

Sometimes we get asked "Why are you only supporting Ubuntu 16.04 64-bit)". The answer is based on choosing quality over quantity. Long ago we concluded that its better for the project to have solid, well-tested, well-documented installation for a specific version of Linux that works really, really well than to try and support may variants of Linux and have none of them work well.

# Serveur de base



Créer un serveur physique ou virtuelle avec le système d'exploitation  
Ubuntu 16.04LTS (xenial)  
≥ 4GO de mémoire vive  
≥ 4 CPU cores conseillé.

Appliquer toutes les mises à jour de sécurité et redémarrer

Définir un hôte en DNS associé avec l'address IP public du boitier ou VM

# bbb-install.sh



## Incantation

```
sudo su
```

```
apt clean all;apt update;apt upgrade;ldconfig;updatedb
```

```
reboot
```

```
sudo su
```

```
wget -qO- https://ubuntu.bigbluebutton.org/bbb-install.sh | bash -s -- -v xenial-220 -s  
bbb4.gordonbuchan.com -e bot@gordonbuchan.com -g
```

## Options de ligne de commande

-s let's encrypt SSL

-e email pour annonces

-g greenlight (gestion d'usagers et sessions)

# BBB/Greenlight avec URL /b



The screenshot shows a web browser window with the address bar containing `bbb4.gordonbuchan.com/b`. The page header includes the BigBlueButton logo and two buttons: "Connexion" and "S'inscrire". The main content area features a large heading "Bienvenue sur BigBlueButton." followed by a paragraph: "Greenlight est une interface simple pour votre serveur open-source de Web conférence BigBlueButton. Vous pouvez créer vos propres salles pour héberger des sessions ou rejoindre d'autres utilisateurs via un lien court et pratique." Below this is a link: "Regardez notre tutoriel sur l'utilisation de Greenlight" with a play button icon. The "Greenlight Fonctionnalités" section contains four items: "Salons Personnalisés" (with a video call icon), "Gestion des enregistrements" (with a film strip icon), "Designs personnalisés" (with a pencil icon), and "Authentification d'utilisateur" (with a user icon). The footer states "Alimenté par Greenlight. 2.5.2".



# Configuration OATH2 Gmail



Ref : <http://docs.bigbluebutton.org/greenlight/gl-config.html#google-oauth2>

Créer un compte Google pour le serveur

<https://console.developers.google.com/>

Create a project

Credentials Oauth consent screen :

Authorized domains

Application Homepage link

Application Privacy Policy link

Create credentials :

Oauth client ID

Web application name

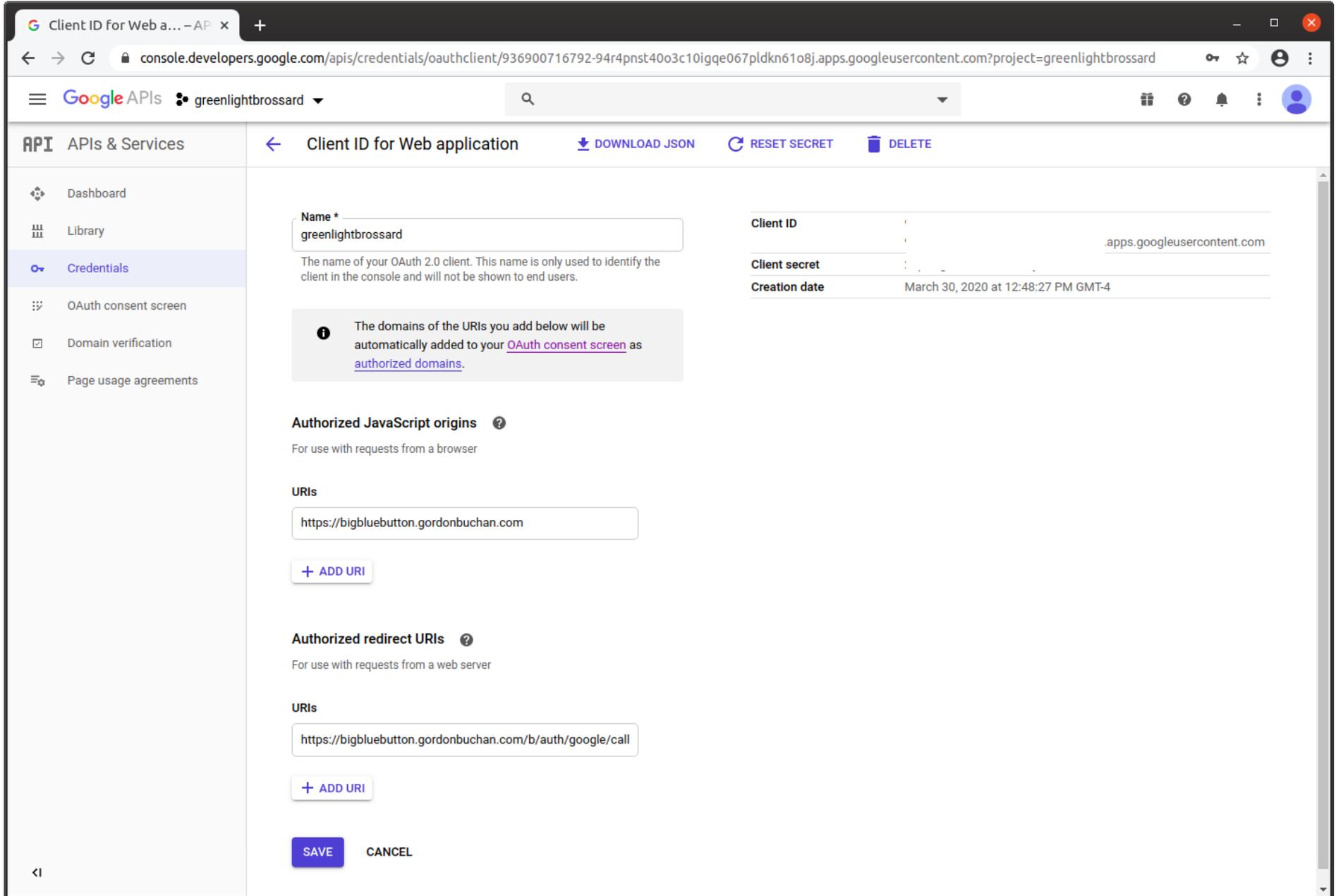
Authorized redirect URIs : <https://hostname/b/auth/google/callback>

GOOGLE\_OAUTH2\_ID=1093993040802-

[jjs03khpdl4dfasffq7hj6ansct5.apps.googleusercontent.com](https://jjs03khpdl4dfasffq7hj6ansct5.apps.googleusercontent.com)

GOOGLE\_OAUTH2\_SECRET=KLIBNy\_b9pvBGasf7d5Wrcq

# Configuration OATH2 Gmail



The screenshot shows the Google Cloud Console interface for configuring an OAuth 2.0 client ID for a web application. The browser address bar shows the URL: `console.developers.google.com/apis/credentials/oauthclient/936900716792-94r4pnst40o3c10igqe067pldkn61o8j.apps.googleusercontent.com?project=greenlightbrossard`. The page title is "Client ID for Web application".

**Client ID for Web application**

- Name \***: greenlightbrossard
- Client ID**: [REDACTED].apps.googleusercontent.com
- Client secret**: [REDACTED]
- Creation date**: March 30, 2020 at 12:48:27 PM GMT-4

**Authorized JavaScript origins** ⓘ  
For use with requests from a browser

**URIs**

- `https://bigbluebutton.gordonbuchan.com`
- [+ ADD URI](#)

**Authorized redirect URIs** ⓘ  
For use with requests from a web server

**URIs**

- `https://bigbluebutton.gordonbuchan.com/b/auth/google/call`
- [+ ADD URI](#)

