Transition document

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CVS Health

11/09/2018

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# Retail Pharmacy

This section include all the reports/codes to support day-to-day work for CVS Retail. Weekly routine include flash report, ICE Excel dashboard and scorecard.

## IDW

Integrated Data Warehouse is the backend database for CVS Retail. To request access, go to myIT service catalog and select “Item: Add/Remove/Modify Retail Teradata Access”:

<https://myit.corp.cvscaremark.com/sc/catalog.product.aspx?parent_category_id=_X_&category_id=Access&product_id=RETAILTERADATAACCESS.001>

* Retail Rx count

select

RXC\_PTNT\_ID, count(distinct PRSCRT\_FILL\_ID) as Rx,sum(RXC\_DAY\_SPLY\_QTY/**30**) as Rx\_e

FROM RX\_SEM\_VW.SEM\_FACT\_ALL\_SCRIPT\_FILL A

where a.fill\_dt(date) between date&strt and date&stp

and RX\_FILL\_STATUS\_CODE\_ID='7'

group by **1**

* + count distinct PRSCRT\_FILL\_ID is to count 90 as 1; sum(RXC\_DAY\_SPLY\_QTY/30) is to count 90 as 3;
* Authentication

select PRIMARY\_TIE\_DT(date) as DT,count(distinct RXCONNECT\_ID) as ATG from BUSINESS\_USERS.cvscomprofiledata

where PRIMARY\_TIE\_DT(date)between date'2018-09-01' and date-**1**

group by **1**

* External Transfer

select distinct RXC\_PTNT\_NBR

FROM RX\_SEM\_VW.SEM\_FACT\_RX\_EXTERNAL\_TRANSFER

where rx\_fill\_dt(date) between date&strt and date&stp

and TRNFR\_IND = 'TI'

* Caregiver

select REL\_AUTH\_TS(date) as DT,count(distinct CRGVEE\_RXC\_PTNT\_ID) as CG\_Relations

from idw\_Product\_development\_s\_bc.SEM\_FACT\_CAREGIVING\_REL a

where REL\_STUS\_CD = '1'

and REL\_AUTH\_TS(date) between date'2017-12-31' and date-**1**

group by **1**

* Pre-Pay

select status\_date(date) as DT,

count(distinct case when status = 'Picked Up' then order\_no else '' end) as PP\_Orders

from

(select order\_no,line\_type,min(s1.status\_date) as create\_time,st.description as status,min(s2.status\_date) as status\_date,l.shipnode\_key,h.original\_total\_amount,h.bill\_to\_id

from p\_doms.yfs\_order\_header h,p\_doms.yfs\_order\_release\_status s1,p\_doms.yfs\_order\_release\_status s2,business\_users.lb\_yfs\_status st,p\_doms.yfs\_order\_line l

where s1.status='1100' and s2.status\_quantity>**0**

and s1.order\_header\_key=h.order\_header\_key and s2.order\_header\_key=h.order\_header\_key

and document\_type='0001' and entry\_type='DOTM' and s1.createts>'2017-12-31 00:00:00'

and s1.order\_line\_key=s2.order\_line\_key and st.process\_type\_key='ORDER\_FULFILLMENT'

and st.status=s2.status and l.order\_line\_key=s1.order\_line\_key

group by order\_no, line\_type,description,l.shipnode\_key,h.original\_total\_amount,h.bill\_to\_id) a

where LINE\_TYPE = 'ETW'

group by **1**

* MPP

select act\_crt\_ts(date) as DT,count(distinct transaction\_id) as MPP\_Transactions

from business\_users.cvs\_pay\_txn\_funnel\_pivot

where lower(trim(txn\_status)) = 'complete' and trim(fail\_reason) = '0'

and MPP\_IND = 'Y'

and act\_crt\_ts(date) > date'2017-12-30'

group by **1**

* PHR

SELECT distinct me.EPH\_LINK\_ID as RXC\_PTNT\_ID

FROM p\_ent.HR\_MEMBER\_ENROLL me

JOIN p\_ent.HR\_MEMBER\_HIPPA hip

ON me.EPH\_LINK\_ID = hip.EPH\_LINK\_ID

AND ENROLL\_STATUS\_TS=hip.HIPPA\_SIGN\_TS

WHERE **1**=**1**

AND me.ENROLL\_STATUS\_CD = 'E'

AND HIPPA\_STATUS\_CD = 'C'

AND HIPPA\_EXPIRE\_DT > CURRENT\_DATE

and ENROLL\_SRC\_CD='W'

* Some useful business projects:
  + Digital perfect customers
  + MPP Pre-Pay
  + PHR
  + Caregiver

[\\CVSCIFSP010\mis\_soma\Enterprise Digital Analytics\99 PERSONAL Folders\Yujie\Transition\IDW](file:///\\CVSCIFSP010\mis_soma\Enterprise%20Digital%20Analytics\99%20PERSONAL%20Folders\Yujie\Transition\IDW)

## ECCR

Enterprise Customer Contact Repository is an enterprise level database that live in PBM network. It stores tons of data for ICE. For retail, we primarily use ECCR to pull ICE refill data. Here is the query:

select

t1.CRTE\_TS,

trim(t1.ECCA\_MBR\_ID) || cast(T1.CRTE\_TS as char(**13**)),

T1.SYS\_ID,

T1.CHNL\_TYP\_CD,

t1.intrctn\_typ\_cd,

t1.INTRCTN\_RSLT\_CD,

t3.INTRCTN\_NM,

INTRCTN\_VAL,

case when INTRCTN\_TYP\_CD='7041' then trim(t2.ECCA\_RFRNC\_KEY\_NBR) || '-' || trim(t4.ECCA\_RFRNC\_KEY\_NBR) else t2.ECCA\_RFRNC\_KEY\_NBR end as Rx

FROM DWU\_EDW.V\_ECCA\_INTRCTN t1

join dwu\_edw.V\_ECCA\_MBR\_TRX\_DENORM t2

on t1.intrctn\_key\_id=t2.INTRCTN\_KEY\_ID and t2.ECCA\_RFRNC\_KEY\_ID='RX\_NUM'

left join dwu\_edw.V\_ECCA\_MBR\_TRX\_DENORM t4

on t1.intrctn\_key\_id=t4.INTRCTN\_KEY\_ID and t4.ECCA\_RFRNC\_KEY\_ID='STORE\_NUM'

left join DWU\_EDW.V\_ECCA\_TRX\_DAT t3

on t1.INTRCTN\_KEY\_ID=t3.INTRCTN\_KEY\_ID and t3.INTRCTN\_NM='ERROR\_DESC'

where t1.INTRCTN\_TYP\_CD in ('7041','7040','7043','7224','7225')

and T1.CRTE\_DT between date'2017-01-01' and date-**2**

GROUP BY **1**,**2**,**3**,**4**,**5**,**6**,**7**,**8**,**9**

## Adobe

Raghav manages most of the Refill related dashboards (ICE, Lean, Guest, etc…). Here are the reports I built / need to support business partner on regular basis:

