# ■ Level 0 — Infra Ready

This level sets up all the base infrastructure needed to connect Webex, our local backend, and automation tools.

## ■ Components Overview

- Webex Bot → Created via Webex Developer Portal. Saved Bot ID and Access Token.
- Node.js + Playwright → Installed locally (Node v22.14.0, npm v11.3.0). Playwright ready for browser automation.
- Jenkins (in Docker) → Running locally with API token. Used to trigger CI/CD jobs via @jenkins.
- Git Repo → Initialized to track project progress.

## ■ ngrok / LocalTunnel

**What it is**
Webex (cloud) needs to send events (messages) to our local bot server. By default, http://localhost:3000 is not reachable from the internet. ngrok (or LocalTunnel) creates a temporary public URL that forwards traffic to our local port.
Example:

```
https://plain-peas-juggle.loca.lt → http://localhost:3000
```

**Why required**
Without ngrok, Webex can't deliver events to our Express server. Free plan = URL changes every restart → we must update our Webex webhook each time.
**How we set it up**

- Installed ngrok via Windows Store.
- Linked ngrok with our account (ngrok config add-authtoken ...).
- Started tunnel:

```
ngrok http 3000

lt --port 3000   # LocalTunnel alternative
```

Got a public URL (changes daily).

## ■ Webex Webhooks

**What it is**
Webex bots don't "poll" messages. Instead, we tell Webex: "Whenever a user sends my bot a message, POST the event to this URL." This is called a webhook.
**Why required**
Without a webhook, our bot never receives any message events. By pointing webhook → https:///webhook, our Express app gets user messages in real-time.
**How we set it up**

```
Invoke-RestMethod -Uri "https://webexapis.com/v1/webhooks" `
  -Headers @{ "Authorization" = "Bearer $BOT" }

Invoke-RestMethod -Method Post -Uri "https://webexapis.com/v1/webhooks" `
  -Headers @{ "Authorization" = "Bearer $BOT"; "Content-Type" = "application/json" } `
  -Body '{
    "name": "webex-ai-agents-webhook",
    "targetUrl": "https://<ngrok-url>/webhook",
    "resource": "messages",
    "event": "created"
  }'
```

Confirmed webhook working by listing again.

## ■■ Automation: Reset Script

Since free ngrok URLs change daily, we built a helper script: - Deletes all old webhooks. - Registers a new one with today’s tunnel URL.
Usage:

```
    .\reset-webhook.ps1 -BotToken "YOUR_BOT_TOKEN" -TunnelUrl "https://<new-url>.loca.lt"
```

## ■ Status after Level 0

- Local Express server reachable via tunnel.
- Webex bot events delivered to /webhook.
- Jenkins running locally in Docker.
- Git repo ready for project development.