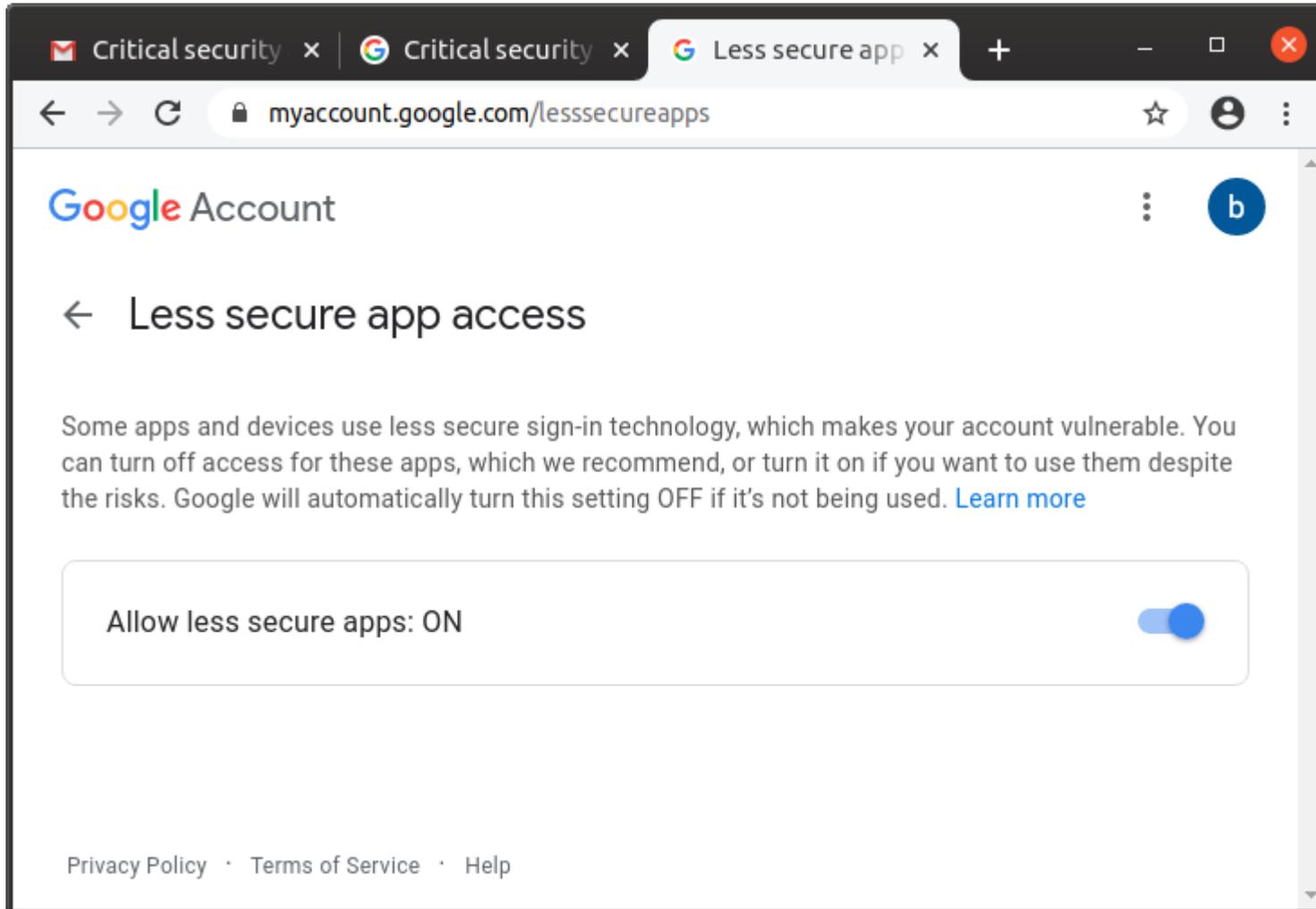
[SAVE](#) [CANCEL](#)

**Informational message:** The domains of the URIs you add below will be automatically added to your [OAuth consent screen](#) as [authorized domains](#).

# Configuration SMTP (Gmail)



## Considération SMTP



# Configuration/gestion Greenlight



```
sudo su
```

```
cd ~/greenlight
```

```
nano .env
```

Options à configurer :

```
BIGBLUEBUTTON_ENDPOINT  
BIGBLUEBUTTON_SECRET  
GOOGLE_OAUTH2_ID  
GOOGLE_OAUTH2_SECRET  
SMTP*
```

```
# Current settings available:
```

```
# mute-on-join: Automatically mute users by default when they join a room
```

```
# require-moderator-approval: Require moderators to approve new users before they  
can join the room
```

```
# anyone-can-start: Allows anyone with the join url to start the room in BigBlueButton
```

```
# all-join-moderator: All users join as moderators in BigBlueButton
```

```
ROOM_FEATURES=mute-on-join,require-moderator-approval,anyone-can-start,all-join-  
moderator
```

# Configuration/gestion Greenlight



```
sudo su
```

```
cd ~/greenlight
```

```
docker-compose down
```

```
docker-compose build
```

```
docker-compose up -d
```

```
bbb-conf --restart
```

```
docker exec greenlight-v2 bundle exec rake user:create["Prenom Nom",  
xxxxx@gmail.com","motdepasse","admin"]
```

# Greenlightcréer un compte



BigBlueButton × +

bigbluebutton.gordonbuchan.com/b/signup

BigBlueButton™ Connexion S'inscrire

### Créer un Compte

 S'inscrire via Google

OU

Nom complet

Email

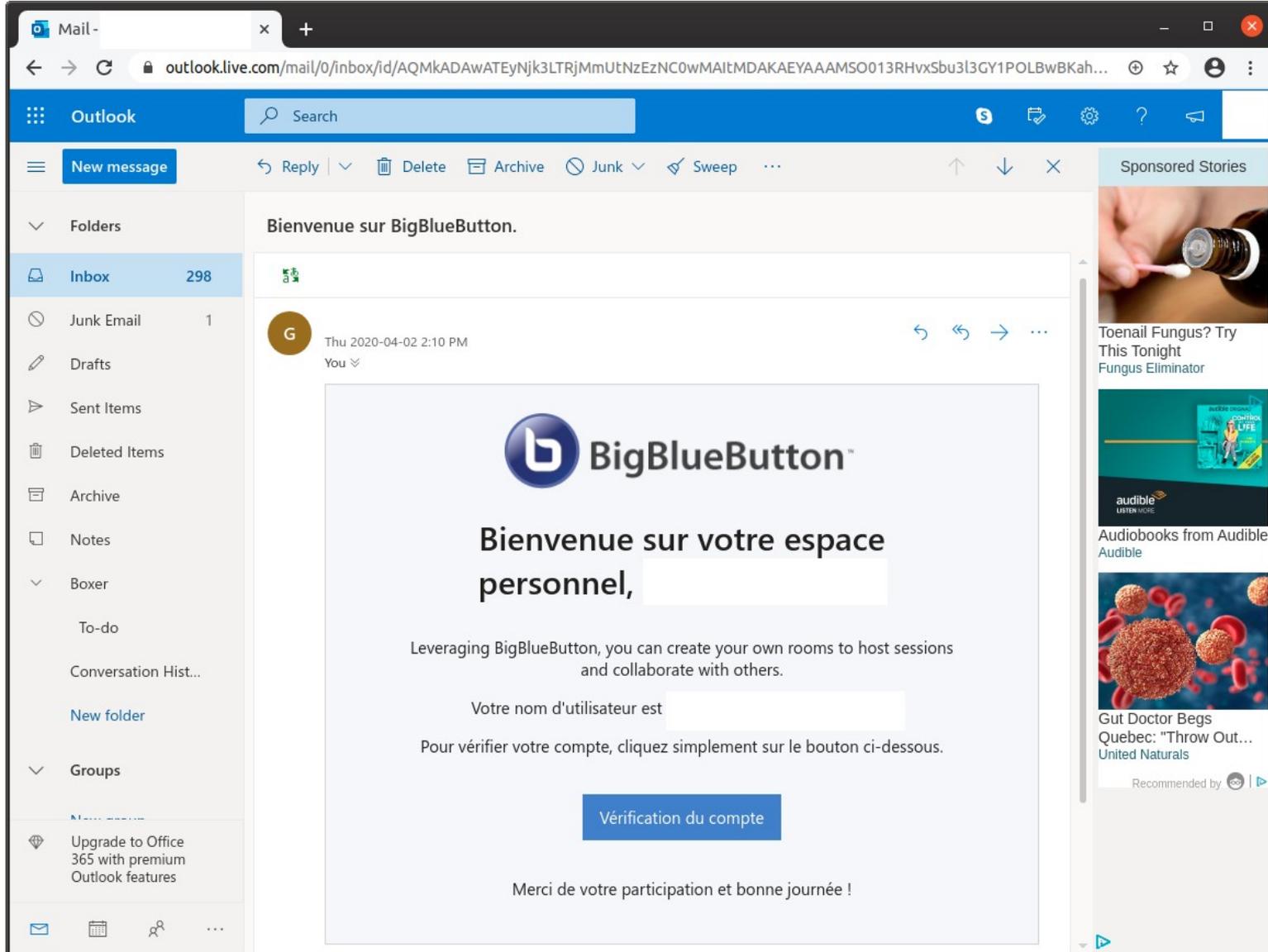
Mot de passe

Confirmation mot de passe

S'inscrire

Alimenté par [Greenlight](#). 2.5.2

# Greenlight courriel confirmation de compte



The screenshot shows an Outlook web interface. The email is from BigBlueButton, dated Thursday, April 2, 2020, at 2:10 PM. The subject is "Bienvenue sur BigBlueButton." The body of the email contains the following text:

**Bienvenue sur votre espace personnel,** [redacted]

Leveraging BigBlueButton, you can create your own rooms to host sessions and collaborate with others.