* Useful dashboards
  + Rx Authentication Dashboard
  + CVS Multi-Dose Packs Enrollment
  + Pharmacy Health Reward Dashboard
  + ITPR018909-Digital Coupon Authenticated Report
  + CVS Transfer Dashboard – Rx On-board Pod
  + Digital Rx Bulk Transfer Dashboard
  + ReadyFill Monitoring
  + CVS\_Caregiving Dashboard~Scott
  + SPM Finder Dashboard (Mathew TW Huang)
  + Script Path dashboard
  + SEO Retail Pharmacy Dashboard
* Common dimensions
  + C3
  + Custom Link
  + GB\_NS\_Platform (v41)
  + Browser Type
  + Mobile Device Type
  + Mobile Device
  + Day
  + Week
  + Hour of Day
  + Operating System Type
  + Operating Systems
  + Last Touch Channel
* Common measures
  + Visits
  + GB\_NS\_Units
  + GB\_NS\_Orders
  + Everything start with ”RX\_ICE”

## R Server

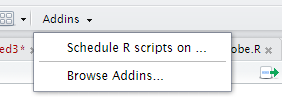
R server is a powerful R studio that install in Linux environment. It can pull data from multiple sources, manipulate and perform different kinds of advanced analytics.

<http://10.228.129.26:8787/>

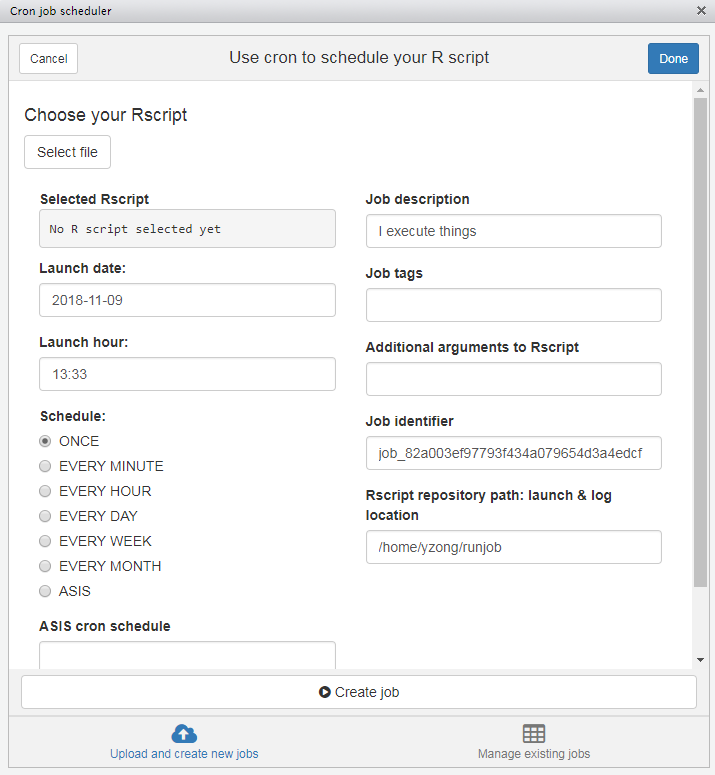
For server access and management, please check section 5.4

Some important codes:

* Hourly Adobe data
  + Location: /home/ronxu/apipulldata/adobe\_hourly.R
  + Target table: DSS\_CEA2.YZ\_ALL\_MTS\_HOUR
  + Automatically run twice a day. If anything not run, go to the code and manually run. It will refresh the data for the past 7 days
  + Adobe API: currently using Yujie’s account. No need to change if you do not delete Yujie’s account from Adobe
* Daily business solution
  + Location: /home/ronxu/apipulldata/CVS\_FLASH\_DAILY.R
  + Target table: DSS\_CEA2.YZ\_CVS\_FLASH\_DAILY
  + Automatically run daily in early morning. If anything not run, go to the code and manually run. It will refresh the data of yesterday. If missing multiple days, then you need to change *line 15* and *line 184* and run multiple times.
  + Adobe API: currently using Yujie’s account. No need to change if you do not delete Yujie’s account from Adobe
  + ECCR data is using the cea\_user account in EDW, no need to change
* Daily ForeSee
  + Location: /home/ronxu/Foresee/Foresee\_agg\_daily2.R
  + Target table: DSS\_CEA2.YX\_Foresee\_CSAT\_Raw and DSS\_CEA2.YX\_Foresee\_CSAT\_report
  + Automatically run daily in early morning. If anything not run, go to the code and manually run. It will refresh the data of yesterday. If missing multiple days, then you need to change *line 15* and run multiple times
  + ForeSee API: currently using Ron’s account. No need to change if you do not delete Ron’s account from ForeSee
* Weekly scorecard code
  + Location: /home/ronxu/Yujie/Pharm\_Dashboard\_data.R
  + Target table: DSS\_CEA2.YZ\_CVS\_GEOFF\_DAILY
  + Automatically run daily in early morning. If anything not run, go to the code and manually run. It will refresh the data for the past 3 days. If missing more than 3 days, then you need to change *line 7, 8, 26 and 248* then re-run the code
* Note:
  + No need to change the scheduler if you want to keep the yzong and ronxu accounts in R server
  + The password will expire in 90 days. Please make sure to update the accounts’ password, otherwise the cronjob won’t be able to run
  + Sometimes the job did not run (on average: once a month). Then the target tables will show missing values for the reporting period. You need to go to the specific R code and manually re-run them
* Package ‘RSiteCatalyst’
  + Since the team is heavily using Adobe Analytics to report on CVS web and App metrics, this package is very useful to import data from Adobe and consolidate with data from other sources
  + Run the install.packages(‘RSiteCatalyst’) if you don’t have the package “RSiteCatalyst’”
  + The following functions are important to find out the specific dimensions/segments/measures
    - GetSegments
    - GetElements
    - GetMetrics
    - The full document can be found at <https://cran.r-project.org/web/packages/RSiteCatalyst/RSiteCatalyst.pdf>
* Cronjob scheduler
  + Run the install.packages(‘cronR') if you don’t have the package “cronR”
  + There is build-in function in R studio to open the scheduler:



* + - Select the R code you want to schedule
    - Select a starting date and time
    - Set up the frequency
    - Add description and tags(optional)
    - Additional argument (optional)
    - Give a friendly name as job identifier
    - Choose the path you want to save any logs
* Other useful R codes:
  + /home/yzong/runjob/Daily\_Forecast.R
  + /home/yzong/runjob/NW\_Data\_Weekly.R



* + There is also documentation for cronR available if you want to write your own schedule code: <https://cran.r-project.org/web/packages/cronR/vignettes/cronR.html>

## Weekly Flash

The weekly flash dashboard is available on Tableau Server and it automatically send it out every Monday 12pm. This dashboard contain all major KPIs for Retail Digital.

