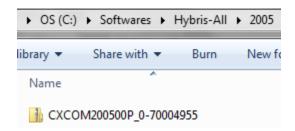
SAP Commerce = eComm Solution (or) eComm Software.

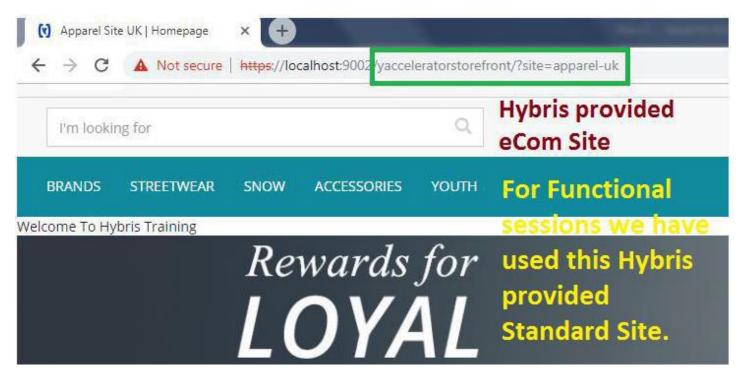
By using SAP Comm – We can develop something like "Croma ... Amazon ... Reliancedigital and ...".

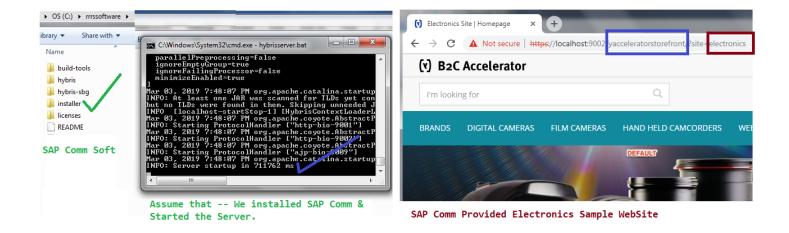
Note = SAP Comm is delivered for us as Suite / ZIP file.

After downloading SAP comm software, you can see like below:

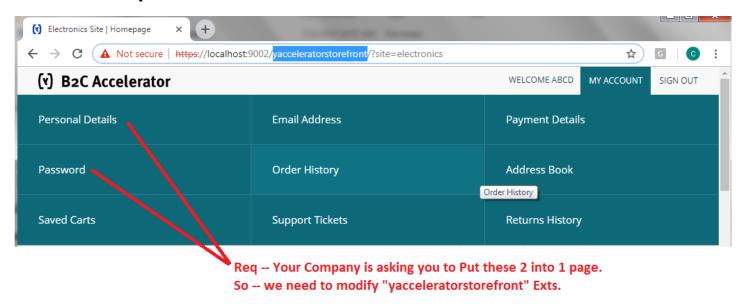


Note: = After installing above SAP Comm provided **recipes** [templates] ... we can get eComm Sample Site as below: -





Business Requirement =



Thumb Rule = Generally we don't modify anything which is available inside the **bin** directory. Bin is for hybris **platform** purpose.

Q = What happens if we modify something which is there inside bin\modules (or) bin\platform folder? =

It will work (no problem). But when we do the upgrade, your changes will be lost (**Upgrade is difficult**).

Conclusion = Even if there is **1 line of code** change, don't modify anything directly inside the SAP Commerce provided Exts (Predefined Exts).

Intead of modifying directly ... we can create our own Exts copy.

Q = Are we going to do the client specific changes (customizations) directly inside SAP Comm provided Exts (or) Predefined Exts? = No

.

Q = Why generally we don't modify **predefined Exts**?

- 1) Upgrade is difficult
- 2) Even if we have 1 line code change also, don't modify directly in predefined Exts.

Note = So, you need to create a copy of these predefined Exts & do client specific changes.

That means – We need to create our own site.

Note =

SAP Comm Sample Site=

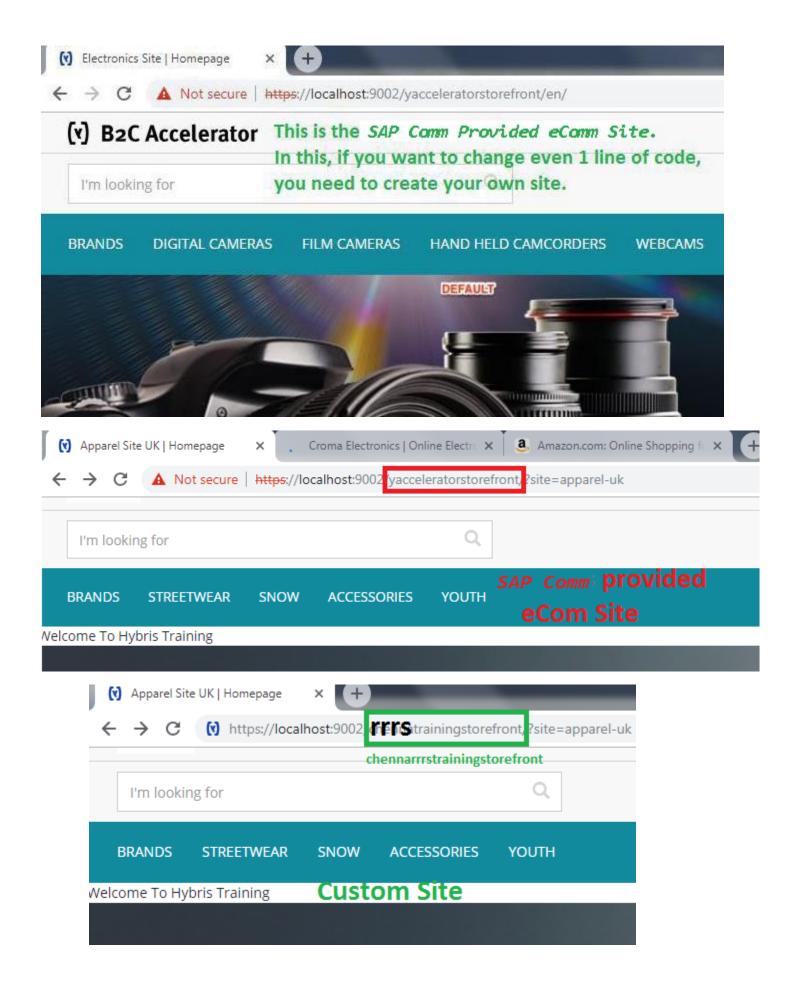
https://localhost:9002/yacceleratorstorefront/?site=apparel-uk