Votre nom d'utilisateur est [redacted]

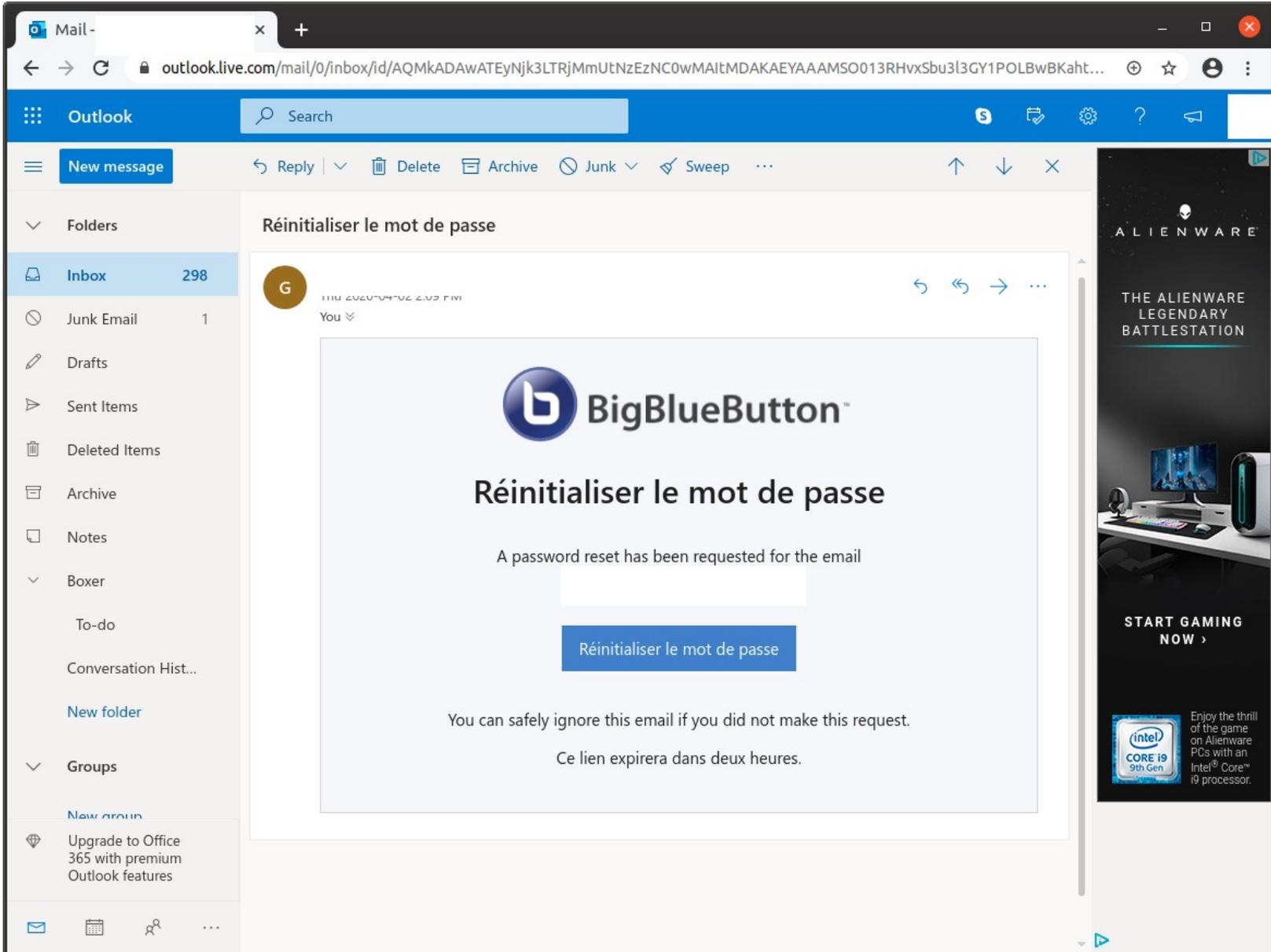
Pour vérifier votre compte, cliquez simplement sur le bouton ci-dessous.

[Vérification du compte](#)

Merci de votre participation et bonne journée !

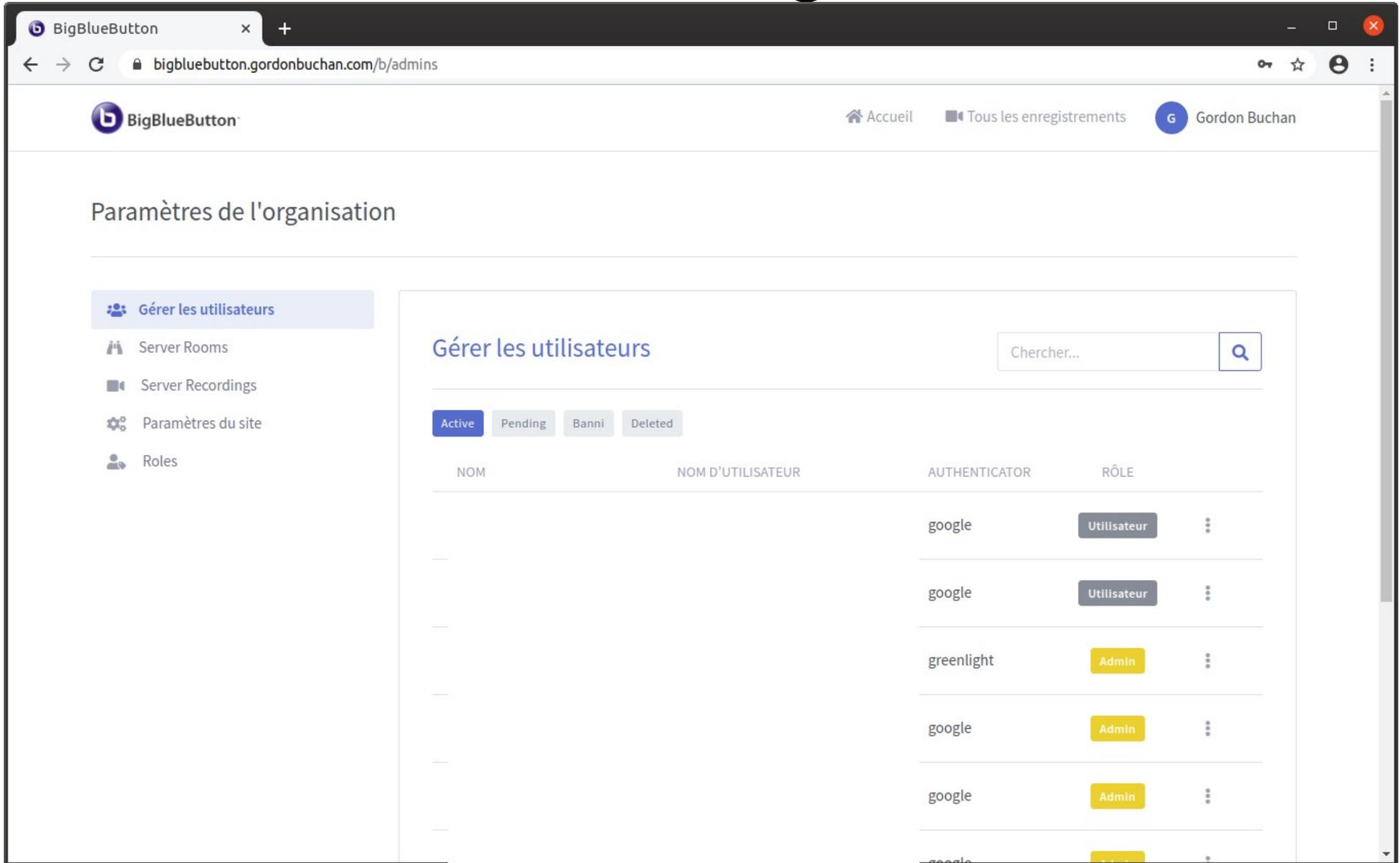
The interface also shows a sidebar with folders (Inbox: 298, Junk Email: 1, Drafts, Sent Items, Deleted Items, Archive, Notes, Boxer, To-do, Conversation Hist...), a search bar, and a "Sponsored Stories" section on the right with ads for Toenail Fungus? Try This Tonight Fungus Eliminator, Audiobooks from Audible, and Gut Doctor Begs Quebec: "Throw Out... United Naturals".