To update the dashboard:

* Make sure the DSS\_CEA2.YZ\_CVS\_FLASH\_DAILY is updated to most recent date (it’s already scheduled on R server, see previous section “daily business solution”. Just do a quick check because sometimes the R server didn’t run.)
* Go to <https://cxportal.west.com/> for WEST metrics
  + Username: [peggy.colangelo@cvs.com](mailto:peggy.colangelo@cvs.com); password: Fall@2018 (check with Peggy because the password need to be updated every 90 days)
  + Go to “refill reminder refill stats” → refill rate by channel → filter on channel = SMS, then write down the ‘Script Refill Count’
  + Go to “RTOR SMS Outbound” → Enrollment / Optout Grid Rep, then write down the ‘unique patient count’ (70,595,548 as of 11/12). Use the current count minus the count from previous week to get the new enrollment number
  + Run the following SQL code to update SMS metrics

**update** DSS\_CEA2.YZ\_CVS\_FLASH\_SMS **set** SMS\_Refills=842311,SMS\_Enrollment=0

**where** DT = date'2018-10-28'

* + Most of the time the SMS refill # got changed, so you better run the SQL for the past two weeks to make sure the refill counts are up to date (update last week and the week before last week)
* Go to Tableau server <https://mytableau.cvs.com/#/site/digital/workbooks/6498/views> and open “CVS Retail Weekly Flash Dashboard”, then click ‘edit’ → change the date to most recent Saturday → click ‘save’ → close
* Notes:
  + There are two accounts associated in this tableau file – one is the cea\_user for EDW, which you don’t need to worry about because the password never expired; the other is YZONG for IDW, which need to change and maintain it every 90-day
  + The budget and forecast data are saved in DSS\_CEA2. YZ\_CVS\_FLASH\_GOAL. No need to touch it if no change on budget/forecast

## Weekly Scorecard

The weekly scorecard is specifically produced for Pat’s team meeting. It contains nearly 100 metrics and leverage data from multiple sources. Most of the metrics come from us and there is a tableau report for it.

<https://mytableau.cvs.com/#/site/digital/views/CVSDigitalPharmacyDashboard/KashishsTrendData?:iid=1>

Normally the tableau is automatically refreshed every day. A few check points:

* Make sure the DSS\_CEA2.YZ\_CVS\_GEOFF\_DAILY is updated to most recent date (it’s already scheduled on R server, see previous section “weekly scorecard code”. Just do a quick check because sometimes the R server didn’t run.)
* The code is also dependent on hourly adobe, daily business solution and daily foresee codes. If anything not run properly, the weekly scorecard code would not run correctly
* Lori will take all the data from tableau and update it on her Excel spreadsheet
* You need to present on Pat’s weekly meeting and explain some of the data if needed

## Monthly Enterprise Dashboard

The monthly enterprise dashboard is a high level report that show the performance to senior leadership. Frank Braney collects data from all BU and compile in one Excel file. The historical reports can be found in:

[\\CVSCIFSP010\mis\_soma\Enterprise Digital Analytics\04 PHARMACY\Regular Reporting\Monthly Business Reviews\2018](file:///\\CVSCIFSP010\mis_soma\Enterprise%20Digital%20Analytics\04%20PHARMACY\Regular%20Reporting\Monthly%20Business%20Reviews\2018)

We have a view saved in tableau server to prepare the data for him:

<https://mytableau.cvs.com/#/site/digital/views/2018CVSRetailFlashDashboard/MonthlyKeyMetricsSheet>

This view is using the same code with weekly flash. So if the flash works properly, then this monthly view would be fine, too.

There is only one thing that need to be taken care every month – authentication. Since there is significant variance between Adobe and ATG, we usually use ATG data to report on authentication.

At the end of each month, run the following code so the authentication in DSS\_CEA2.YZ\_CVS\_FLASH\_DAILY will be updated with ATG data:

[\\CVSCIFSP010\mis\_soma\Enterprise Digital Analytics\99 PERSONAL Folders\Yujie\Transition\SAS\ATG Update Code.sas](file:///\\CVSCIFSP010\mis_soma\Enterprise%20Digital%20Analytics\99%20PERSONAL%20Folders\Yujie\Transition\SAS\ATG%20Update%20Code.sas)

## Issues

* Shared folder on R server

We used to have connection between R server and MIS\_SOMA share drive. After May the connection got lost. Right now it’s very inconvenient to import/export data to MIS\_SOMA. You have to manually copy the data to share folders / manually upload files to R server.

* + One example code is /home/yzong/runjob/NW\_Data\_Weekly.R

If we get the connection back, it would be super beneficial to the entire analytics team.

* Authentication variance

Currently we use e53 in Adobe to report on total authentication, which is 25-30% lower than ATG (BUSINESS\_USERS.CVSCOMPROFILEDATA)

We are still using e53 for regular monitoring. For high level reporting we use ATG.

* Online fills variance

The total online fills = ICE desktop + ICE mWeb + ICE App + Lean + Transfer + Guest/scan + Express. All data come from Adobe. On IT side they also have total digital fills from ATG. Historically ATG is 4% higher than Adobe. After September release the variance increase to 7%.

By the end of this year, we need to consider how to report the total online fills.

# PBM

## EDW

Enterprise Data Warehouse is the key database for PBM. All claim, member, client and other related data are stored in this Teradata environment.

* DWU\_EDW.V\_MBR\_ACCT\_CVRG: PBM member eligibility table
  + Key ID: use MBR\_ACCT\_GID to join with other tables
  + Always use current\_date between CVRG\_EFF\_DT(date) **and** CVRG\_EXPRN\_DT(date) to filter on the current eligible PBM members
* DWU\_EDW.V\_MBR\_ACCT\_DENORM: PBM member information table
  + Key ID: use MBR\_ACCT\_GID to join with other tables
  + REL\_CD tells you the cardholder vs dependents
  + Use QL\_BNFCY\_ID to count distinct member
  + Use EPH\_LINK\_ID to join with Retail data from IDW
* DWU\_EDW.V\_CLNT\_ACCT\_DENORM
  + Key ID: use LVL3\_ACCT\_GID and LVL1\_ACCT\_GID to join with V\_MBR\_ACCT\_DENORM
  + LVL1\_ACCT\_NM is the client name
  + LVL1\_ACCT\_ID is the carrier ID
* DWU\_EDW.V\_PHMCY\_CLM\_PAID
  + Key ID: use MBR\_ACCT\_GID to join with other tables
  + Use CLM\_EVNT\_GID to count distinct Rx
* DWU\_EDW.V\_PHMCY\_DENORM
  + Key ID: use PHMCY\_PTY\_GID to join with V\_PHMCY\_CLM\_PAID
  + CVS\_MAIL\_IND,CVS\_RTL\_IND and CVS\_SPCLT\_IND are the indicators to filter on CVS mail / retail / non-CVS retail scripts
* DWU\_EDW.V\_PTY\_PRFL
  + Key ID: use MBR\_ACCT\_GID to join with other tables
  + LAST\_ACS\_TS is the last login timestamp
  + SRC\_ADD\_TS is the registration timestamp
* DWU\_EDW.V\_CC\_PSV\_CALL\_DATA
  + Key ID: use QL\_BNFCY\_ID to join with other tables
  + CNTCT\_SRC\_CD, CNCT\_FORM\_CD and CNTCT\_MODE\_CD are the call type codes
  + ACTVY\_CD, ACTVY\_SPEED\_CD and CALL\_TYP\_CD are the call reasons code
  + I upload the call dictionary to DSS\_CEA2.YZ\_CC\_PSV\_DICTIONARY
* Sample code
  + Registrations

