

CelerSMS AT Emulator Assignment - Task 5: PDP Context & Internet Setup

Abhimanue TB

July 15, 2025

Task 5: PDP Context & Internet Setup (Theoretical)

This section describes the use of the AT+CGDCONT command for Packet Data Protocol (PDP) context configuration on real GSM/4G/LTE modules. This task is marked as theoretical because the CelerSMS AT Emulator does not support data-related AT commands or actual PDP context activation.

1. Purpose of AT+CGDCONT

The AT+CGDCONT command is used to define a PDP context, which includes the Access Point Name (APN), protocol type, and optional parameters for mobile data services.

2. General Syntax

AT+CGDCONT=<cid>,"<PDP_type>","<APN>"

Where:

- <cid> is the context identifier (typically 1–16)
- <PDP_type> is usually "IP" or "IPV6" or "IPV4V6" <APN> is the access point name provided by the network operator

3. Sample Configurations

Airtel India

- AT+CGDCONT=1,"IP","airtelgprs.com"

Jio India

AT+CGDCONT=1,"IP","jionet"

BSNL (2G/3G)

AT+CGDCONT=1,"IP","bsnlnet"

4. Real Modem Flow Example (Simplified)

1. `AT+CGDCONT=1,"IP","airtelgprs.com"` – Define the PDP context
2. `AT+CGACT=1,1` – Activate the PDP context
3. `AT+CGPADDR=1` – Check the assigned IP address

5. Notes

- These commands are typically used in modules like Quectel EC25, SIM7600, Cavli C10GS, etc.
- Actual execution depends on network availability, valid SIM card, and subscription.
- APNs may differ based on region or operator settings.
- For TCP/IP communication, additional socket-related commands are used (e.g., `AT+QIOPEN`).

6. Conclusion

While the CelerSMS AT Emulator cannot simulate data services or internet setup, understanding the PDP context configuration is critical for working with real-world IoT modems. The `AT+CGDCONT` command lays the foundation for enabling internet communication over cellular networks.