Get the best of the IoT with ThingsBoard

1. What is the Internet of Things (IoT)?

The Internet of Things, or IoT for short, is a network of physical devices – "things" – embedded with sensors, software and other technologies that allow the "things" to connect, interact and exchange data with each other over the Internet or other communication networks.

A typical IoT system consists of these main components:

- The "things" – smart physical devices that can collect data from their environment and exchange it with a connected IoT application.
- Connectivity – network technologies, such as Wi-Fi and Bluetooth, which let IoT devices communicate and share data.
- Cloud – remote storage for the collected data.
- An IoT application – a collection of services and software used to analyze collected data, visualize data, and manage connected IoT devices.
- User interface – an interactive software, such as website or mobile app, used for IoT device management.

2. How can business benefit from the IoT?

Every business has its own unique processes, and IoT can help each of them differently. Here are several use cases showing how modern businesses across different domains use IoT:

- Resource consumption. IoT helps businesses save crucial resources, such as energy and water, resulting in significant cost savings and a reduced environmental footprint.
- Environment control. By monitoring indoor and outdoor environmental factors, such as air quality, temperature and humidity, businesses can quickly respond to changes and improve operational efficiency.
- Agriculture. Weather and soil condition sensors can be used to achieve optimal irrigation and, as a result, increase the quantity and quality of the crops.
- Transportation. IoT can assist in fuel consumption and fleet tracking, allowing businesses to manage their vehicles, optimize routes and decrease fuel costs more effectively.
- Retail. Businesses can improve the customer experience by using IoT to monitor shipments, manage inventory levels and track foot traffic in the store.
- Waste management. Waste level sensors are essential for businesses that want to minimize environmental harm, streamline their operations, and increase sustainability.

The possibilities of IoT are endless, and so are its benefits. These are the key reasons why businesses should consider adopting IoT:

- Cost savings.
- Automation of routine tasks.
- Enhanced operational efficiency.
- Improved insights.
- Real-time device visibility.
- Data-driven decision making.
- Predictive maintenance.
- Enhanced customer experience.
- More trustworthy image of the company.
- Sustainability.

However, only the best IoT technologies and software will help you achieve these benefits as quickly and fully as possible. And that is when ThingsBoard comes in handy and proves its worth.

3. What is ThingsBoard and how can it help?

ThingsBoard is an open-source server-side IoT platform that enables quick creation, administration, and extension of IoT applications. ThingsBoard lets you monitor and manage your IoT devices, collect, process, and visualize data for your IoT solutions – all on one simple platform with intuitive graphical user interface.

ThingsBoard provides solutions for all use cases that were mentioned earlier and has other numerous useful features that can help you get the best out of IoT. With ThingsBoard, you can:

- Provision, control, and monitor your IoT entities, such as devices, assets, and customers.
- Define relationships between your IoT entities.
- Collect, store, and visualize telemetry data from your devices and assets.
- Process collected data with custom rule chains, transformations, and normalizations.
- React to data change in real time with the help of trigger alarms and complex event processing.
- Create rich custom IoT dashboards with more than 30 customizable widgets.
- Choose between cloud and on-premises deployment.
- Use multi-tenant installations out-of-the-box.
- Scale horizontally with no downtime, server restarts or application errors.

- Store entities and telemetry data independently of each other in any supported SQL, NoSQL, or Hybrid database.
- Choose between monolithic and microservices deployment.
- Never lose your data thanks to scalability, fault-tolerance, and efficient performance.

But that's not all ThingsBoard can do! Want to learn more? Then how about trying ThingsBoard yourself?