select SRC\_ADD\_TS(date) as CRTE\_DT,count(distinct BNFCY\_ID) as total\_reg

from DWU\_EDW.V\_PTY\_PRFL a

where SRC\_ADD\_TS(date) between date&strt and date&stp

group by **1**

* + RFM

select clm.FILL\_DT as CRTE\_DT,count(distinct clm.CLM\_EVNT\_GID) as Scripts

from DWU\_EDW.V\_PHMCY\_CLM\_PAID clm

INNER JOIN DWU\_EDW.V\_MBR\_ACCT\_DENORM MBR

ON MBR.MBR\_ACCT\_GID = clm.MBR\_ACCT\_GID

inner join DWU\_EDW.V\_MBR\_PGM\_RX\_SCHD\_HIST hist

ON MBR.QL\_BNFCY\_ID = hist.SCHD\_ENRL\_BNFCY\_ID

and hist.SCHD\_RX\_NBR = clm.RX\_NBR

and clm.FILL\_DT between SCHD\_OPT\_IN\_DT and SCHD\_OPT\_OUT\_DT

where clm.FILL\_DT (date) between date'2016-03-01' and date&stp

and clm.DLVRY\_SYSTM\_CD = 'M' and hist.SCHD\_PGM\_ID in ('5383','5384')

and hist.SCHD\_OPT\_IN\_PRCS\_SRC\_CD in ('CPT','PTL','CFT','FTL')

group by **1**

* + CMP enrollment

select LVL1\_ACCT\_NM,LVL1\_ACCT\_ID,date&strt as WK\_STRT\_DT,

case when AVC\_CD in ('4','10','14') then 'EMAIL' when AVC\_CD in ('15','18') then 'IVR' else 'TEXT' end as Channels,

count(distinct b.MBR\_ACCT\_ID) as In\_Mbrs

from DWU\_EDW.V\_MBR\_CMNCN\_OPT\_HIST a

join DWU\_EDW.V\_MBR\_ACCT\_DENORM b

on b.MBR\_ACCT\_GID = a.MBR\_ACCT\_GID

join DWU\_EDW.V\_CLNT\_ACCT\_DENORM c

on b.LVL3\_ACCT\_GID = c.LVL3\_ACCT\_GID

where BNFCY\_EXCLN\_IND = '0' and date&stp between EFF\_DT and EXPRN\_DT

and AVC\_CD in ('17','19','4','10','14','15','18')

group by **1**,**2**,**3**,**4**

## ECCR (ECCA in Teradata)

Enterprise Customer Contact Repository is an enterprise level database. Since it live in the same environment with EDW, it’s very convenient to join ECCA data with EDW data.

* DWU\_EDW.V\_ECCA\_INTRCTN: ECCA interaction table
* DWU\_EDW.V\_ECCA\_MBR\_TRX\_DENORM: interaction detail table
* DWU\_EDW.V\_ECCA\_INTRCTN\_DAT: interaction detail table
* DWU\_EDW.V\_ECCA\_MTDAT: dictionary table
* Sample code
  + ECCR registrations

select CRTE\_DT,INTRCTN\_TYP\_CD,SYS\_ID,CHNL\_TYP\_CD,count(distinct d.MBR\_ACCT\_ID) as reg\_mbr

from DWU\_EDW.V\_ECCA\_INTRCTN a

join DWU\_EDW.V\_MBR\_ACCT\_DENORM d on a.MBR\_ACCT\_GID = d.MBR\_ACCT\_GID

where a.INTRCTN\_TYP\_CD in ('3070','3071','3100','3163')

and INTRCTN\_RSLT\_CD = 'COMPLETED'

and CRTE\_DT between date&strt and date&stp

group by **1**,**2**,**3**,**4**

* + ECCR login

select CRTE\_DT,INTRCTN\_TYP\_CD,SYS\_ID,CHNL\_TYP\_CD,count(distinct MBR\_ACCT\_GID||cast(CRTE\_TS as char(**24**)) ) as logins

from DWU\_EDW.V\_ECCA\_INTRCTN a

where a.INTRCTN\_TYP\_CD in ('3082','3083','3178')

and INTRCTN\_RSLT\_CD = 'COMPLETED'

and CRTE\_DT between date&strt and date&stp

group by **1**,**2**,**3**,**4**

* + ECCR different fills

select CRTE\_DT,INTRCTN\_TYP\_CD,SYS\_ID,CHNL\_TYP\_CD,INTRCTN\_VAL, count(distinct b.ECCA\_RFRNC\_KEY\_NBR) as Fills

from DWU\_EDW.V\_ECCA\_INTRCTN a

join DWU\_EDW.V\_ECCA\_MBR\_TRX\_DENORM b on a.intrctn\_key\_id=b.intrctn\_key\_id

left join DWU\_EDW.V\_ECCA\_INTRCTN\_DAT c on a.intrctn\_key\_id=c.intrctn\_key\_id and INTRCTN\_VAL = 'REFILLFROMACCOUNT-1.0'

where a.INTRCTN\_TYP\_CD in ('3142','3160','3161','3040','3051','7040','7224','7225')

and INTRCTN\_RSLT\_CD = 'COMPLETED'

and CRTE\_DT between date&strt and date&stp

and ECCA\_RFRNC\_KEY\_ID = 'RX\_NUM'