# Greenlight réinitialiser le mot de passe



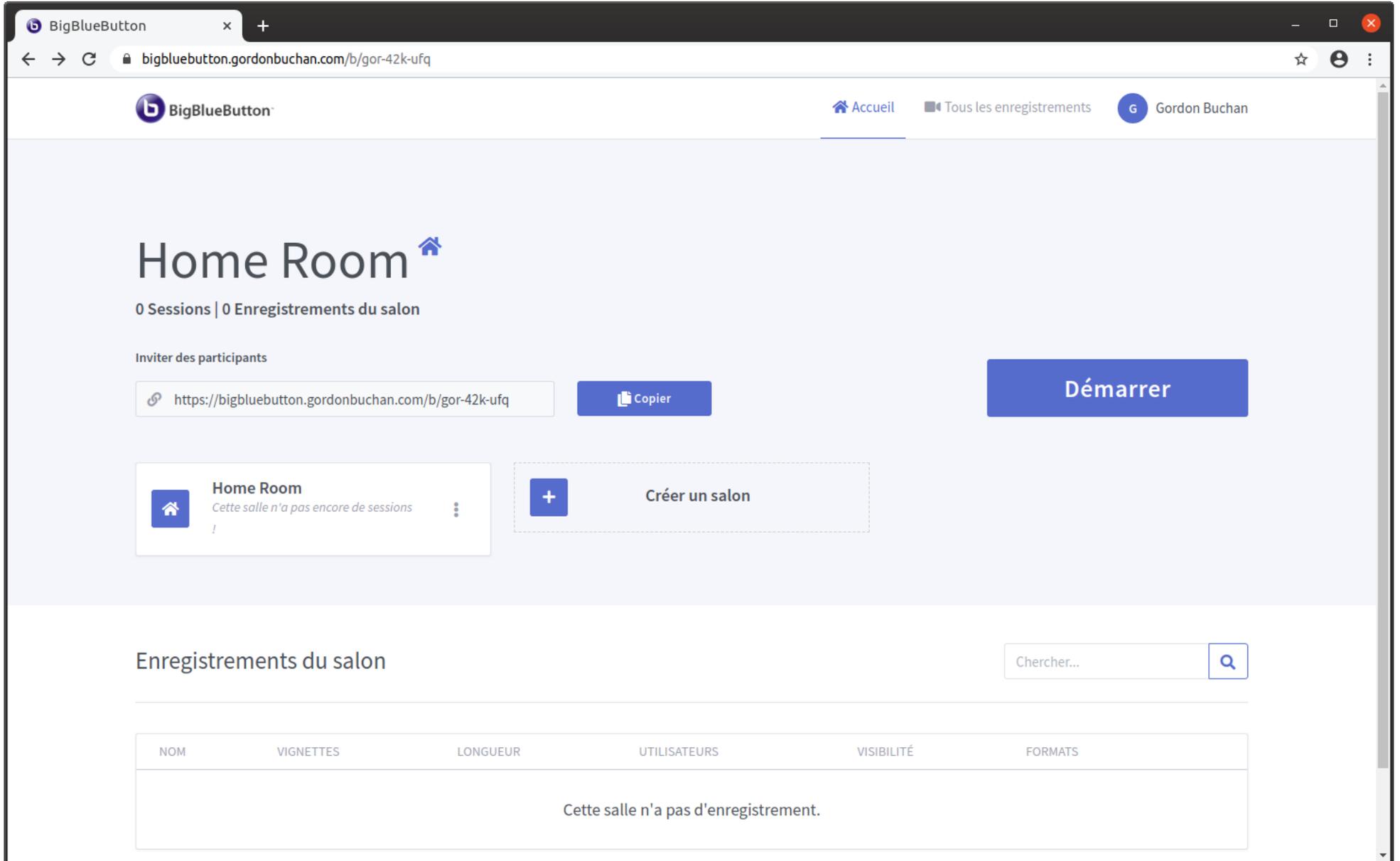
The screenshot shows an Outlook web interface. The browser address bar displays the URL: `outlook.live.com/mail/0/inbox/id/AQMkADAwATEyNjk3LTRjMmUtNzEzNC0wMAITMDAKAEYAAAMSO013RHvxSbu3l3GY1POLBwBKaht...`. The Outlook header includes a search bar and navigation icons. The left sidebar shows the 'Inbox' with 298 items. The main content area displays an email titled 'Réinitialiser le mot de passe' (Reset password) from a contact with a green 'G' icon. The email body contains the BigBlueButton logo and the text: 'Réinitialiser le mot de passe', 'A password reset has been requested for the email', a redacted input field, and a blue button labeled 'Réinitialiser le mot de passe'. Below the button, it says 'You can safely ignore this email if you did not make this request.' and 'Ce lien expirera dans deux heures.' (This link will expire in two hours). On the right side of the Outlook interface, there is an advertisement for Alienware featuring the text 'ALiENwARE THE ALiENwARE LEGENDARY BATTLESTATION' and 'START GAMING NOW >', along with an Intel Core i9 9th Gen processor logo and the text 'Enjoy the thrill of the game on Alienware PCs with an Intel® Core™ i9 processor.'

# Configuration/gestion Greenlight



The screenshot shows the BigBlueButton administration interface. The browser address bar displays `bigbluebutton.gordonbuchan.com/b/admins`. The user is logged in as Gordon Buchan. The main heading is "Paramètres de l'organisation". A sidebar on the left contains navigation options: "Gérer les utilisateurs" (selected), "Server Rooms", "Server Recordings", "Paramètres du site", and "Roles". The main content area is titled "Gérer les utilisateurs" and includes a search bar labeled "Chercher...". Below the search bar are tabs for "Active", "Pending", "Banni", and "Deleted". The "Active" tab is selected, showing a table of users.

NOM	NOM D'UTILISATEUR	AUTHENTICATOR	RÔLE
—	—	google	Utilisateur
—	—	google	Utilisateur
—	—	greenlight	Admin
—	—	google	Admin
—	—	google	Admin
—	—	google	Admin



The screenshot shows a web browser window displaying the BigBlueButton interface. The browser's address bar shows the URL `bigbluebutton.gordonbuchan.com/b/gor-42k-ufq`. The page header includes the BigBlueButton logo, navigation links for "Accueil" and "Tous les enregistrements", and a user profile for "Gordon Buchan".

## Home Room

0 Sessions | 0 Enregistrements du salon

Inviter des participants

<https://bigbluebutton.gordonbuchan.com/b/gor-42k-ufq> Copier Démarrer

 **Home Room**  
*Cette salle n'a pas encore de sessions*

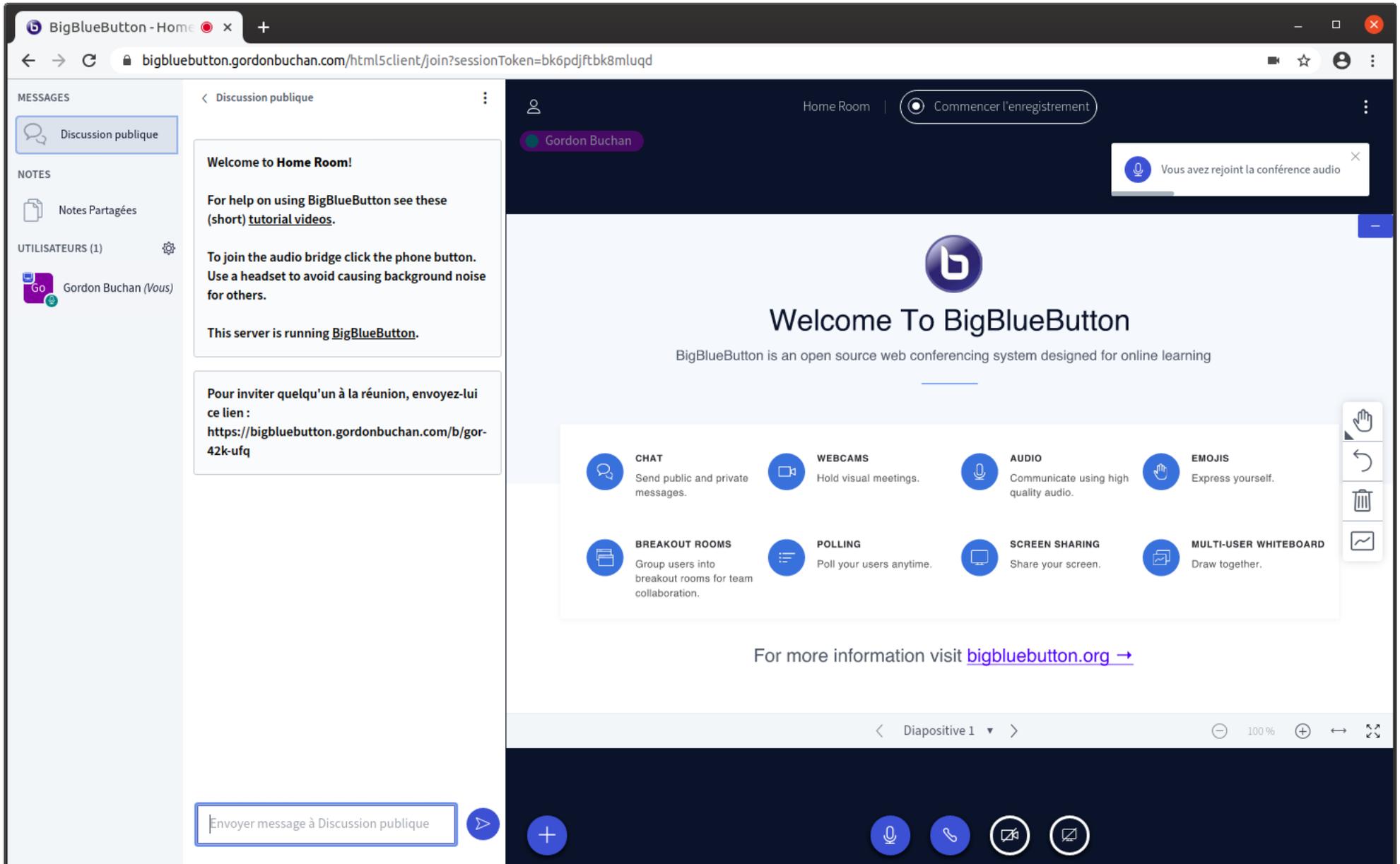
+ Créer un salon

### Enregistrements du salon

Chercher...

NOM	VIGNETTES	LONGUEUR	UTILISATEURS	VISIBILITÉ	FORMATS
Cette salle n'a pas d'enregistrement.					