Client Custom Site =

https://localhost:9002/chennarrrstrainingstorefront/?site=apparel-uk

Croma Company =

https://localhost:9002/cromastorefront/?site=apparel-uk



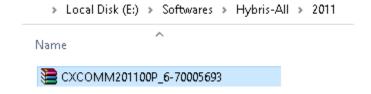
Q1 = How to create copy of eCom Site (Copy of >=1 Ext)?

= ant modulegen

Q2 = How to create copy of only 1 Ext = ant extgen

Step sfor "Creating Custom eComm Site"?

Step 1 = Download SAP Commerce Software

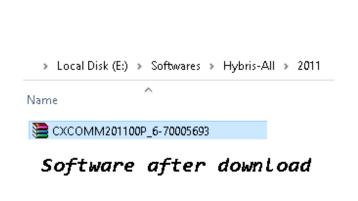


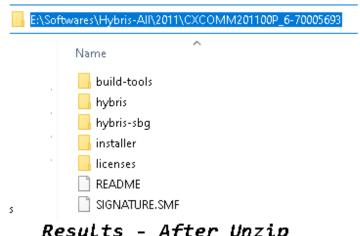
Step 2 = Unzip "SAP Comm" Software

For Unzip – Use tools like "7-ZIP / WinZip / ...".

7-ZIP Software donwload Link =

https://www.7-zip.org/download.html





Results - After Unzip

Now -- SAP Comm Path (or) SAP Comm Loc =

E:\Softwares\Hybris-All\2011\CXCOMM201100P_6-70005693

Here we can see there are "_/-/spaces/...".

Best practice = Try to avolid "_/-/ spaces" in SAP Comm Loc / Path.



Now – SAP Comm Path (or) Loc = E:\rrrssoftware

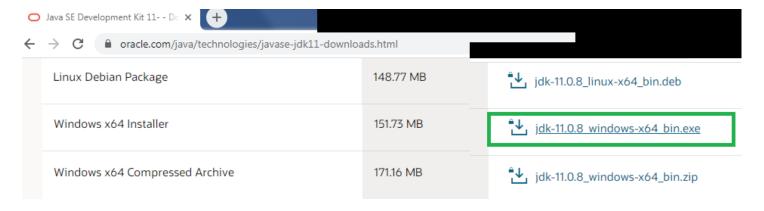
Step 3 = Install Java & Set the Path

1905 / 2005 / **2011** = Requires **JDK 11** (or) SAP Machine 11.

6.X / 1808 / 1811 = Requires Java 8

Java download Software Link =

https://www.oracle.com/java/technologies/javase-jdk11-downloads.html



After download, install JDK 11 by double click on "jdk-11.0.8_windows-x64_bin.exe"

After installation - You can see: -



Your Java Location = C:\Program Files\Java\jdk-11.0.7

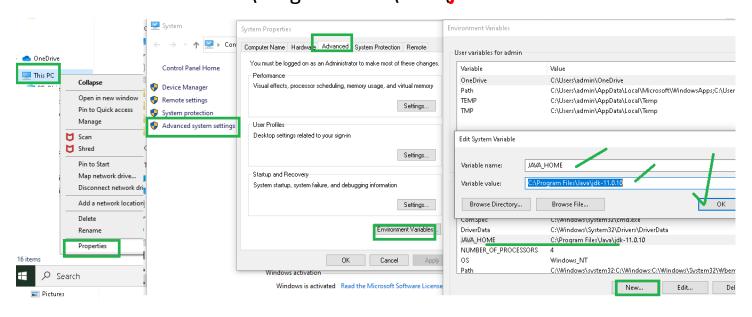
JAVA HOME = C:\Program Files\Java\jdk-11.0.7

Set the "JAVA_HOME" in Environment Varaibles =

RMB on "This PC" → Properties → Advanced System Settings → Advanced → Environment Variables → New [System Variables]

Variant Name = JAVA_HOME

Variable Value = C:\Program Files\Java\jdk-11.0.7

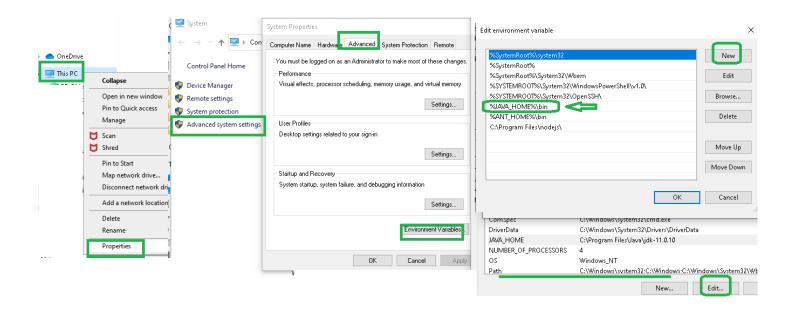


Set the "Path" in Environment Varaibles =

RMB on "This PC" → Properties → Advanced System Settings → Advanced → Environment Variables → Select Path [Edit]

Now — Edit Path & Just add JAVA_HOME [Do not delete previous path] like below: -

path = %JAVA_HOME%\bin



Q = How to verify Java version is set correctly (or) not?