* + FAST component

select LVL1\_ACCT\_ID,LVL1\_ACCT\_NM,SITE,COMPONENT,INTRCTN\_TYP\_CD,CRTE\_DT,

count(distinct a.intrctn\_key\_id) as interactions,count(distinct b.ECCA\_RFRNC\_KEY\_NBR) as Rx\_Counts,

count(distinct a.ecca\_mbr\_id) as mbrs

from DWU\_EDW.V\_ECCA\_INTRCTN a

join DWU\_EDW.V\_MBR\_ACCT\_DENORM d on a.MBR\_ACCT\_GID = d.MBR\_ACCT\_GID

join DWU\_EDW.V\_CLNT\_ACCT\_DENORM c on d.LVL3\_ACCT\_GID = c.LVL3\_ACCT\_GID

left join DWU\_EDW.V\_ECCA\_MBR\_TRX\_DENORM b

on a.intrctn\_key\_id=b.intrctn\_key\_id and ECCA\_RFRNC\_KEY\_ID = 'RX\_NUM'

join

(select INTRCTN\_VAL as SITE, intrctn\_key\_id

from DWU\_EDW.V\_ECCA\_INTRCTN\_DAT

where INTRCTN\_NM = 'FAST\_STYLE' and INTRCTN\_VAL in ('AETNACORE','AETNACONSUMER','AETNANAV','AETNANAVMED')

group by **1**,**2**) t1

on a.intrctn\_key\_id=t1.intrctn\_key\_id

join

(select INTRCTN\_VAL as COMPONENT, intrctn\_key\_id

from DWU\_EDW.V\_ECCA\_INTRCTN\_DAT

where INTRCTN\_NM = 'COMPONENT\_ID'

and INTRCTN\_VAL in ('CHECKDRUGCOSTS-3.0','CHECKDRUGCOSTSV3.0','CLAIMSHISTORY-1.0','CONSUMERDIRECTEDHEALTH','ORDERSTATUS-V-1.0','PHARMACYLOCATOR1.0','REFILLFROMACCOUNT-1.0','REFILLREMINDERS','REQUESTNEWRX-1.0','PRIORAUTH 1.0')

group by **1**,**2**) t2

on a.intrctn\_key\_id=t2.intrctn\_key\_id

where a.INTRCTN\_TYP\_CD in ('3000','3022','3032','3050','3090','3093','3130','3142','3160','3161','3193','3200','3201','3199')

and INTRCTN\_RSLT\_CD = 'COMPLETED'

and CRTE\_DT>=date'2016-11-19'

group by **1**,**2**,**3**,**4**,**5**,**6**

* + Two Way SMS

select LVL1\_ACCT\_ID,LVL1\_ACCT\_NM,a.intrctn\_key\_id,INTRCTN\_END\_TS(date) as CRTE\_DT,INTRCTN\_TYP\_CD,INTRCTN\_RSLT\_CD,

INTRCTN\_NM,REGEXP\_SUBSTR(INTRCTN\_VAL, '[0-9]+') as INTRCTN\_VAL

from DWU\_EDW.V\_ECCA\_INTRCTN a

join DWU\_EDW.V\_ECCA\_INTRCTN\_DAT b

on a.intrctn\_key\_id=b.intrctn\_key\_id

join DWU\_EDW.V\_MBR\_ACCT\_DENORM d on a.MBR\_ACCT\_GID = d.MBR\_ACCT\_GID

join DWU\_EDW.V\_CLNT\_ACCT\_DENORM c on d.LVL3\_ACCT\_GID = c.LVL3\_ACCT\_GID

where a.INTRCTN\_TYP\_CD in ('10001','10002','10003','10004','10005','10006','10007','10008','10009')

and INTRCTN\_RSLT\_CD = 'SENT'

and CRTE\_DT between date&strt and date&stp

and CHNL\_TYP\_CD = 'TEXT'

and INTRCTN\_NM in ('NUMBER\_OF\_RENEWALS','NUMBER\_OF\_REFILLS')

## Useful programs

R server:

* /home/ronxu/Yujie/CMK\_Call\_Savings.R
  + It schedule on ronxu’s account which will be automatically run every day

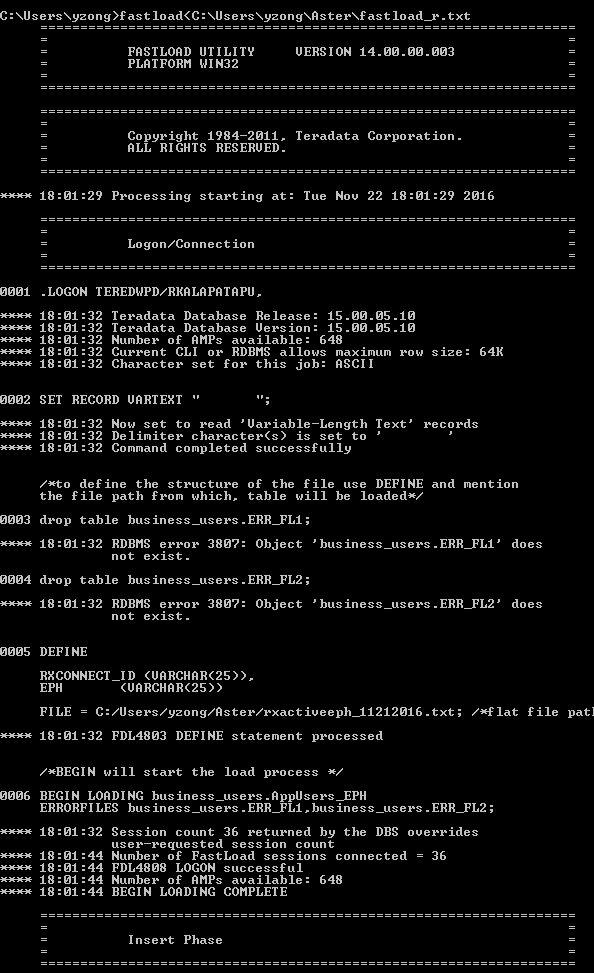
SAS EG:

* /mbr\_engmt/cvs4107dir/Metrics/Adoption\_KPI\_Weekly.sas
* /mbr\_engmt/cvs4107dir/Metrics/ICE\_Daily.sas
* /mbr\_engmt/cvs4107dir/Metrics/MTS\_Daily.sas
* /mbr\_engmt/cvs4107dir/Metrics/TWO\_WAY\_SMS\_Daily.sas
* /mbr\_engmt/cvs4107dir/Metrics/CMP\_SWAT\_Weekly.sas
* Other codes can be found at: [\\CVSCIFSP010\mis\_soma\Enterprise Digital Analytics\99 PERSONAL Folders\Yujie\Transition\SQL](file:///\\CVSCIFSP010\mis_soma\Enterprise%20Digital%20Analytics\99%20PERSONAL%20Folders\Yujie\Transition\SQL)