4. Try out ThingsBoard for free!

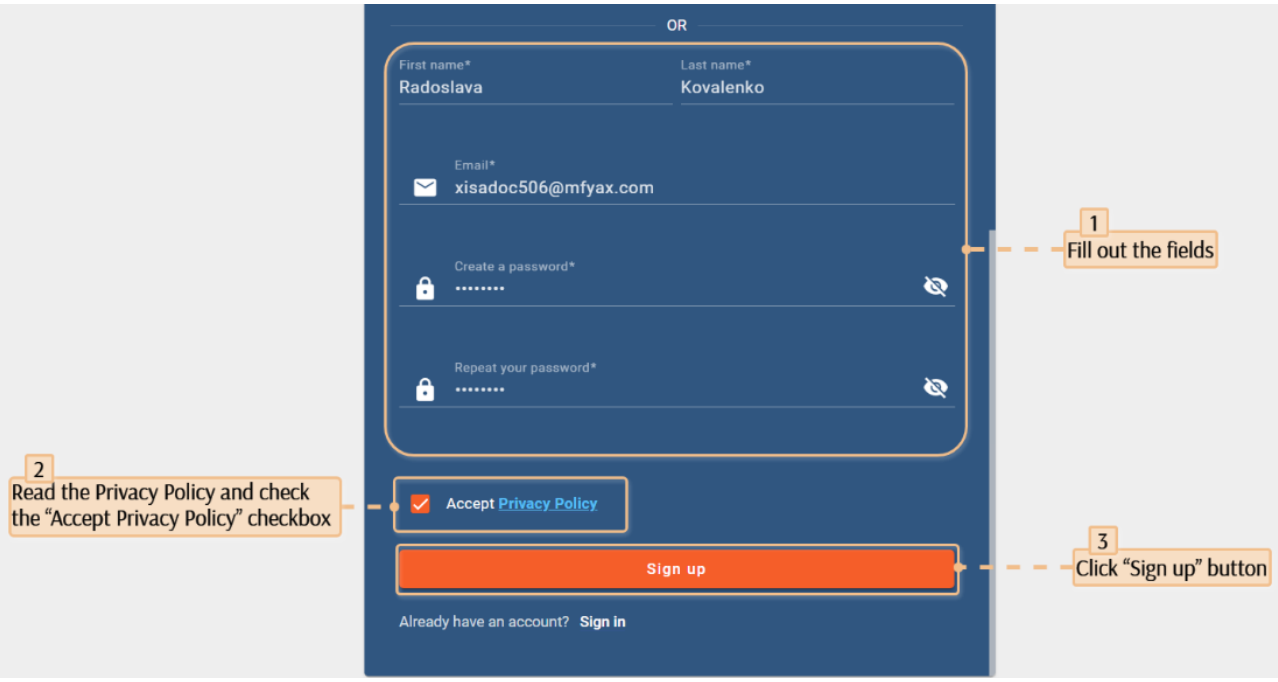
You can try out all ThingsBoard features on the Live Demo server free of charge.

The Live Demo server is available at this link: https://demo.thingsboard.io/signup

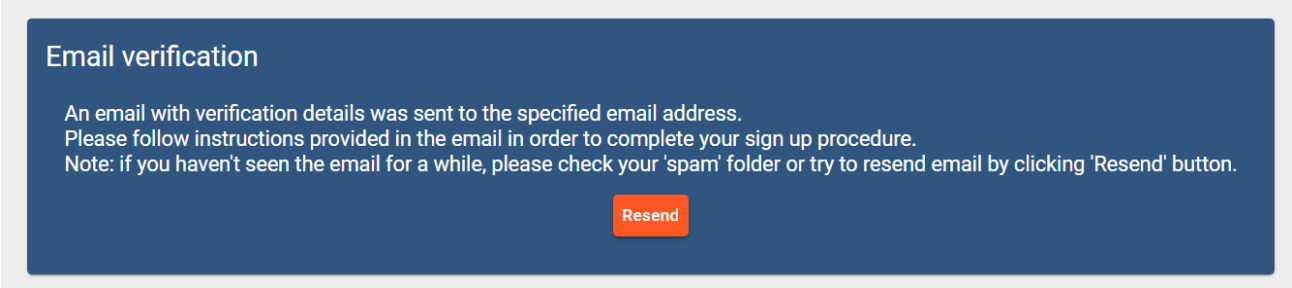
To use ThingsBoard you will need to create an account. You can sign up with your existing Google, Facebook, GitHub, or Apple account, or by filling out a simple sign-up form.

Regardless of your preferred sign-up method, be sure to read the ThingsBoard Privacy Policy, which can be viewed at this link: https://thingsboard.io/products/demo/privacy-policy/