Open Command window & type "java -version"

```
C:\Users\GETR-S===>java -version

java version "11.0.7" 2020-04-14 LTS

Java(TM) SE Runcime Environment 18.9 (build 11.0.7+8-LTS)

Java HotSpot(TM) 64-Bit Server UM 18.9 (build 11.0.7+8-LTS, mixed mode)
```

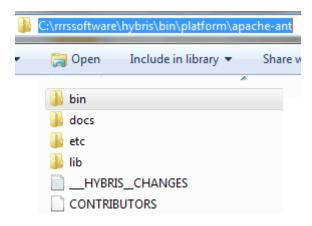
Step 4 = Set the ANT Path?

For build purpose – we use the "Ant tool / Maven tool / ...".

ANT is already part of "SAP Commerce" package.

ANT no need to download separately.

Q = Where can we see the "ANT Tool"?

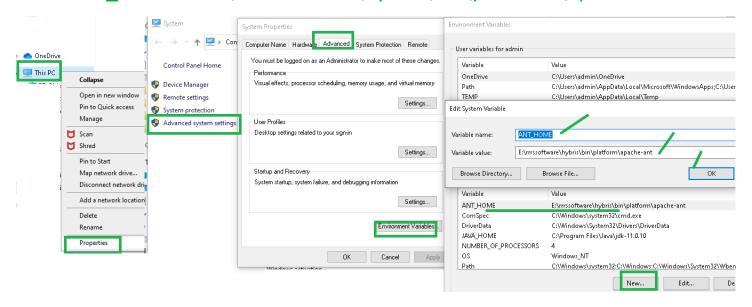


RMB on "This PC" → Properties → Advanced System settings → Advanced → Environment Variables → New [System Variables]

Variable name = ANT_HOME

Variable Value = E:\rrrssoftware\hybris\bin\platform\apache-ant

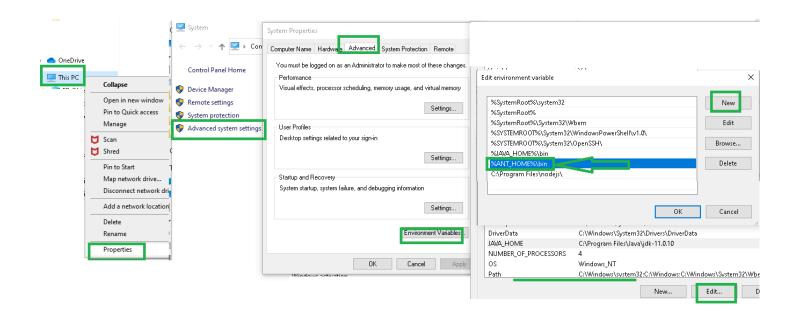
ANT_HOME = C:\rrrssoftware\hybris\bin\platform\apache-ant



Path = RMB − This PC → Properties → Advanced system settings → Advanced → Environment Variables → Path [Select] → Edit

Now – Edit Path & Just add **ANT_HOME** [Do not delete previous path] like below: -

Path = %ANT HOME%\bin



Q = How to verify ANT path is set correctly (or) not?

Open Command window & type "ant -version"



Step 5 = Set the "admin" user password

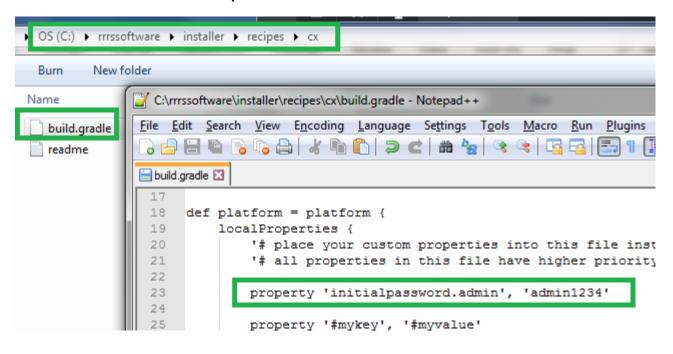
If we take old version ["5.X / 6.X / 1808 / 1811"] == Default password for "admin" user is = "nimda".

But, for security reasons in latest we need to set admin user pwd.

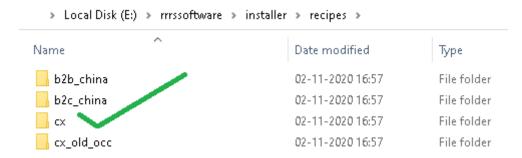
Last version [1905 / 2005 / 2011] = Comes with **no default password** for the Administration users.

So, we need to set the password before "build / initialize" the system 1st time.

Q = How to set the default password for admin users?

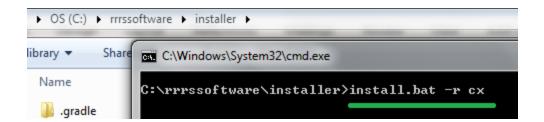


Step 6 = Install "SAP Comm" Software (or) Recipe



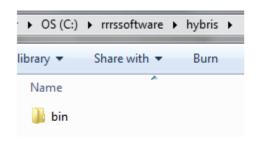
[Windows System] Syntax = C:\rrrssoftware\installer>install.bat -r cx

[Mac System] Syntax = C:\rrrssoftware\installer>install.sh -r cx

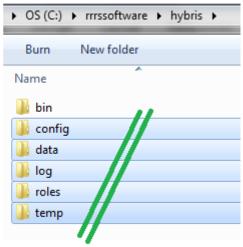




====>



Before "SAP Comm" Installation.



After "SAP Comm" Installation.

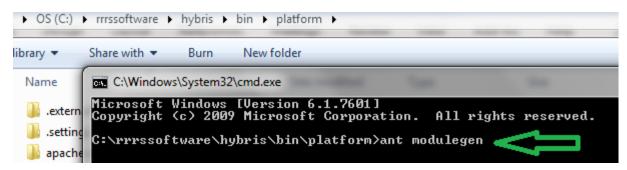
Step 6 = Create Custom eComm Site

In "Step 5" – We created standard eComm site (or) OOTB eComm site.

But – We want "Custom" eComm site based on "Standard eComm (or) OOTB eComm Site" (or) On top of OOTB eComm Site.

Now – It's time do "Creation of custom b2c eComm Site?