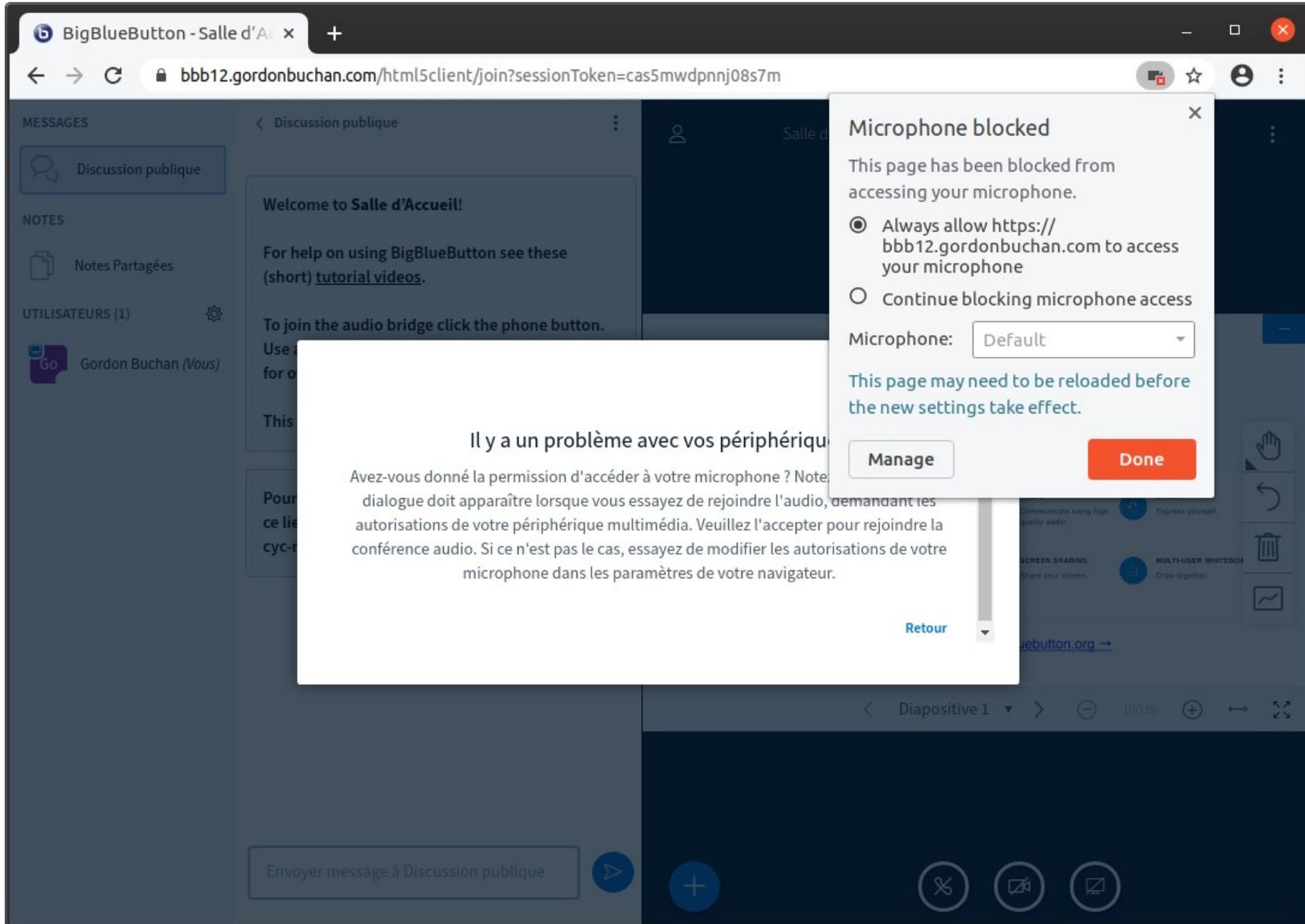
# Expérience



The screenshot shows a web browser window displaying the BigBlueButton interface. The browser's address bar shows the URL: `bigbluebutton.gordonbuchan.com/html5client/join?sessionToken=bk6pdjftbk8mluqd`. The interface is divided into several sections:

- MESSAGES:** A sidebar on the left with a "Discussion publique" button.
- NOTES:** A section for "Notes Partagées".
- UTILISATEURS (1):** A list of users, currently showing "Gordon Buchan (Vous)".
- Public Discussion:** A central area with the following text:
  - Welcome to Home Room!**
  - For help on using BigBlueButton see these (short) [tutorial videos](#).
  - To join the audio bridge click the phone button. Use a headset to avoid causing background noise for others.
  - This server is running [BigBlueButton](#).
  - Pour inviter quelqu'un à la réunion, envoyez-lui ce lien : <https://bigbluebutton.gordonbuchan.com/b/gor-42k-ufq>
- Header:** "Home Room" and "Commencer l'enregistrement" button.
- Notification:** "Vous avez rejoint la conférence audio".
- Main Content:** A large "Welcome To BigBlueButton" message with the tagline "BigBlueButton is an open source web conferencing system designed for online learning". Below this are eight feature cards:
  - CHAT:** Send public and private messages.
  - WEBCAMS:** Hold visual meetings.
  - AUDIO:** Communicate using high quality audio.
  - EMOJIS:** Express yourself.
  - BREAKOUT ROOMS:** Group users into breakout rooms for team collaboration.
  - POLLING:** Poll your users anytime.
  - SCREEN SHARING:** Share your screen.
  - MULTI-USER WHITEBOARD:** Draw together.
- Footer:** "For more information visit [bigbluebutton.org](https://bigbluebutton.org)".
- Bottom Bar:** "Diapositive 1" and navigation controls.
- Bottom Right:** A toolbar with icons for chat, audio, video, and screen sharing.

# Périphériques



The screenshot shows a web browser window with the BigBlueButton interface. The browser address bar shows the URL `bbb12.gordonbuchan.com/html5client/join?sessionToken=cas5mwdpnnj08s7m`. The page content includes a "Discussion publique" sidebar, a "Welcome to Salle d'Accueil!" message, and instructions for joining the audio bridge. A "Microphone blocked" system dialog is overlaid on the page, with the following text:

**Microphone blocked**

This page has been blocked from accessing your microphone.

- Always allow `https://bbb12.gordonbuchan.com` to access your microphone
- Continue blocking microphone access

Microphone:

This page may need to be reloaded before the new settings take effect.

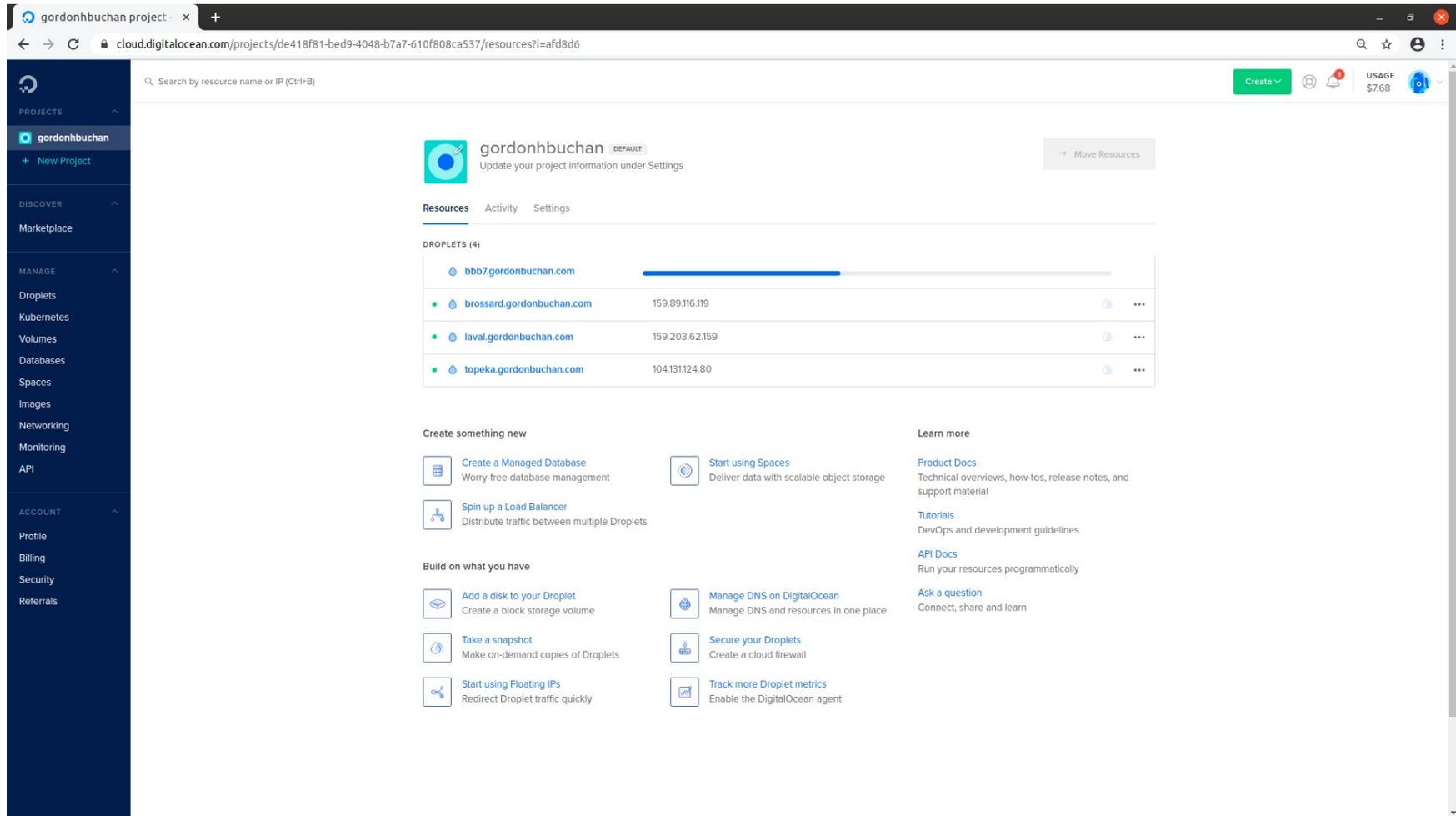
Below the system dialog, a white error box is displayed with the following text:

**Il y a un problème avec vos périphériques**

Avez-vous donné la permission d'accéder à votre microphone ? Notez que ce dialogue doit apparaître lorsque vous essayez de rejoindre l'audio, demandant les autorisations de votre périphérique multimédia. Veuillez l'accepter pour rejoindre la conférence audio. Si ce n'est pas le cas, essayez de modifier les autorisations de votre microphone dans les paramètres de votre navigateur.