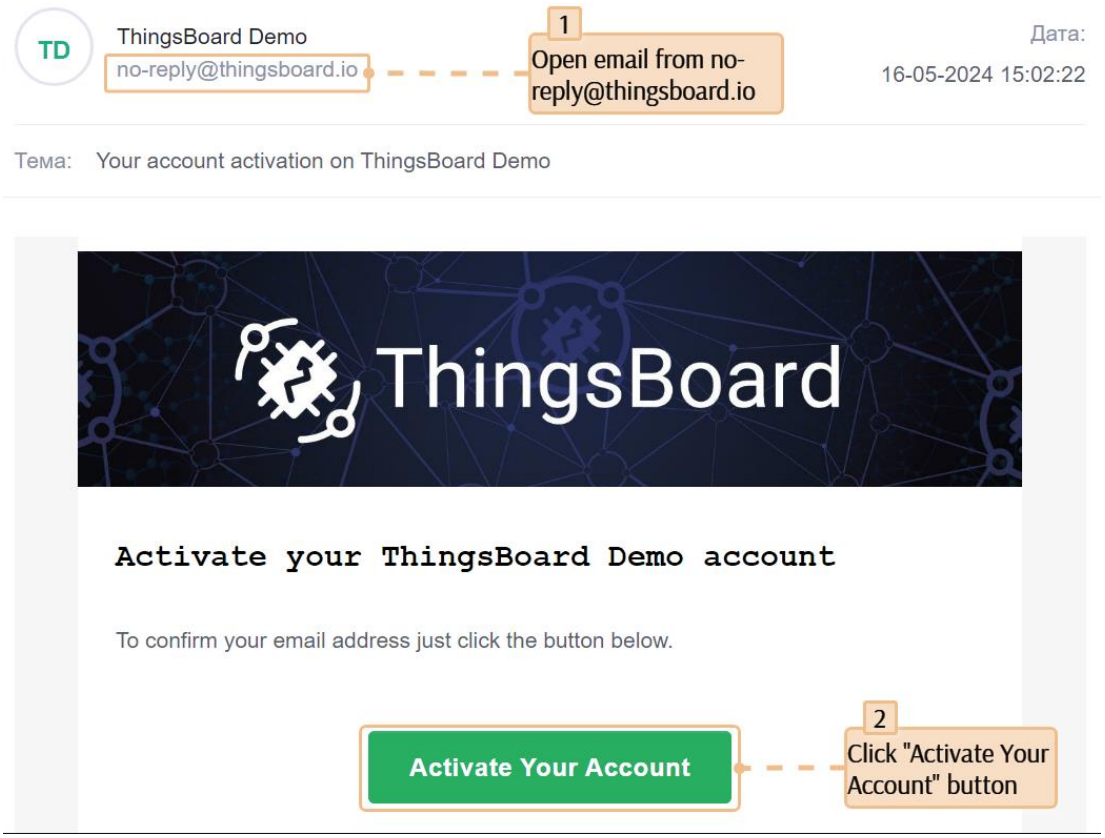
To create an account using a sign-up form, fill in your first and last name, email, and password, check the "Accept Privacy Policy" checkbox and click "Sign up" button. Be sure to follow the "Privacy Policy" link and read the Privacy Policy before checking the checkbox.



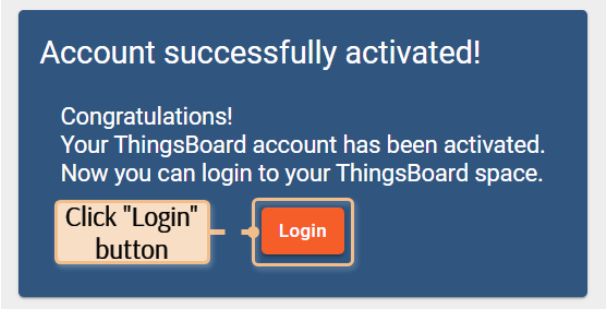
A confirmation email is sent to the provided address to ensure that the email is valid and to verify that you have access to the mailbox.