6.1 = C:\rrrssoftware\hybris\bin\platform>ant modulegen



6.2 = Choose Template = [accelerator]

```
C:\Windows\System32\cmd.exe - ant modulegen

Trying to override old definition of task create_wro_addons_xml
Trying to override old definition of task touchFutureTimestamp

modulegen:
    [input]
    [input] Please choose a template for generation.
    [input] Press [Enter] to use the default value ([accelerator], acceleratorordermanagement, commercewebservices)
```

6.3 = Choose Module Extension Name = chennarrrstraining

```
C:\Windows\System32\cmd.exe-ant modulegen

Trying to override old definition of task touchFutureTimestamp

modulegen:
    [input]
    [input] Please choose a template for generation.
    [input] Press [Enter] to use the default value ([accelerator], acceleratorord

    [input]
    [input] Please choose the name of your module extension. It has to start with
    [input] Press [Enter] to use the default value [training]

chennarrstraining
```

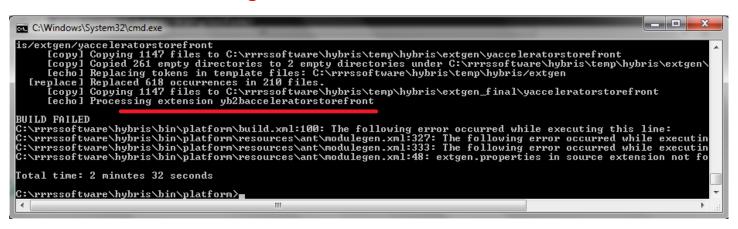
6.4 = Enter Package Name = com.chennarrrs.chennarrrstraining

```
C:\Windows\System32\cmd.exe-ant modulegen

[input] Press [Enter] to use the default value ([accelerator], acceleratorord |
[input] [input] Please choose the name of your module extension. It has to start with [input] Press [Enter] to use the default value [training]
[chennarrstraining [input]
[input] Please choose the base package name of your extensions. It has to ful add its name to this package.
[input] Press [Enter] to use the default value [org.training]

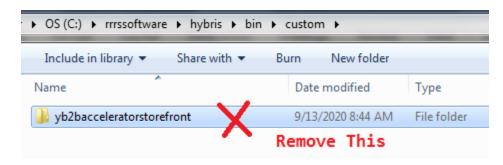
com.chennarrs.chennarrstraining
```

Note = After 6.4 ... If we get below error – How to fix?



Solution =

1st – Remove below extension from "C:\rrrssoftware\hybris\bin\custom"



Next – Remove "yb2bacceleratorstorefront" extension from

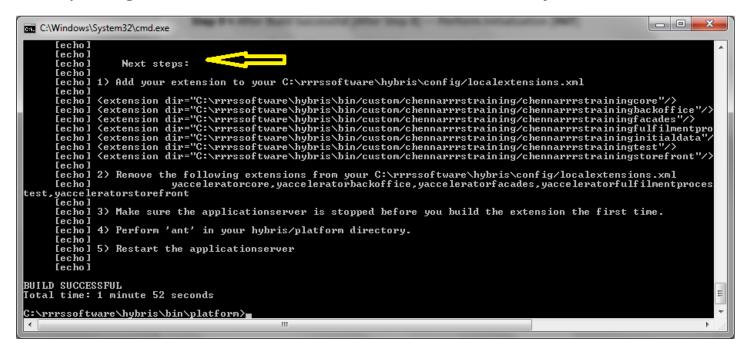
"C:\rrrssoftware\hybris\config\localextensions.xml"

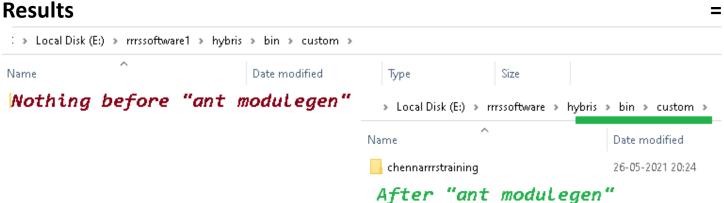
```
    OS (C:) ➤ rrrssoftware ➤ hybris ➤ config ➤

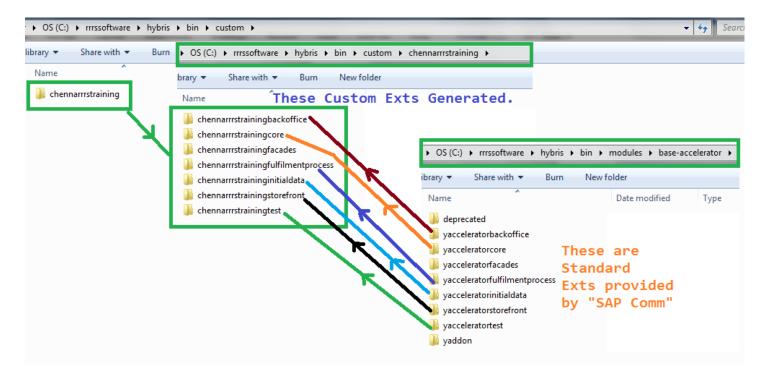
         New folder
                  C:\rrrssoftware\hybris\config\localextensions.xml - Notepad++
Name
                   File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
backup
                   ) 🖆 🗎 🖺 🤚 🖟 🚵 🔏 🖍 🖍 🖍 🖒 🖒 🗩 🗩 😅 🖒 🎟
 🖟 customize
                   💾 build.gradle 🔛 📙 localextensions.xml 🔀
languages
                        licence
                          '../bin/platform/resources/schemas/extensions.xsd'>
                          <extensions>
                             <path dir='${HYBRIS BIN DIR}' autoload='false' />
  .classpath
_____ .project
                             <!-- <extension name='yb2bacceleratorstorefront' /> --> X Remove This
 | local.properties
                              <extension name='adaptivesearch' />
  localextensions
                              <extension name='adaptivesearchbackoffice' />
```

Now – Repeat Step 6 [6.1 – 6.4] ...