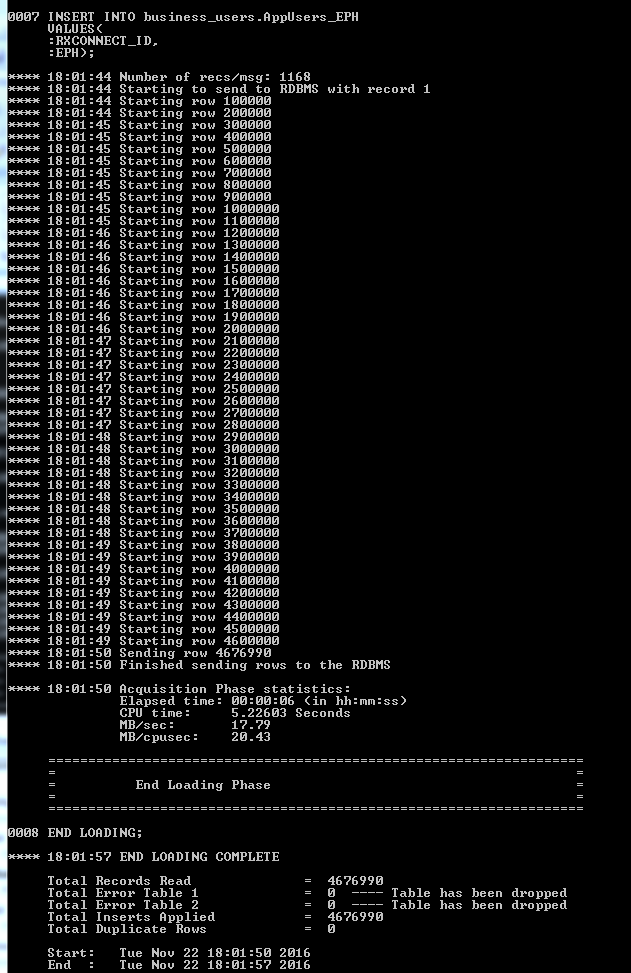
## Fast load

Fast Load utility is used to load data into empty tables. Since it does not use transient journals, data can be loaded quickly. It doesn't load duplicate rows even if the target table is a MULTISET table.

Sample codes are saved at: [\\CVSCIFSP010\mis\_soma\Enterprise Digital Analytics\99 PERSONAL Folders\Yujie\Transition\Fastload](file:///\\CVSCIFSP010\mis_soma\Enterprise%20Digital%20Analytics\99%20PERSONAL%20Folders\Yujie\Transition\Fastload)



From the example you can see it only take a few seconds to load nearly 5 million records.



Note: you need to make sure you create an empty table before doing the fast load. A sample code of creating empty table is here:

**create** **multiset** **table** DSS\_CEA2.YZ\_Boomerang\_CALL

(

UUID VARCHAR(255)

)

**primary** **index**(UUID)**;**

# Specialty

## EDW (DWU\_SPCLT)

All claim, member, client and other related data are stored in DWU\_SPCLT. This schema is specifically for Specialty data.

* V\_SPCLT\_ORDR\_DSPNS order dispensed table
  + Key ID: OD\_SPCLT\_PTNT\_GID, OD\_NDC\_CD, OD\_SPCLT\_PHMCY\_GID and so on
  + OH\_ORDR\_FILL\_DT is the fill date
  + OH\_SHPMT\_DT is the shipment date
  + OD\_RX\_NBR is Rx number
  + RX\_CNT is Rx count
* V\_SPEC\_DRUG specialty drug class table
  + Key ID: [DRUG\_PROD\_GID](https://paz1alaapdr1a.corp.cvscaremark.com/attribute/12639/)
  + OD\_NDC\_CD
  + [SPEC\_DRUG\_CLASS\_NM](https://paz1alaapdr1a.corp.cvscaremark.com/attribute/12648/)
  + [SPEC\_NDC\_CD](https://paz1alaapdr1a.corp.cvscaremark.com/attribute/12650/)
  + Filter on [CURR\_IND](https://paz1alaapdr1a.corp.cvscaremark.com/attribute/12640/) = ‘Y’
* V\_SPCLT\_PHMCY specialty pharmacy table
  + Key ID: [SPCLT\_PHMCY\_GID](https://paz1alaapdr1a.corp.cvscaremark.com/attribute/9849/)
  + [STORE\_NBR](https://paz1alaapdr1a.corp.cvscaremark.com/attribute/9876/)
  + Filter on [CURR\_IND](https://paz1alaapdr1a.corp.cvscaremark.com/attribute/12640/) = ‘Y’
* V\_SPCLT\_PTNT specialty patient table
  + Key ID: [SPCLT\_PTNT\_GID](https://paz1alaapdr1a.corp.cvscaremark.com/attribute/10392/)
  + [PTNT\_ID](https://paz1alaapdr1a.corp.cvscaremark.com/attribute/10457/)
  + [DIGITAL\_IND](https://paz1alaapdr1a.corp.cvscaremark.com/attribute/10418/)
  + Filter on [CURR\_IND](https://paz1alaapdr1a.corp.cvscaremark.com/attribute/12640/) = ‘Y’

Sample code from a past project I did for Shoba:

**select** PTNT\_ID,e.EPH\_LINK\_ID,GNDR\_CD,BRTH\_DT,DX\_CD,OD\_LVL1\_ACCT\_ID,OD\_LVL1\_ACCT\_NM,

OH\_ORDR\_FILL\_DT,OD\_RX\_NBR,RX\_CNT,OD\_DAY\_SPLY\_QTY,OD\_BOOK\_PRICE\_AMT,b.SPEC\_DRUG\_CLASS\_NM,

SPCLTY\_PHMCY\_PHMCY\_DESC,UPPER(d.CITY\_NM) **as** PHARM\_LOC,d.STORE\_NBR,

SYS\_ID,

**case** **when** SYS\_ID **is** **NULL** **then** 'OTHERS' **else** 'DIGITAL' **end** **as** Channel

**from** DWU\_SPCLT.V\_SPCLT\_ORDR\_DSPNS a

**join** DWU\_SPCLT.V\_SPEC\_DRUG b **on** b.SPEC\_NDC\_CD = a.OD\_NDC\_CD **and** b.CURR\_IND = 'Y'

**join** DWU\_SPCLT.V\_SPCLT\_PHMCY d **on** d.SPCLT\_PHMCY\_GID = a.OD\_SPCLT\_PHMCY\_GID **and** d.CURR\_IND = 'Y'

**join** DWU\_SPCLT.V\_SPCLT\_PTNT e **on** SPCLT\_PTNT\_GID = a.OD\_SPCLT\_PTNT\_GID **and** e.CURR\_IND = 'Y'

**left** **join**

(**select** tm.ECCA\_mbr\_id **as** Patient\_ID,

tm.ECCA\_RFRNC\_KEY\_nbr **as** Rx\_Num,

sys\_id **as** SYS\_ID,

a.OH\_ORDR\_FILL\_DT - t.crte\_dt **as** dt\_diff,

t.crte\_dt,

a.OH\_ORDR\_FILL\_DT **as** Order\_Date

**from** dwu\_edw.V\_ECCA\_INTRCTN t

**join** dwu\_edw.V\_ECCA\_MBR\_TRX\_DENORM tm

**on** t.intrctn\_key\_id=tm.intrctn\_key\_id **and** tm.ECCA\_RFRNC\_KEY\_ID= 'RX\_NUM'

**join** DWU\_SPCLT.V\_SPCLT\_ORDR\_DSPNS a

**on** tm.ECCA\_RFRNC\_KEY\_nbr = a.OD\_RX\_NBR **and** t.crte\_dt <= a.OH\_ORDR\_FILL\_DT

**join** DWU\_SPCLT.V\_SPCLT\_PTNT e **on** SPCLT\_PTNT\_GID = a.OD\_SPCLT\_PTNT\_GID **and** tm.ECCA\_mbr\_id = e.PTNT\_ID **and** e.CURR\_IND = 'Y'

