Architecture & Deployment

2025-2026 v0.1.0 on branch main Rev: c5cdbe8f75ddbb918b91340af69beb502fe32fa4

Domain name configuration

The goal of this exercise is to set up a real domain name for your application.

🛠️ You only need your favorite browser for this exercise (assuming you have completed previous exercises and the PHP todolist is running on your server).

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Cloud server exercise

Parts of this exercise happen on the cloud server you should have created for this course. Log in and make sure you are connected to the internet to see your server's details.

Log in

📜 Legend

Parts of this exercise are annotated with the following icons:

- ❗ A task you MUST perform to complete the exercise
- ❓ An optional step that you may perform to make sure that everything is working correctly, or to set up additional tools that are not required but can help you
- 🏁 The end of the exercise
- 🏛️ The architecture of the software you ran or deployed during this exercise.
- 💥 Troubleshooting tips: how to fix common problems you might encounter

❗ Requirements

Make sure you have completed the previous exercise.

❗ Find your subdomain

In this exercise, you will configure actual subdomains in the worldwide DNS system to point to your server.

You must use the subdomain that has been assigned to you for this course. If you are logged in, you can copy the **Hostname** from your cloud server's details card on this page, or from the dashboard.

❗ Configure a DNS zone with Gandi.net

- Connect to Gandi.net with the user account provided to you by the teacher.

- Go under the "Domain" tab in the left menu and select the correct domain depending on your assigned subdomain.
- Go under the "DNS Records" tab in the domain's top menu.
- Add two new `A` records to map subdomains to **your server's public IP address**:
    1. Assuming your personal subdomain for the course is `jde.archidep.ch`, you should use `jde` as the **name of the DNS record**.
    2. Then, create a wildcard subdomain using `*.jde` as the **name of the DNS record**, and the same IP address. This will direct any second-level subdomain like `foo.jde.archidep.ch` to your server.

Assuming your server's IP address is `W.X.Y.Z` and your username is `jde`, you should have the following DNS records (among others) in the domain's zone file:

```
*.jde 1800 IN A W.X.Y.Z
jde 1800 IN A W.X.Y.Z
```

❗ Access the domain name

Once you have configured it correctly, you (and everybody else) should be able to access the todolist application at http://jde.archidep.ch:3000 in your browser (if you have completed the previous exercises).

> 💎 **Tip**
>
> You might have to wait a few minutes for the change to take effect. especially if you make a mistake in configuring the DNS record and then fix it. This is because DNS records are cached for a time (the TTL you configured), by all intermediaries and also by your machine.

🏁 What have I done?

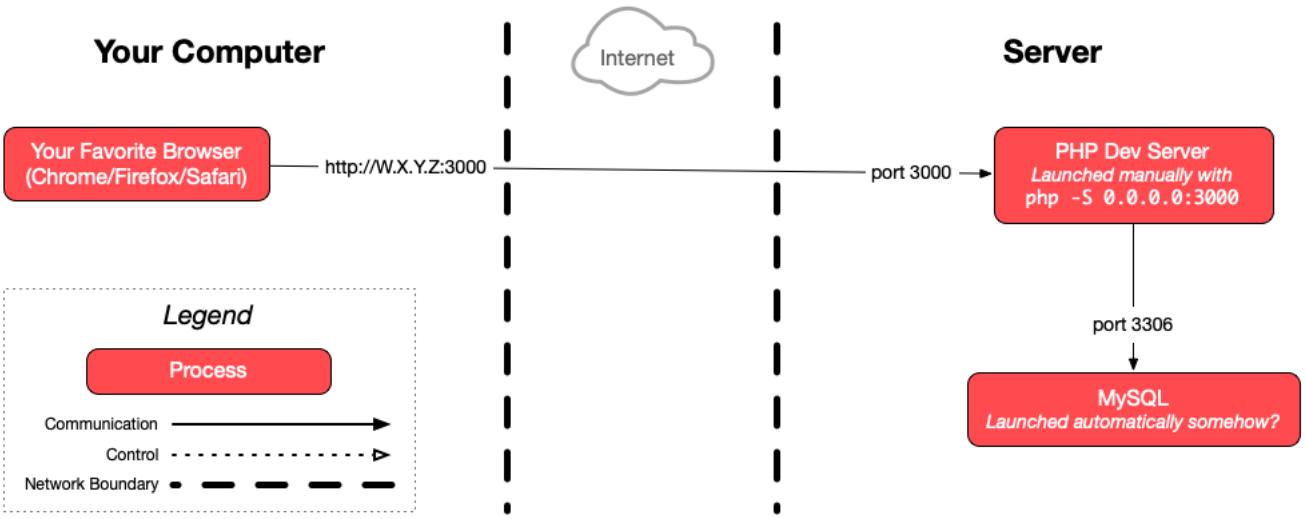
You have created a mapping in the domain name system between your custom subdomain (e.g. `jde.archidep1.ch`) and the IP address of your server.

You have done this by modifying the DNS zone file for the course's domain. When a computer requests to know the IP address for your subdomain, the DNS name servers of the domain provider (gandi.net) will give them the IP address in the mapping you have configured.

This allows your applications and websites to be accessible through a human-friendly domain name instead of an IP address.

🏛️ Architecture

This is a simplified architecture of the main running processes and communication flow at the end of this exercise. The only thing that has changed compared to the previous exercise is that you are now using a domain name instead of an IP address to reach your application.



💥 Troubleshooting

Here's a few tips about some problems you may encounter during this exercise.

💥 I used the wrong IP address and then fixed it, but it doesn't work

DNS records are cached for a time (the TTL you configured). Your machine has this cache, and all intermediary DNS servers also have it. When you change an existing DNS entry that you have already consulted in your browser, you have to wait for the TTL to expire on your machine and all intermediaries before the changes take effect.

> 💎 **Tip**
>
> In the meantime, you can simply create a new DNS entry. For example, if you created `jde.archidep1.ch`, you can create `jde2.archidep1.ch`. This new entry will work immediately. The old one you fixed will work eventually once the cache has cleared.

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