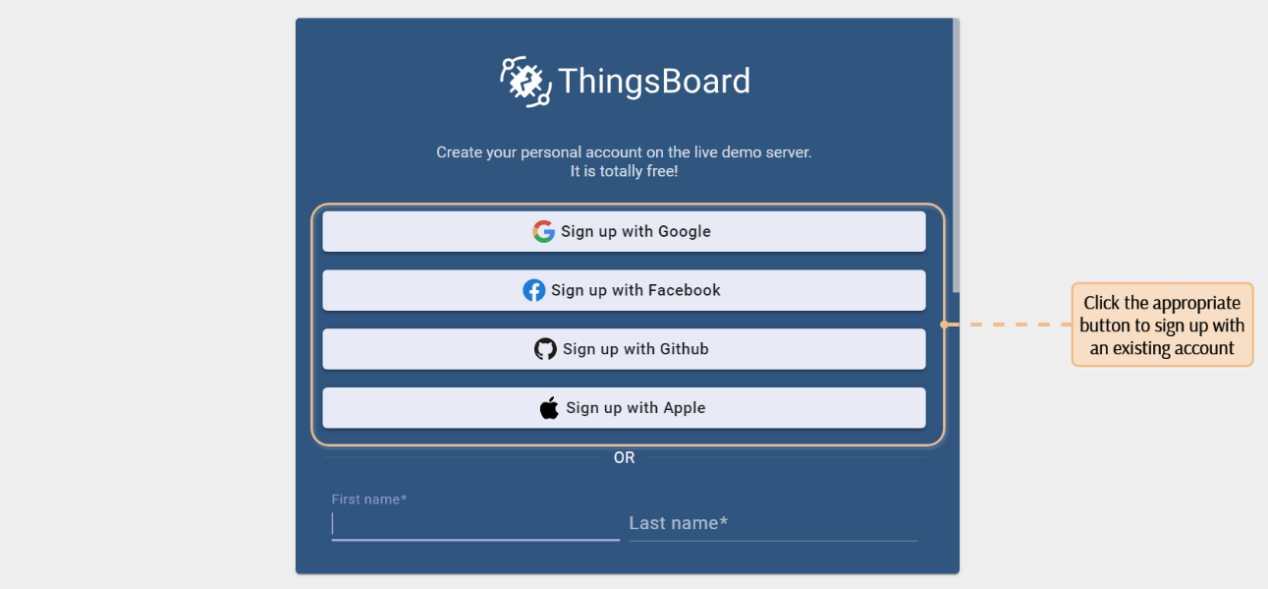
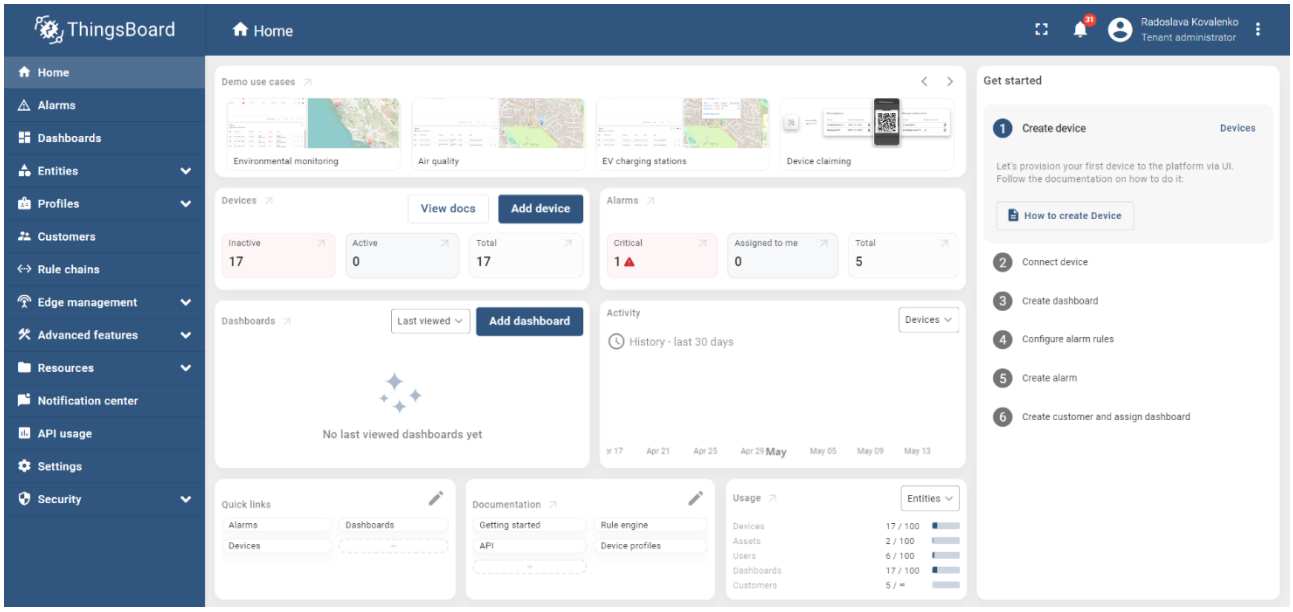
To confirm your email, open your mailbox, find the letter from no-reply@thingsboard.io and open it. Check your Spam folder if you can't find the email in your inbox. Click "Activate Your Account" button to activate your account.



You're almost there! Just click the "Login" button to log in to your new account.



If you want a faster and easier signup experience, you can use your existing third-party service account. To do that, click the button with the appropriate third-party service name. You will be redirected to the provider's authorization page, where you simply follow the provider's sign-up process. After that you will be automatically redirected straight to your new ThingsBoard server instance.



Congratulations! Now you have your own ThingsBoard server instance up and running. Feel free to browse and enjoy everything ThingsBoard has to offer. Welcome to ThingsBoard!