**where** t.INTRCTN\_TYP\_CD **in** ('7043','6002','6003')

**AND** T.CRTE\_DT between date'2016-01-01' **and** date'2017-04-01'

**and** upper(t.INTRCTN\_RSLT\_CD) **in** ('COMPLETED','SUCCESS')

**and** OH\_ORDR\_FILL\_DT between date'2016-01-01' **and** date&stp

**Qualify** Row\_Number() Over(**Partition** **By** Patient\_ID,Rx\_Num,crte\_dt **ORDER** **BY** dt\_diff) = 1

) ecca

**on** ecca.Patient\_ID = e.PTNT\_ID

**and** ecca.Rx\_Num = a.OD\_RX\_NBR

**and** ecca.Order\_Date = a.OH\_ORDR\_FILL\_DT

**where** OH\_ORDR\_FILL\_DT between date'2016-01-01' **and** date&stp

**and** OD\_RX\_NBR>0

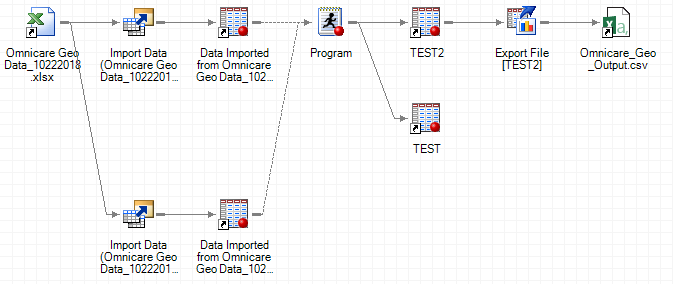
# Med-D

## Omnicare Closest Distance Report

The SAS EG project is saved at:

[\\CVSCIFSP010\mis\_soma\Enterprise Digital Analytics\99 PERSONAL Folders\Yujie\Transition\Omnicare](file:///\\CVSCIFSP010\mis_soma\Enterprise%20Digital%20Analytics\99%20PERSONAL%20Folders\Yujie\Transition\Omnicare)

The project flow is shown as below. The flow requires two imported sheets, one for SNF accounts and one for hospitals. Once the two data are imported, the data manipulation would be done in the SAS program and output a dataset “TEST2”. Then export the “TEST2” as csv format at /mbr\_engmt/cvs4107dir/



Every time you have new data, make sure to modify the two import works by either

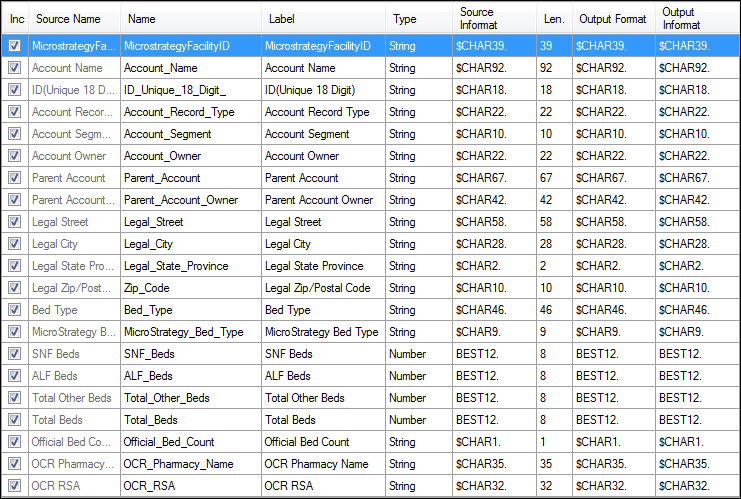
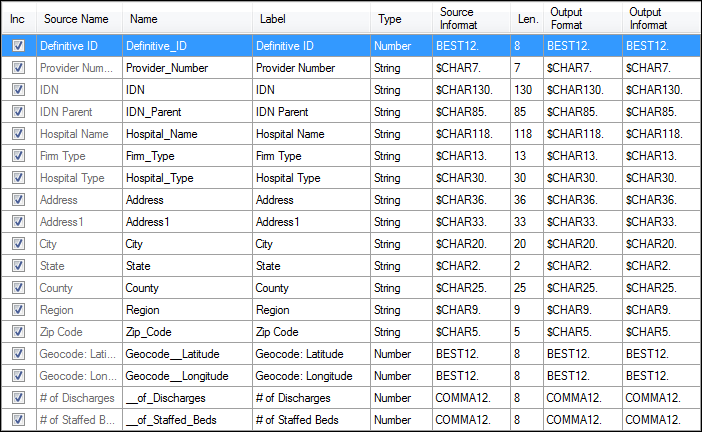
* Start a new import by selecting the “import data” under the File menu
* Or right clicking on the existing import works and select “modify import data”

Once you are in the import wizard, follow the instruction step by step. Please make sure:

* Call SNF account data as ‘input’
* Make sure the naming conventions are consistent in ‘input’
  + MicrostrategyFacilityID
  + Legal\_Street
  + Legal\_City
  + Legal\_State\_Province
  + Zip\_Code
* Call the hospital data as ‘input2’
* Make sure the naming conventions are consistent in ‘input2’
  + Definitive\_ID
  + Hospital\_Name
  + Geocode\_\_Latitude
  + Geocode\_\_Longitude
  + State
* Once everything settle down, then click the ‘run’ button to run the entire flow



* Currently the output file is saved at /mbr\_engmt/cvs4107dir/. If you want to change location, then just simply right click the output work and select ‘modify export file’ before running the flow

# Management

## Adobe admin account

* My username: yzong
* My password: Zyj\_1214
* To grant new people access, please go to <https://adminconsole.adobe.com/overview>
  + Username: [Yujie.zong@cvshealth.com](mailto:Yujie.zong@cvshealth.com)
  + Password: Zyj\_1214
  + Click ‘add user to organization’ and then follow the steps
* For some reasons some people might not be able to receive the system email. You need to login to adobe analytics as admin and go to ‘user management’ to setup/update their accounts

## Tableau Server admin

* My username: cvs\yzong
* My password: Ver\_1126
* To grant new people access, please go to ‘users’ and click ‘add users’
  + For active directory users, use domain\windows username (e.g. cvs\yzong)
* Manager the active users on regular basis and report to the Tableau management team at CVS. If anyone who did not login for over a year, then delete them

## Teradata accounts

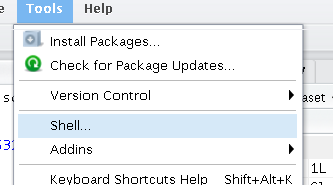
* EDW
  + Universal account
    - Username: cea\_user
    - Password: makem0ney4cvs
  + Personal account
    - Username: cvs4107
    - Password: Friday\_3
  + Metacenter: <https://metadata.caremark.com:8443/portal/>
    - Username: cvs4107
    - Password: welcome1
* IDW
  + Username: yzong
  + Password: Con\_1001
* Alation
  + Username: yzong
  + Password: Ver\_1126