[Retour](#)

# Émission de cuisine



gordonhbuchan project - x +

cloud.digitalocean.com/projects/de418f81-bed9-4048-b7a7-610f808ca537/resources?i=afd8d6

Search by resource name or IP (Ctrl+B)

Create v   USAGE \$7.68 

**gordonhbuchan** DEFAULT → Move Resources

Update your project information under Settings

Resources Activity Settings

DROPLETS (4)

 <a href="#">bbb7.gordonhbuchan.com</a>			
 <a href="#">brossard.gordonhbuchan.com</a>	159.89.116.119		
 <a href="#">laval.gordonhbuchan.com</a>	159.203.62.159		
 <a href="#">topeka.gordonhbuchan.com</a>	104.131.124.80		

Create something new

-  [Create a Managed Database](#)  
Worry-free database management
-  [Start using Spaces](#)  
Deliver data with scalable object storage

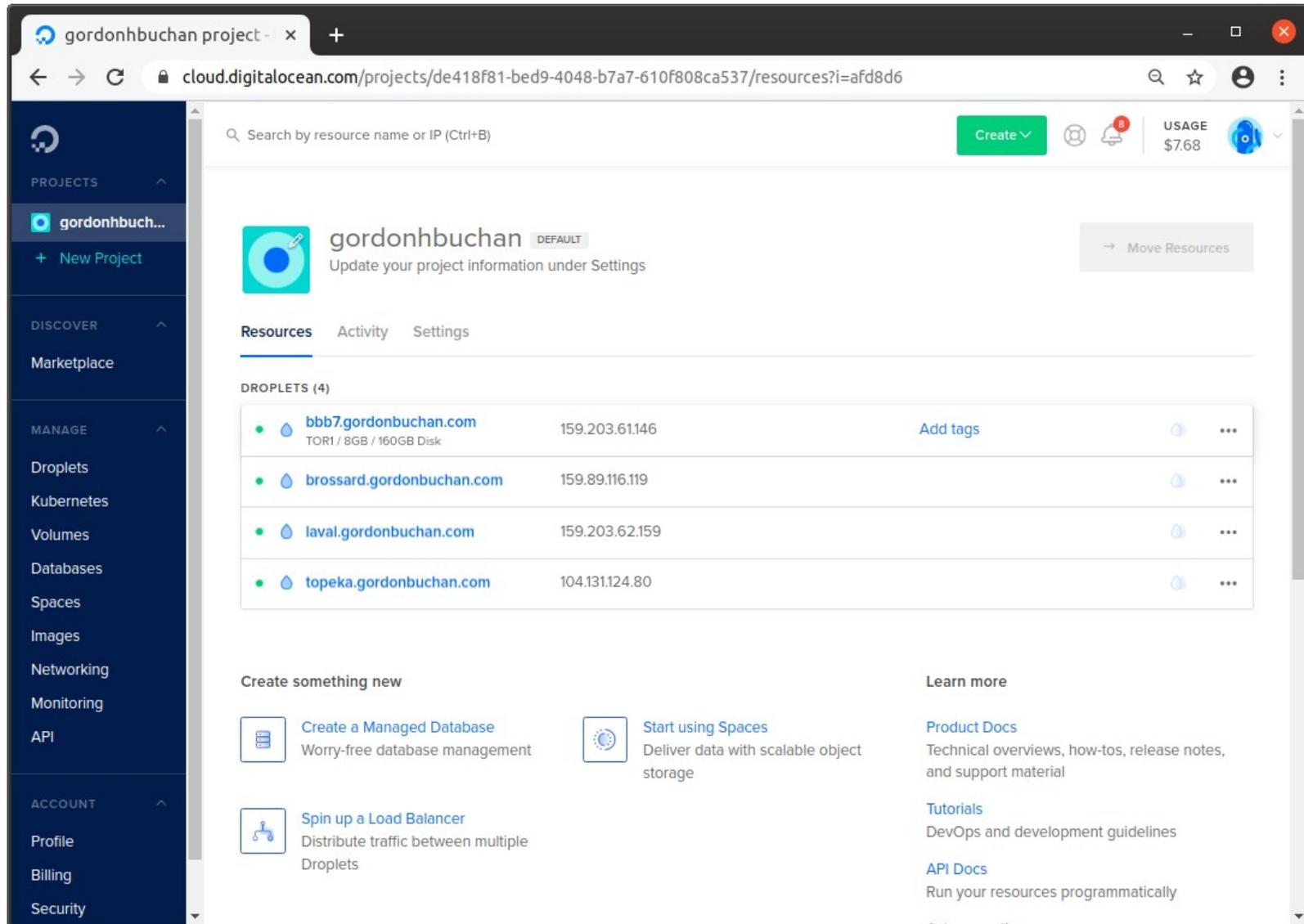
Learn more

- [Product Docs](#)  
Technical overviews, how-tos, release notes, and support material
- [Tutorials](#)  
DevOps and development guidelines
- [API Docs](#)  
Run your resources programmatically
- [Ask a question](#)  
Connect, share and learn

Build on what you have

-  [Add a disk to your Droplet](#)  
Create a block storage volume
-  [Manage DNS on DigitalOcean](#)  
Manage DNS and resources in one place
-  [Take a snapshot](#)  
Make on-demand copies of Droplets
-  [Secure your Droplets](#)  
Create a cloud firewall
-  [Start using Floating IPs](#)  
Redirect Droplet traffic quickly
-  [Track more Droplet metrics](#)  
Enable the DigitalOcean agent

# Émission de cuisine



gordonhbuchan project - x

cloud.digitalocean.com/projects/de418f81-bed9-4048-b7a7-610f808ca537/resources?i=afd8d6

Search by resource name or IP (Ctrl+B) Create USAGE \$7.68

**gordonhbuchan** DEFAULT Update your project information under Settings → Move Resources

Resources Activity Settings

DROPLETS (4)

 <a href="#">bbb7.gordonbuchan.com</a> TOR1 / 8GB / 160GB Disk	159.203.61.146	Add tags	 
 <a href="#">brossard.gordonbuchan.com</a>	159.89.116.119		 
 <a href="#">laval.gordonbuchan.com</a>	159.203.62.159		 
 <a href="#">topeka.gordonbuchan.com</a>	104.131.124.80		 

Create something new

-  [Create a Managed Database](#)  
Worry-free database management
-  [Start using Spaces](#)  
Deliver data with scalable object storage
-  [Spin up a Load Balancer](#)  
Distribute traffic between multiple Droplets

Learn more

- [Product Docs](#)  
Technical overviews, how-tos, release notes, and support material
- [Tutorials](#)  
DevOps and development guidelines
- [API Docs](#)  
Run your resources programmatically

# Émission de cuisine



Domain Manager x +

← → ↻ dcc.godaddy.com/manage/GORDONBUCHAN.COM/dns ☆ 👤 ⋮

CNAME	toledo	clarkcounty.ddns.net	1 Hour	
CNAME	www2	clarkcounty.ddns.net	1/2 Hour	
MX	@	mx-1.pobox.com (Priority: 12)	1/2 Hour	
MX	@	mx-2.pobox.com (Priority: 24)	1/2 Hour	
MX	@	mx-3.pobox.com (Priority: 36)	1/2 Hour	
NS	@	ns51.domaincontrol.com	1 Hour	

A 

**Host \*** **Points to \*** **TTL \***

[ADD](#)

# Émission de cuisine



```
root@bbb12: /etc

root@bbb12:/etc# apt clean all;apt update;apt upgrade;ldconfig;updatedb
```