Finally, we get below Successful Results with Next Steps







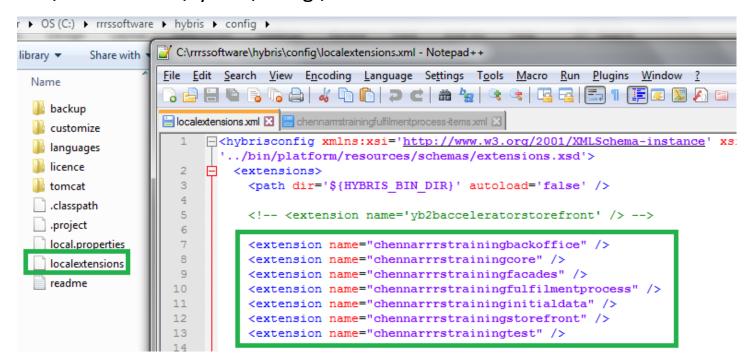
yacceleratorstorefront [Standard Ext] copy = chennarrrstrainingstorefront
[Custom Ext]

yacceleratorfacades [Standard Ext] copy = chennarrrstrainingfacades
[Custom Ext]

====

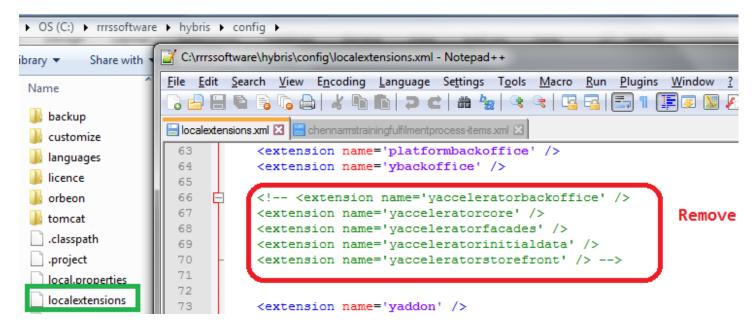
```
[echo] [e
```

Step 6.5 = Add generated custom Extensions inside
"C:\rrrssoftware\hybris\config\localextensions.xml"



6.6 = [Next Steps] = Remove Standard Exts from

"C:\rrrssoftware\hybris\config\localextensions.xml"

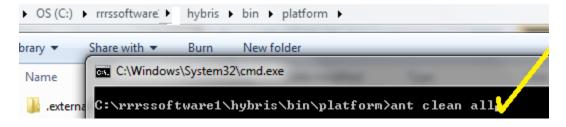


6.7 = [Next Steps] = Stop the Application Server if running

Step 7 = Do the Build now

Syntax [1st time] = C:\rrrssoftware\hybris\bin\platform>ant clean all (or)

Syntax = C:\rrrssoftware\hybris\bin\platform>ant all



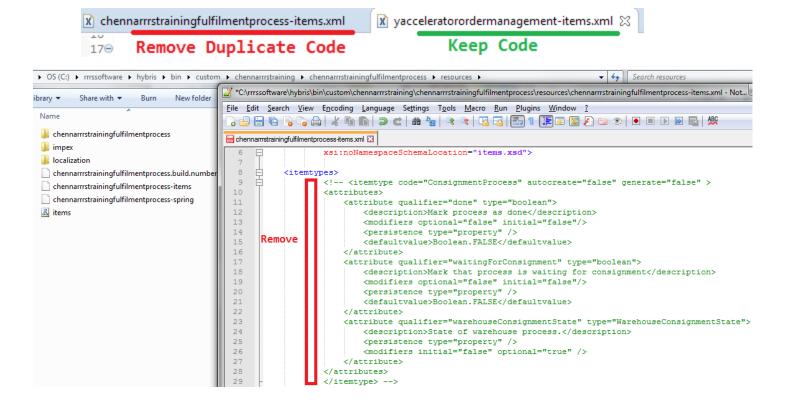
Note = If we get any below error – How to fix?

```
BUILD FAILED

C:\rrssoftware\hybris\bin\platform\build.xml:13: The following error occurred while executing this line:
C:\rrssoftware\hybris\bin\platform\build.xml:13: The following error occurred while executing this line:
C:\rrssoftware\hybris\bin\platform\resources\ant\compiling.xml:73: The following error occurred while executing this line:
C:\rrssoftware\hybris\bin\platform\resources\ant\antmacros.xml:584: The following error occurred while executing this line:
C:\rrssoftware\hybris\bin\platform\resources\ant\antmacros.xml:587: Java.lang.lllegalArgumentException: cannot merge namespace (\yacceleratororderman agement) into (\xi\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm{c}\mathrm
```

Solution = Find the duplicate code & removed it.

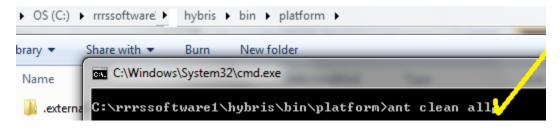
In this case, we can see same code is available in below 2 files.



Step 8 = Do the Build now

Syntax [1st time] = C:\rrrssoftware\hybris\bin\platform>ant clean all (or)

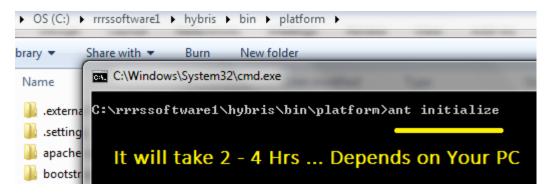
Syntax = C:\rrrssoftware\hybris\bin\platform>ant all



Step 9 = After Build Successful [After Step 8] ---

Perform Initialization [INIT]

C:\rrrssoftware\hybris\bin\platform>ant initialize



You take any eComm site. There will be common tables.

Example = Order ... Cart ... Product ... User ...