## R Server

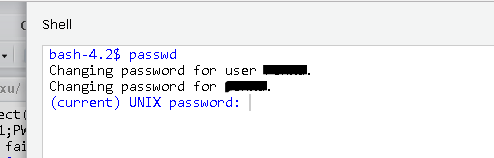
Navigate a web browser to the following address to access the server:

<http://10.228.129.26:8787/>

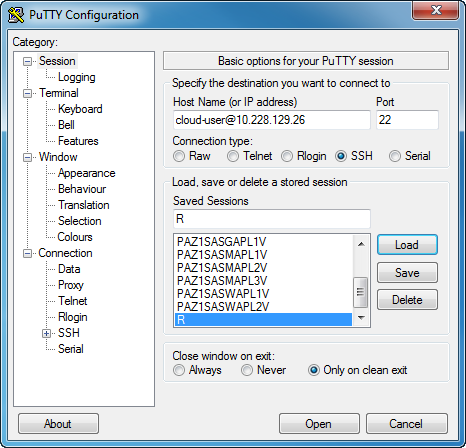
For regular users, Click ‘Tools’ -> ‘Shell’



Type ‘passwd’ to change your password.

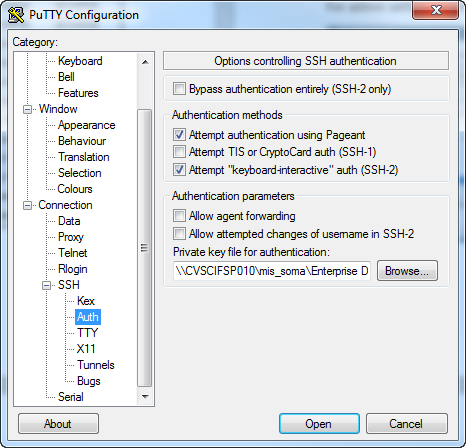


For **admin** setting, open putty and setup the host and port as follow:



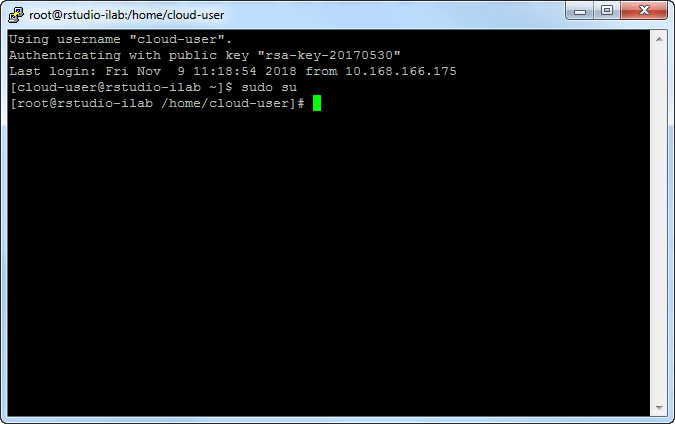
It’s very important to attach the private key file under ‘SSH’ → ‘Auth’:

[\\CVSCIFSP010\mis\_soma\Enterprise Digital Analytics\99 PERSONAL Folders\Ron\PuTTY\RonPrivateKey2.ppk](file:///\\CVSCIFSP010\mis_soma\Enterprise%20Digital%20Analytics\99%20PERSONAL%20Folders\Ron\PuTTY\RonPrivateKey2.ppk)



Once everything done, click ‘open’ to start the Linux window.

Type ‘sudo su’ to login as cloud user



Useful command for admin:

* Add user: useradd -d /home/ yzong / -m yzong
* Delete user: userdel yzong
* Change password: passwd yzong
  + Password will expire in 90 days. If the password doesn’t change before it expired, the crontab jobs would stop running
* Password information: chage -l yzong

All users’ account information are stored at:

[\\CVSCIFSP010\mis\_soma\Enterprise Digital Analytics\99 PERSONAL Folders\Ron\R Training\password manage.xlsx](file:///\\CVSCIFSP010\mis_soma\Enterprise%20Digital%20Analytics\99%20PERSONAL%20Folders\Ron\R%20Training\password%20manage.xlsx)

Please make sure to maintain this file.

Other instruction files are also available at:

[\\CVSCIFSP010\mis\_soma\Enterprise Digital Analytics\99 PERSONAL Folders\Ron\R Training](file:///\\CVSCIFSP010\mis_soma\Enterprise%20Digital%20Analytics\99%20PERSONAL%20Folders\Ron\R%20Training)

## Cron job scheduler

All existing jobs are already under ronxu’s account. If you want to add any new jobs, then go to **/home/ronxu/my\_schedule.cron**

15 \* \* \* \* /bin/Rscript /home/ronxu/apipulldata/webtrend\_hourly.R > /home/ronxu/apipulldata/webtrend\_log.txt

55 \* \* \* \* /bin/Rscript /home/ronxu/apipulldata/adobe\_hourly.R > /home/ronxu/apipulldata/adobe\_log.txt

25 6 \* \* \* /bin/Rscript /home/ronxu/Foresee/Foresee\_agg\_daily2.R > /home/ronxu/Foresee/Foresee\_agg\_daily2.log

25 7 \* \* \* /bin/Rscript /home/ronxu/apipulldata/CVS\_FLASH\_DAILY.R > /home/ronxu/apipulldata/CVS\_FLASH\_DAILY.LOG

35 \* \* \* \* /bin/Rscript /home/ronxu/apipulldata/CaremarkHourly.R > /home/ronxu/apipulldata/CaremarkHourly.log

1 7 \* \* 1 /bin/Rscript /home/ronxu/Tunde/flash\_pbm.R > /home/ronxu/Tunde/flash\_pbm.log

13 6 \* \* 1 /bin/Rscript /home/ronxu/Tunde/HY\_flash\_ECCR.R > /home/ronxu/Tunde/HY\_flash\_ECCR.log

13 10 \* \* \* /bin/Rscript /home/ronxu/Tunde/shipcon.R > /home/ronxu/Tunde/shipcon.log

10 8 \* \* \* /usr/lib64/R/bin/Rscript /home/ronxu/Yujie/CMK\_Call\_Savings.R > /home/ronxu/Yujie/CMK\_Call\_Savings.log

15 8 \* \* \* /usr/lib64/R/bin/Rscript /home/ronxu/Yujie/Foresee\_alert.R > /home/ronxu/Yujie/Foresee\_alert.log

50 7 \* \* \* /usr/lib64/R/bin/Rscript /home/ronxu/Yujie/Pharm\_Dashboard\_Data.R > /home/ronxu/Yujie/Pharm\_Dashboard\_Data.log