# Émission de cuisine



```
root@bbb12: /etc
Calculating upgrade... Done
The following package was automatically installed and is no longer required:
 grub-pc-bin
Use 'apt autoremove' to remove it.
The following NEW packages will be installed:
 linux-headers-4.4.0-176 linux-headers-4.4.0-176-generic
 linux-image-4.4.0-176-generic linux-modules-4.4.0-176-generic
The following packages will be upgraded:
 apport bsdutils cloud-init dbus dmidecode e2fslibs e2fsprogs git git-man
 grub-legacy-ec2 libblkid1 libbsd0 libcomerr2 libdbus-1-3 libfdisk1
 libgcrypt20 libglib2.0-0 libglib2.0-data libgnutls-openssl27 libgnutls30
 libicu55 libmount1 libpam-systemd libpcap0.8 libprocps4 libsasl2-2
 libsasl2-modules libsasl2-modules-db libsmartcols1 libsqlite3-0 libss2
 libsystemd0 libudev1 libuuid1 libxml2 linux-base linux-headers-generic
 linux-headers-virtual linux-image-virtual linux-virtual mount procps
 python-apt-common python3-apport python3-apt python3-distupgrade
 python3-problem-report python3-update-manager rsync snapd sosreport sudo
 systemd systemd-sysv tcpdump ubuntu-core-launcher
 ubuntu-release-upgrader-core udev unattended-upgrades update-manager-core
 util-linux uuid-runtime vim vim-common vim-runtime vim-tiny zlib1g
67 upgraded, 4 newly installed, 0 to remove and 0 not upgraded.
Need to get 75.4 MB of archives.
After this operation, 148 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
```

# Émission de cuisine



```
root@bbb12: /etc
Package configuration

A new version of /boot/grub/menu.lst is available, but the version
installed currently has been locally modified.

What would you like to do about menu.lst?

install the package maintainer's version
keep the local version currently installed
show the differences between the versions
show a side-by-side difference between the versions
show a 3-way difference between available versions
do a 3-way merge between available versions (experimental)
start a new shell to examine the situation

<Ok>
```

# Émission de cuisine



```
root@bbb12: /etc
update-initramfs: Generating /boot/initrd.img-4.4.0-176-generic
W: mdadm: /etc/mdadm/mdadm.conf defines no arrays.
/etc/kernel/postinst.d/x-grub-legacy-ec2:
Searching for GRUB installation directory ... found: /boot/grub
Searching for default file ... found: /boot/grub/default
Testing for an existing GRUB menu.lst file ... found: /boot/grub/menu.lst
Searching for splash image ... none found, skipping ...
Found kernel: /boot/vmlinuz-4.4.0-176-generic
Found kernel: /boot/vmlinuz-4.4.0-169-generic
Replacing config file /run/grub/menu.lst with new version
Found kernel: /boot/vmlinuz-4.4.0-176-generic
Found kernel: /boot/vmlinuz-4.4.0-169-generic
Updating /boot/grub/menu.lst ... done

/etc/kernel/postinst.d/zz-update-grub:
Generating grub configuration file ...
Found linux image: /boot/vmlinuz-4.4.0-176-generic
Found initrd image: /boot/initrd.img-4.4.0-176-generic
Found linux image: /boot/vmlinuz-4.4.0-169-generic
Found initrd image: /boot/initrd.img-4.4.0-169-generic
done
root@bbb12:/etc# reboot
```

# Émission de cuisine



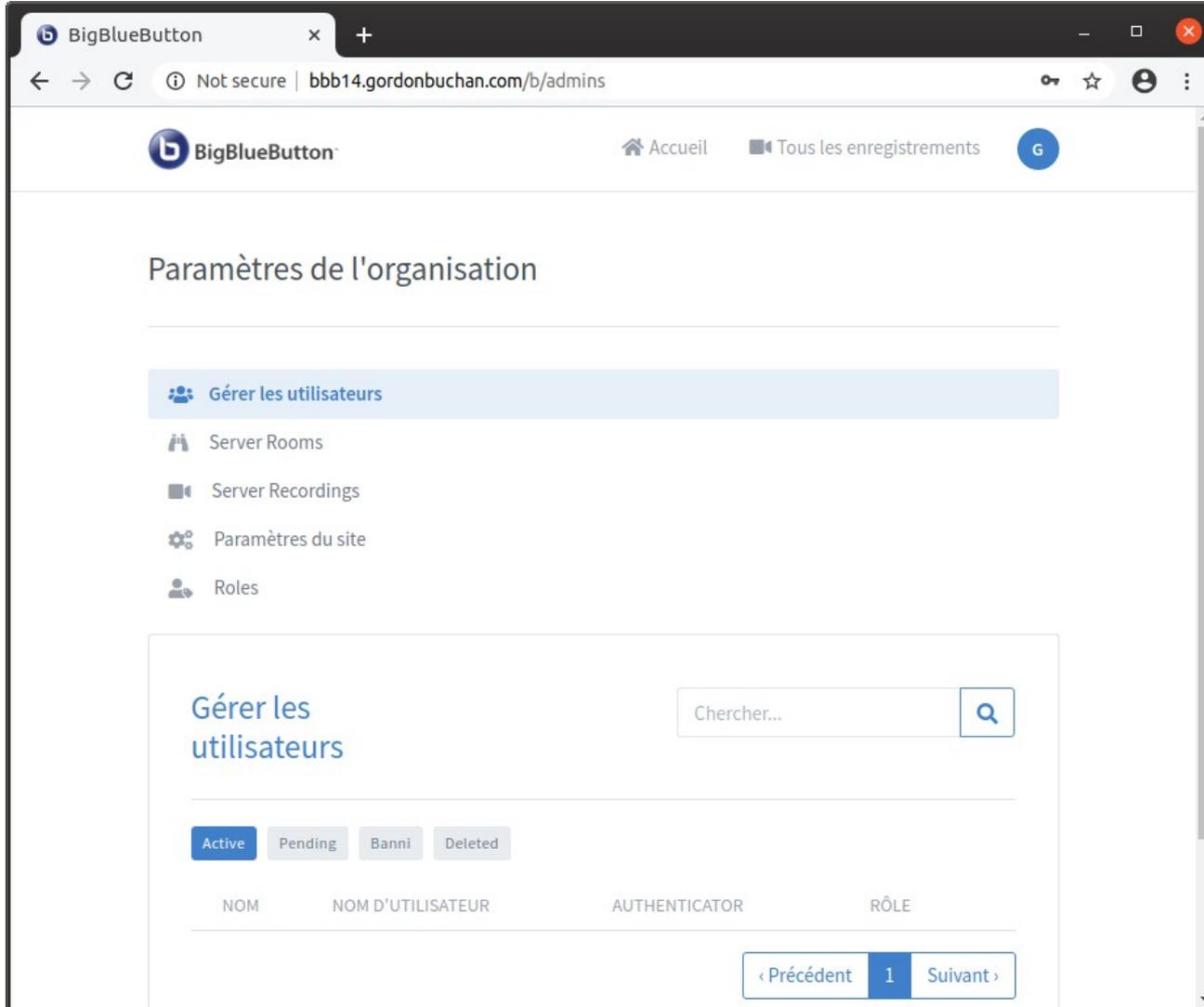
```
root@bbb14: ~
/etc/kernel/postinst.d/zz-update-grub:
Generating grub configuration file ...
Found linux image: /boot/vmlinuz-4.4.0-176-generic
Found initrd image: /boot/initrd.img-4.4.0-176-generic
Found linux image: /boot/vmlinuz-4.4.0-169-generic
Found initrd image: /boot/initrd.img-4.4.0-169-generic
done
Connection to bbb14.gordonbuchan.com closed by remote host.
Connection to bbb14.gordonbuchan.com closed.
root@henderson:/home/desktop# ssh root@bbb14.gordonbuchan.com
Enter passphrase for key '/root/.ssh/id_rsa':
Welcome to Ubuntu 16.04.6 LTS (GNU/Linux 4.4.0-176-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

0 packages can be updated.
0 updates are security updates.

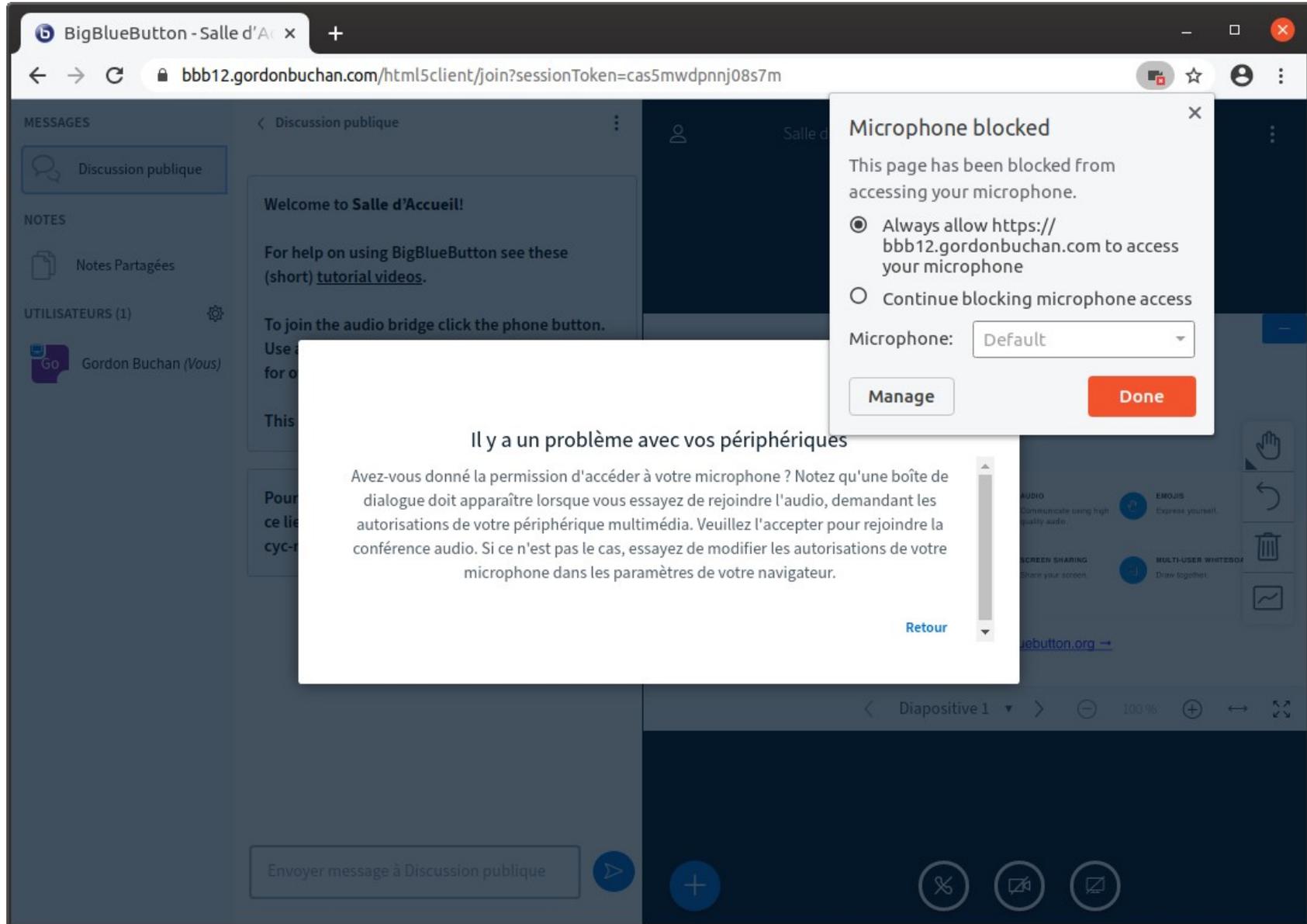
Last login: Sun Apr  5 23:15:03 2020 from 192.222.131.212
root@bbb14:~# wget -qO- https://ubuntu.bigbluebutton.org/bbb-install.sh | bash -
s -- -v xenial-220 -s bbb14.gordonbuchan.com -e bot@gordonbuchan.com -g
```