Q = Do we need to create these tables? = No need

Then what? =

"SAP Comm" already giving code for these tables = *-items.xml

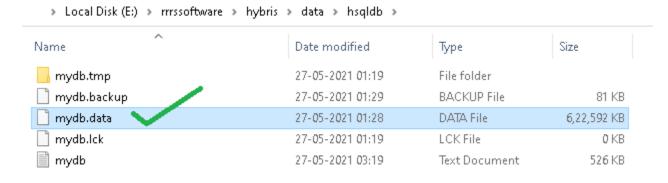
What next? =

We need to execute *-items.xml code.

```
🖹 core-items.xml 💢
1587
1588⊖
                        extends="Principal"
                                                                                                                   User
                        jaloclass="de.hybris.platform.jalo.user.User
1590
                                                                                                                   Product
                        autocreate="true
1591
                        generate="true">
1592
                                                                                                                   Cart
                                                                                    INIT / Update
1593
                  <deployment table="Users" typecode="4" propertytable="Use</pre>
1594
                  <attributes>
                                                                                                                   Order
1595
                      <attribute autocreate="true" qualifier="currentTime"</pre>
                          <modifiers read="true" write="false" search="fals</pre>
1596
                          <persistence type="dynamic"/>
1597
                                                                                                                     SAP Comm Database
                      </attribute>
1598
1599⊜
                      <attribute autocreate="true" qualifier="currentDate"</pre>
                          <modifiers read="true" write="false" search="fals</pre>
1600
1601
                          <persistence type="dynamic"/>
```

Note = During the INIT / Update ... required tables [Cart ... Order ... User ... Products ...] will be created based on *-items.xml

Q = Where can we see the HSQL DB (or) Tables?



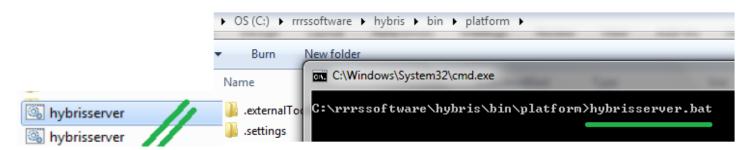
Step 10 = After Initialization [After Step 9] - Start the Hybris Server: -

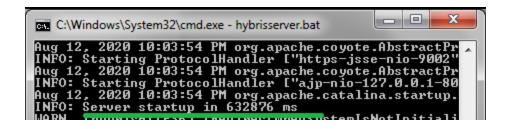
[Windows System] Syntax =

C:\rrrssoftware\hybris\bin\platform>hybrisserver.bat

[Mac System] Syntax =

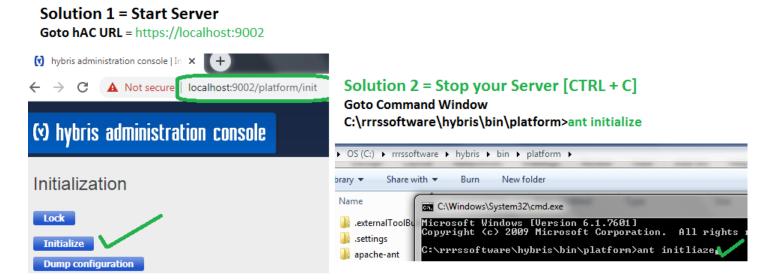
C:\rrrssoftware\hybris\bin\platform>hybrisserver.sh





Step 11 = [Optional] After Server Starts, Do the "Initialization [INIT]" from hAC [1st time only]

Note = If we completed successfully "Step 9" then we don't need to do this Step 11.



Note = INIT generally takes 1 - 3 Hrs depends on your PC.

We should not do below when INIT is happening: -

- 1) Don't close the browser
- 2) Don't close the command window
- 3) Make sure your system is not going in sleeping mode

Note = If any above happens then there is a possibility that, you might not get 100% accurate results.

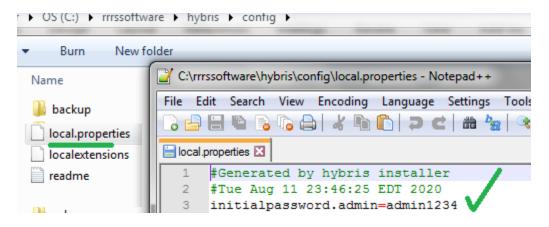
Step 12 = We can Test the Results (or) **Q** = What we get after successful installation of "SAP Comm [cx] – Custom"?

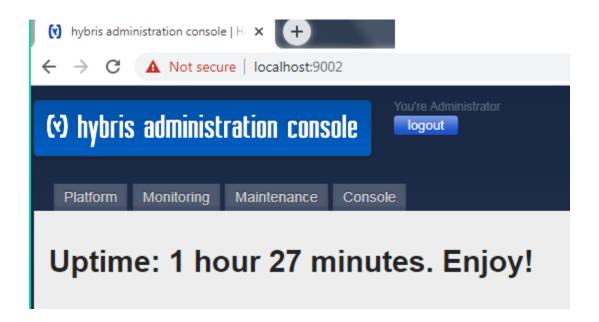
1) hAC [Hybris Administrative Console]

URL = https://localhost:9002

Username = admin

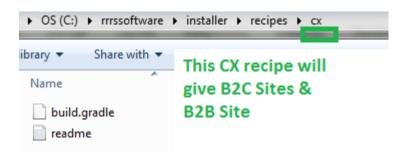
Password = admin1234

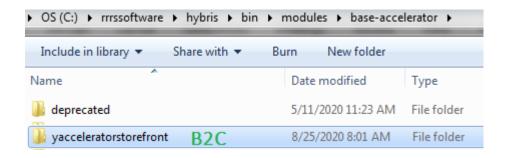




2) Sites

We have installed **cx recipes**.





