**🌩️ What is an Environment?**

An **environment** (or **org**) in Salesforce is a dedicated space where you can **develop, test, and deploy** your applications on the Force.com platform.

**🧭 Types of Salesforce Environments**

**1️⃣ Production Environment**

* **Purpose:** Used for live, real-time business operations.
* **Contains:** Actual customer data and critical business configurations.
* **Users:** Active, paying users.
* **Usage:**

Run daily operations (Sales, Service, Marketing).

Store live data used by employees and customers.

* ⚠️ **Note:** Direct Apex code development isn’t allowed here — must be deployed via change sets or metadata API.

**2️⃣ Development Environments**

Used for **building**, **customizing**, and **testing** apps safely — without affecting live data.

**a. Developer Edition (DE)**

* Free, fully functional Salesforce org with limited users and storage.
* Ideal for **learning**, **personal projects**, or **initial development**.
* Developers can create multiple DE orgs as needed.
* Comes with:

2 Full CRM licenses

3 Force.com platform licenses

5 MB data storage

**b. Sandbox**

A **replica of your production environment** used for development, testing, or training.  
You can create multiple sandboxes for different purposes.

|  |  |  |  |
| --- | --- | --- | --- |
| **Sandbox Type** | **Includes Data?** | **Data Storage** | **Use Case** |
| **Full Sandbox** | Yes (complete copy of production) | Same as production | Full-scale testing and UAT (User Acceptance Testing) |
| **Partial Copy Sandbox** | Yes (sample of production data) | 5 GB data + 5 GB files | Integration and QA testing |
| **Developer Sandbox** | No | 200 MB data + 200 MB files | Development and unit testing |
| **Developer Pro Sandbox** | No | 1 GB data + 1 GB files | Larger data volume testing or complex dev work |

⚙️ **Sandbox Best Practice:**  
Always build and test your app in a **sandbox** before deploying to production.

**3️⃣ Testing Environments**

Before release, developers use **testing environments** to validate:

* Integration with large data sets
* Security for multiple profiles and roles
* User experience and performance

Testing Environments may include:

* **Sandbox** (preferred)
* **Partner Developer Edition** (for Salesforce partners)
* **Developer Edition** (for individual testing)

**🧱 Environment Lifecycle**

* **Develop** in Sandbox or Developer Edition
* **Test** in Partial Copy or Full Sandbox
* **Deploy** to Production

This process ensures:  
✅ Safe deployment  
✅ Fewer production bugs  
✅ Higher data security