How Does a Typical Push Notification System Work?  
  
The diagram below shows the architecture of a notification system that covers major notification channels:  
  
- In-App notifications  
- Email notifications  
- SMS and OTP notifications  
- Social media pushes  
  
Let’s walk through the steps.  
  
🔹 Steps 1.1 and 1.2 - The business services send notifications to the notification gateway. The gateway can handle two modes: one mode receives one notification each time, and the other receives notifications in batches.  
🔹 Steps 2, 2.1, and 2.2 - The notification gateway forwards the notifications to the distribution service, where the messages are validated, formatted, and scheduled based on settings. The notification template repository allows users to pre-define the message format. The channel preference repository allows users to pre-define the preferred delivery channels.  
🔹 Step 3 - The notifications are then sent to the routers, normally message queues.  
🔹 Step 4 - The channel services communicate with various internal and external delivery channels, including in-app notifications, email delivery, SMS delivery, and social media apps.  
🔹 Steps 5 and 6 - The delivery metrics are captured by the notification tracking and analytics service, where the operations team can view the analytical reports and improve user experiences.  
  
—  
Subscribe to our weekly newsletter to get a Free System Design PDF (158 pages): <https://bit.ly/3KCnWXq>  
  
[#systemdesign](https://www.linkedin.com/feed/hashtag/?keywords=systemdesign&highlightedUpdateUrns=urn%3Ali%3Aactivity%3A7150527952118575105) [#coding](https://www.linkedin.com/feed/hashtag/?keywords=coding&highlightedUpdateUrns=urn%3Ali%3Aactivity%3A7150527952118575105) [#interviewtips](https://www.linkedin.com/feed/hashtag/?keywords=interviewtips&highlightedUpdateUrns=urn%3Ali%3Aactivity%3A7150527952118575105)  
.

Activate to view larger image,