The screenshot shows the BigBlueButton administration interface in a web browser. The browser's address bar shows the URL `bbb14.gordonbuchan.com/b/admins`. The page title is "Paramètres de l'organisation". A sidebar on the left contains several menu items: "Gérer les utilisateurs" (highlighted), "Server Rooms", "Server Recordings", "Paramètres du site", and "Roles". The main content area is titled "Gérer les utilisateurs" and includes a search bar with the placeholder text "Chercher...". Below the search bar are four filter buttons: "Active", "Pending", "Banni", and "Deleted". At the bottom, there is a table header with columns for "NOM", "NOM D'UTILISATEUR", "AUTHENTICATOR", and "RÔLE". A pagination bar at the bottom right shows "« Précédent", "1", and "Suivant »".

# Émission de cuisine



The screenshot shows a web browser window with the BigBlueButton interface. A "Microphone blocked" dialog box is open, displaying the following text:

Microphone blocked  
This page has been blocked from accessing your microphone.

- Always allow https://bbb12.gordonbuchan.com to access your microphone
- Continue blocking microphone access

Microphone: Default

Buttons: Manage, Done

Below the dialog, a white box contains the following French text:

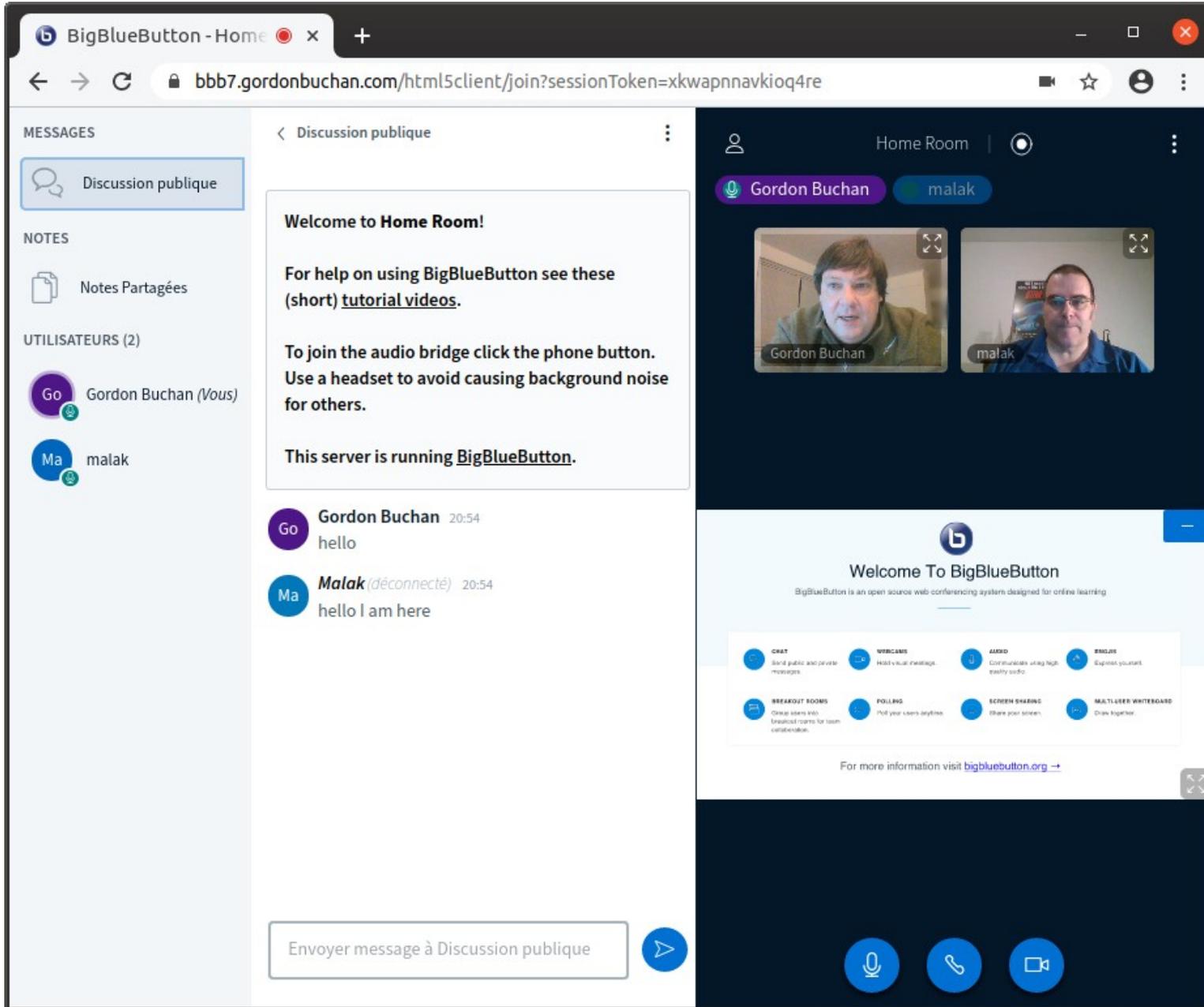
Il y a un problème avec vos périphériques

Avez-vous donné la permission d'accéder à votre microphone ? Notez qu'une boîte de dialogue doit apparaître lorsque vous essayez de rejoindre l'audio, demandant les autorisations de votre périphérique multimédia. Veuillez l'accepter pour rejoindre la conférence audio. Si ce n'est pas le cas, essayez de modifier les autorisations de votre microphone dans les paramètres de votre navigateur.

Retour

The background interface includes a sidebar with "MESSAGES", "NOTES", and "UTILISATEURS (1)", a main chat area with a "Welcome to Salle d'Accueil!" message, and a bottom toolbar with various controls.

# Émission de cuisine



The screenshot shows a web browser window with the BigBlueButton interface. The browser address bar shows the URL: `bbb7.gordonbuchan.com/html5client/join?sessionToken=xkwapnnavkioq4re`. The interface is divided into three main sections:

- MESSAGES (Left Panel):** Contains a list of messages and users. The "Discussion publique" message is selected. Below it, there are "NOTES" (Notes Partagées) and "UTILISATEURS (2)" (Gordon Buchan and malak).
- Discussion publique (Center Panel):** Displays a public chat area with the following content:
  - Welcome to Home Room!
  - For help on using BigBlueButton see these (short) [tutorial videos](#).
  - To join the audio bridge click the phone button. Use a headset to avoid causing background noise for others.
  - This server is running [BigBlueButton](#).
  - Gordon Buchan 20:54: hello
  - Malak (déconnecté) 20:54: hello I am here
- Home Room (Right Panel):** Shows a video conference with two participants: Gordon Buchan and malak. Below the video is a "Welcome To BigBlueButton" message and a grid of features:
  - CHAT:** Send public and private messages.
  - WEBCAMS:** Hold visual messages.
  - AUDIO:** Communicate using high quality audio.
  - ENIGMS:** Express yourself.
  - BREAKOUT ROOMS:** Create rooms into breakout rooms for team collaboration.
  - POLLING:** Put your users anytime.
  - SCREEN SHARING:** Share your screen.
  - MULTIUSER WHITEBOARD:** Draw together.