Automatic Payments and Subscription

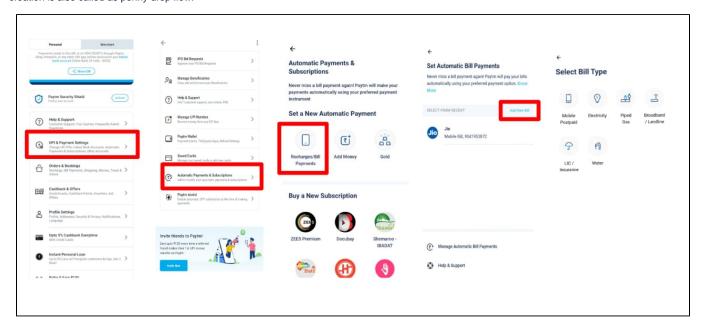
Automatic payments and subscription is a feature that offers the users to pay their **postpaid bills** for some categories (Mobile postpaid , electricity , piped gas , landline/Broadband , Lic/Insurance ,Water) automatically (whenever their bill is generated) through their selected **pay modes** during subscription creation . On the **fulfilment date** (The day when renewal is scheduled to process) the **due amount** (The amount for which the bill has been generated by operator) will automatically be deducted from user's selected payment mode and the user will be informed about the bill payment and amount deduction that your bills has been automatically paid on Paytm and the same process continues when ever user's bill will be generated again for its next cycle the user will be informed that on this particular date (fulfilment date) your bill will be processed and your due amount will be deducted so please maintain sufficient balance in your chosen pay mode. Informing the user that your bill has been generated and your money will be deducted on this date is called as RENEWAL ON BG(bill generation) in backend terms.

How to setup automatic payments for your recharge number

There are basically 2 ways to setup automatic bill payment your recharge number

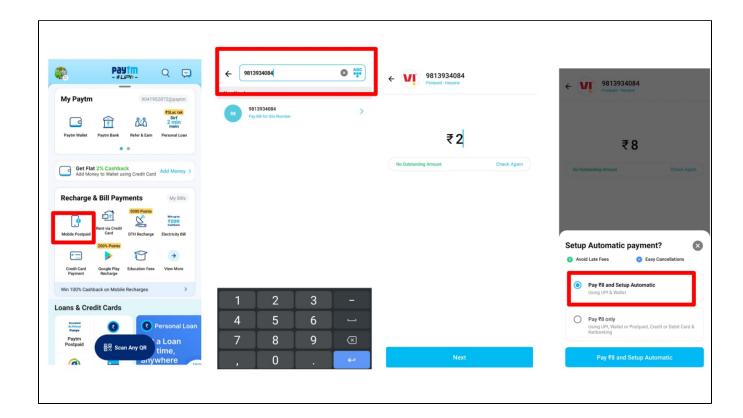
1.) New automatic creation on MyProfile UPI & Payment settings Automatic Payments and subscriptions

From here user is shown 3 options 1.) Recharges/Bill Payments 2.) Add Money 3.) Gold . On this page options to subscribe to OTT Subscription is also present .To subscribe to automatic payments for your bill payment user needs to click on **recharges and bill payments** From here user will be navigated to screen where user can tap to manage its automatic settings , create a new automatic subscription , create a automatic from recent recharges. To create a fresh subscription user needs to tap on **add new bill** . From here user will land to a category page where all the eligible categories for automatic creation are available . The same process is demonstrated in the image below. The setup api calls of this way will be discussed further. This flow of subscription creation is also called as penny drop flow.



2.) The second way to subscribe to automatic subscriptions is with the help of PNS flow (Bottom up sheet during recharge)

On the Paytm homepage select any type of mentioned recharge category eligible for setting up automatic lets say mobile postpaid, enter the mobile number, then the user will be directed to amount screen, enter the amount to recharge, click on next, click on pay, then if you have not previously deleted the already set automatic for this recharge number for **180 days** then a bottom up PNS sheet will appear to you and you will have an option to set an automatic for the same. The same process is demonstrated in the image below. The setup api calls of this way will be discussed further.