Bcoz of cx recipe – We get 3 B2C Sample Custom Sites =

a) Apparel-UK =

https://localhost:9002/chennarrrstrainingstorefront/?site=apparel-uk

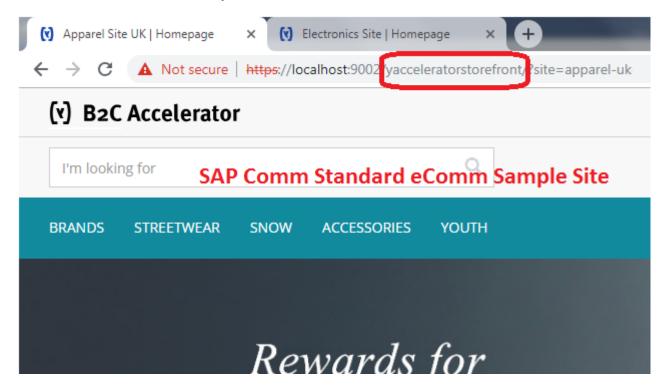
b) **Apparel-DE** =

https://localhost:9002/chennarrrstrainingstorefront/?site=apparel-de&clear=true

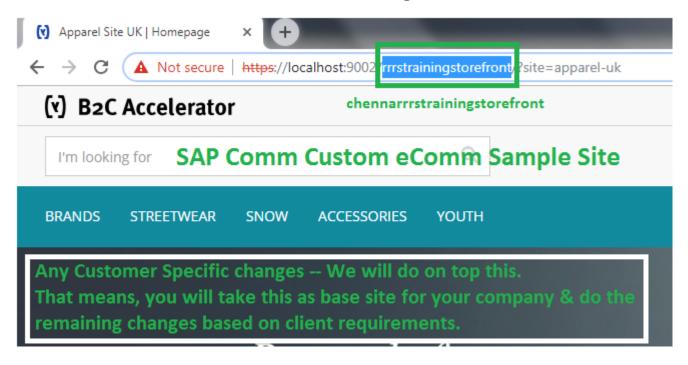
c) **Electronics** =

https://localhost:9002/chennarrrstrainingstorefront/?site=electronics&c lear=true

OOTB eComm Site = yacceleratorstorefront



Custom eComm Site = chennarrrstrainingstorefront

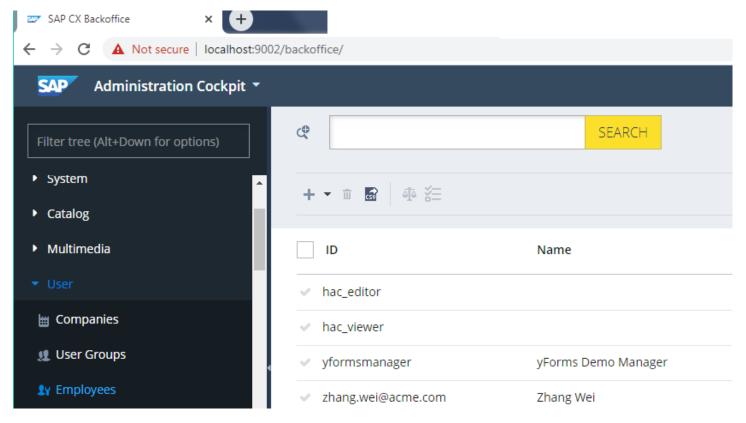


3) Backoffice

URL = https://localhost:9002/backoffice/

Username = admin

& Password = admin1234



Toad Toll == SQL Developer Studio == "SAP Comm - Backoffice".

Q = What we do with "Toad / SQL Developer Studio"?

1) It connects to DB

- 2) We can see all the tables
- 3) We can see the records inside the tables
- 4) We can perform "Insert record / Update record / Delete record"

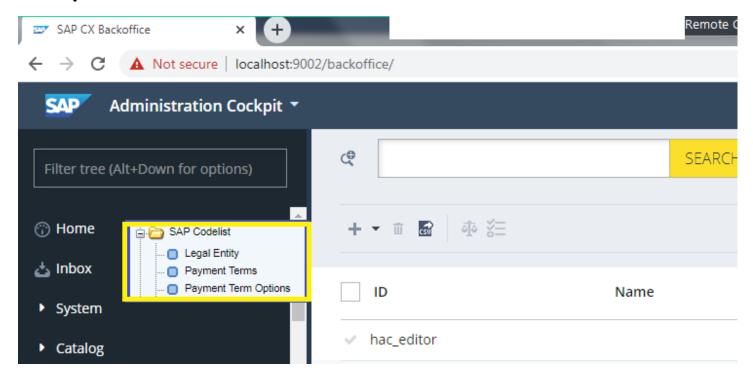
Q = What we do with "Backoffice"?

- 1) It connects to DB
- 2) We can see important tables [cart ... order ... user ... product...]
- 3) We can perform CURD operations [Insert / Update / Delete / Get]

Q = Can we see the tables which are not there by default in backoffice [In left navigation node structure]?

=== Yes. We can do the backoffice customization for this.

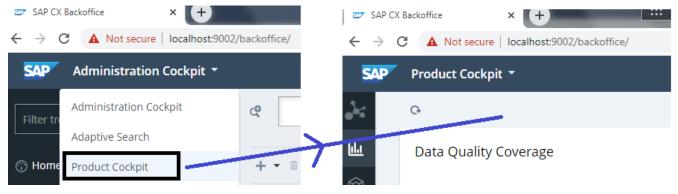
Example =



4) Product Cockpit

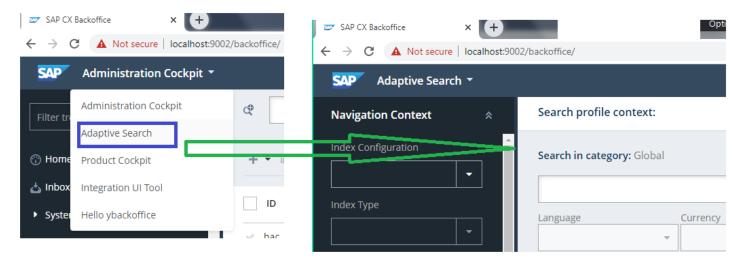
Product Cockpit is the small software.

With the help of the "**Product Cockpit**" -- Product Manager [**PM**] can manage [add product / update product / delete product / ...] the products easily.