API Calls and processes during subscription creation through payment settings screen

The very first call on set **automatic and bill payments screen** from where user can manage its automatic settings, add its new bill, select its recents is of **frequent orders api** which gives us the frequent recharges and validations that are on the customer id of the user (extracts the customer data from sso token). The curl and response of the same is given below. From the response we get the JSON Objects of the recent validations and recharges and out of that list of objects, FE fetches those only objects that are eligible for subscription creation (based on scheduable flag from catalog_verticle_recharge table in fs recharge db).

Request:

curl -H "Host: digitalapiproxy.paytm.com" -H "accept-charset: UTF-8" -H "sso_token: eyJlbmMiOiJBMjU2R0NNliwiYWxnIjoiZGlyln0..QiCLxQy8dQCCnGgK. KLYj7lyzSceT8X5NSUwlXPuYQ5sRhNr9voJV9HPFJEflVMTnTdK_uAJV4CryNF6415JRdwCFvi50fLlOXr3xEernmdV3dJac4GnNZtsDWpTi3vm802xpN5_uclGdJZgY27n7ftj7n7atXwT4ddFCDRLtllkHjxjf9ZyJTx79oO3W-

em4aSYnojQ3e850P7nPXdPJ3XQuUtFF10lfoX6mz38j2ZGtOZwXfK5DNo832h2E7qys94rikuHqkDAonzaCJSGdDWgN4nZy6U3W-cnr3-uB1PU4Z-zdQLi3PsTCTw.H4E8MNpqQcaHImdL0GH3cQ2700" -H "x-app-rid: 2f9907a6-fe28-4351-9807-c2fac8b6a22a:1668781892711:49:58" -H "content-type: application/json" -H "advertising_id: c9cdcaab-197d-414d-9bcc-41ca6e8abd1a" -H "user-agent: Paytm Debug/10.19.0/721022 (net.one97.paytm; source=com.android.vending; integrity=pass; auth=true; en-IN; okhttp 4.9.1) Android/11 Xiaomi/POCO_X2 (arm64-v8a; resolution=3.0; cores=8)" -H "pragma: no-cache" -H "cache-control: no-cache" --compressed "https://digitalapiproxy.paytm.com/v1/frequentorders?

channel=ANDROIDAPP&playStore=true&lang_id=1&language=en&locale=en-IN&deviceName=POCO_X2&version=10.19.0&long=76.8428713&deviceIdentifier=Xiaomi-POCOX2-2f9907a6-fe28-4351-9807-

c2fac8b6a22a&osVersion=11&client=androidapp&deviceManufacturer=Xiaomi&networkType=WIFI&lat=30.5790125&child_site_id=1&site_id=1

Response:

[{"favLabelId":"XXXX XXXX XXXX 1332:412","product_id":341446186,"favLabel":null,"configuration":{"recharge_number_3":"db9fe636-d528-408a-9d24de7dc6e6d5ef","recharge_number":"XXXX XXXX XXXX 1332","price":412,"price_new":"Pay Bill"},"updated_at":"2022-11-17T15:25:44.272Z","product": {"category_id":156705,"brand":"paytmfirstCC","ope_logo_url":"https://assetscdn1.paytm.com/images/catalog/operators/1547616507700.png", "schedulable": 0,"attributes":{"price":"1","productId":"341446186",'card_network_logo":"https://assetscdn1.paytm.com/images/catalog/product/P/PA/PAYBILL-PAYMENTANJA8860623A702885/22.png","enable_bill_payment":"1","service_label":"Financial Services","product_timeout":"50","gwParams":"{ payment_modes_enabled: [IMPS] }","operator_label":"Paytm HDFC Bank Credit Card","convenience_fee":"0","pulse_myorders_event_flow":"1"," enable_visa_direct":"0","request_type":"CC_BILL_PAYMENT","displayName":"Paytm HDFC Bank Credit Card","catalogProductId":"341446186"," fulfilmentId":"24","operator_min_android_version":"0","disclaimer":"98.3% transactions for this bank settle to card in less than 2 hours","salesforceCaseId":" Default","validate":"1","bank_code":"HDFC","threshold_turn_around_time":"600","credit_card_length":"16","extnAttrs":"("conv_fee":0,"errorImage": hideEnabled":false}","bgCol":"linear-gradient(106.3deg, #323E4A 0%, #1E262E 100%)","pulse_category_name":"onus_credit_card","verticalId":"56"," Operator_sgst":"9","metaDescription":"Bill Payment of HDFC Bank Credit Card online and get exciting cashback offers at Paytm.com","operator paytmfirstCC", "schedulable": "0", "operator_display_label": "Paytm First", "short_operator_name": "Paytm First", "paytype_display_label": "Bill Payment", "image": "https://assetscdn1.paytm.com/images/catalog/product/P/PA/PAYBILL-PAYMENTCRED10839101A45FAB8/2.png", "brandImage": " https://assetscdn1.paytm.com/images/catalog/operators/1547616507700.png", "Operator_cgst":"9", "paytype_label":"Credit Card Bill Payment", "card_network":"VISA", "payTypeSupported":"{"cc":0,"emi":0,"nb":1,"ppi":1,"cod":0,"escrow":0, "paytmDigitalCredit":0,"dc":1,"upi":1}", "prefetch":"0", " description":"[{"title":"Product Details","description":"","description":""["title":"Product Details","description":","description":","description":","description:",","description:","desc /catalog/product/P/PA/PAYBILL-PAYMENTANJA8860623A702885/8,png", "service_display_label": "Credit Card", "is_paytm_first_card": "1", "proceed_directly_to_PG": "1", "my_bills_heading": "Credit Card", "service": "Financial Services", "meta Title": "Bill Payment of HDFC Bank Credit Card | Paytm. com", "paytype": "Credit card", "chat_channel_id": "e00a3b98-a8b4-467c-b2eb-6432e6d0334a", "overrideAttrs": "{}", "merchantId": "1083910", "circle_label": ""}}," created_desc":"Last Paid on 17 Nov 2022","bills":[],"cta":{},"cta_obj":{"heading":{"label":"XXXX XXXX XXXX 1332","color":"#FFFFFF","additionalInfo":{},"isHtml":false},"heading1":{"label":"FIlly 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"https://assetscdn1.paytm.com/images/catalog/product /R/RE/RECBILL-PAYMENTTOPU2E1D3433C/7.png"}]", "service": "Mobile", "metaTitle": "Bill Payment For Jio | Paytm.com", "email_logo": "https://assetscdn1.paytm.com/images/catalog/operators/1548842919961.png", "paytype": "postpaid", "chat_channel_id": "330a4567-d701-4542-824f-817f9eb220b1", "price": "1", "price": amount_read_only":"0","bbps_logo_landing":"https://paytmimg.s3.amazonaws.com/games/j882/download.png","amount_title":"Amount","productld": 97040108", "warehouseld": "0", "product_timeout": "50", "group_config_key": "price", "status": "1", "convenience_fee": "0", "operator_sgst": "9", "verticalld": "4", "isPnS": "1", "recharge_type": "N/A", "metaDescription": "Bill Payment For Jio online and get exciting cashback offers at Paytm.com", "producttype": "Recharge", "ispnS": "1", "recharge_type": "N/A", "metaDescription": "Bill Payment For Jio online and get exciting cashback offers at Paytm.com", "producttype": "Recharge", "ispnS": 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After beautifying this response you will see out of my 2 recents only one eligible recent is visible on the screen.

The overall system design of subscription creation is depicted in the block diagram as follows. The block diagram depicts the subscription creation of a mobile postpaid recharge. The respective API's that are called and their respective responses are mentioned in the sheet down below.

user selects the bill type selects mobile postpaid DCAT's getCategory api get's called and user is shown to type the recharge number or select from contacts user enter's the mobile number and automatically RPS's getCircleByRange api gets called and based on range it verifies the mobile number and tells the circle of the mobile number after proceeding further user is proceeded to a screen where the user chooses the general bill amount that the bills amount is > 5000 or < 5000 and while going to this screen 2 API's get called one is subscriber list api and other is verify api (Recharge flow) and does the user's validation though recharge flow

Based on the option selected by the user to choose the amount the PG paymodes are shown and after proceeding further v2/subscribe api of subscription gets called with recharge_number, product_id and then it internally calls v2/expresscart/subscribe api and then through this orderID is created The PG page will appear and based on user choosen option paymodes will be shown after 1 RS Penny drop Pg will call its process transaction api (PG also saves the subscription details of the user though a id which is called as payment_id in subscription table of RU) PG calls cart and give its payment status cart confirms the order cart hits subscription's V1/order/notify api through a callback Based on that subscription data will be created in subscription table in fs_recharge DB . The subscription expiry in the subscription table is set to be now+10 years .