Contact Us = ChennaReddyTraining@RRRS.CO.IN

5) Adaptive Search

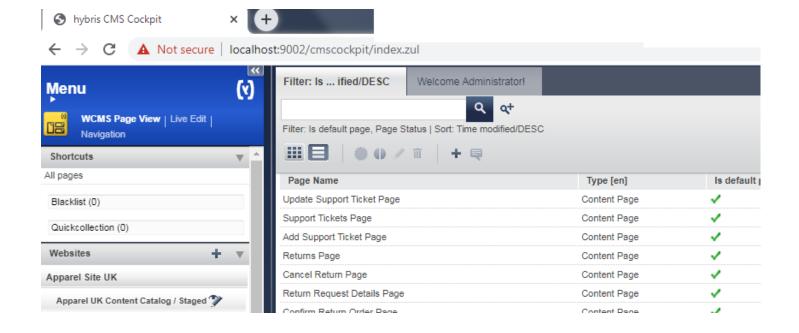


6) Cmscockpit

CMS Cockpit is the small software.

With the help of the "CMS Cockpit" -- Content Manager [CM] can manage [add content / update content / delete content / ...] the Content easily.

URL = https://localhost:9002/cmscockpit/index.zul

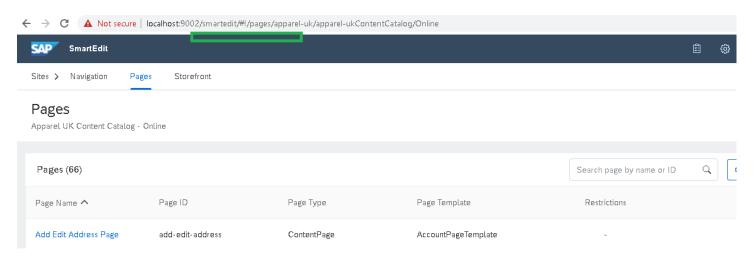


7) SmartEdit

Smart Edit is the small software.

With the help of the "Smart Edit" -- Content Manager [CM] can manage [add content / update content / delete content / ...] the Content easily.

URL = https://localhost:9002/smartedit/



8) CS Cockpit

Purpose - Customer Service Agent (Create Ticket ...).

https://localhost:9002/backoffice/login.zul

csagent (or) CustomerSupportManager & PWD = You can reset

9) Admin Cockpit

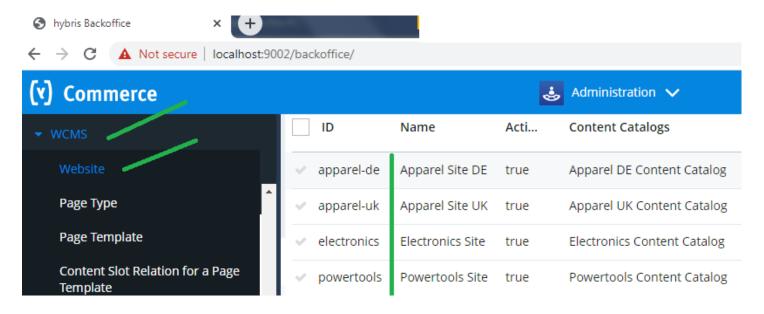
Purpose – We can perform admin related activities

https://localhost:9002/admincockpit/login.zul

admin admin1234

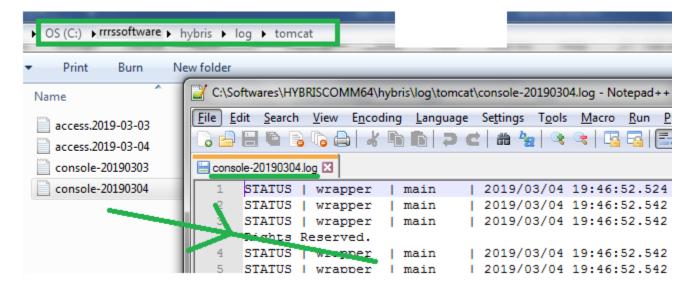
10) ====

Q = Bcoz of cx recipe we get **3 b2c sites** & **1 b2b site**. Where can we see this site details?



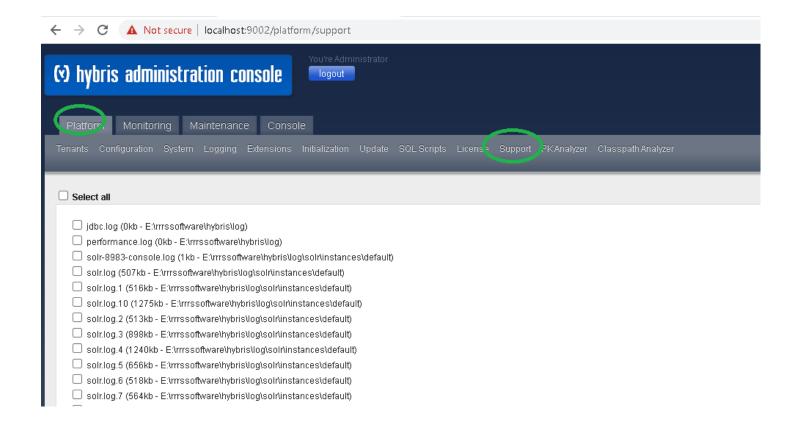
Q = How to check the Logs (or) Where can we see the logs?

Sol1 =



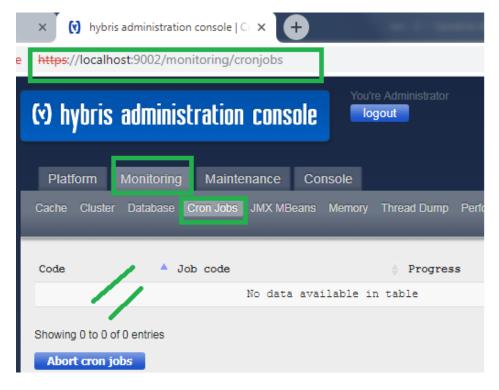
Sol2 = From hAC

-- Platform - Support

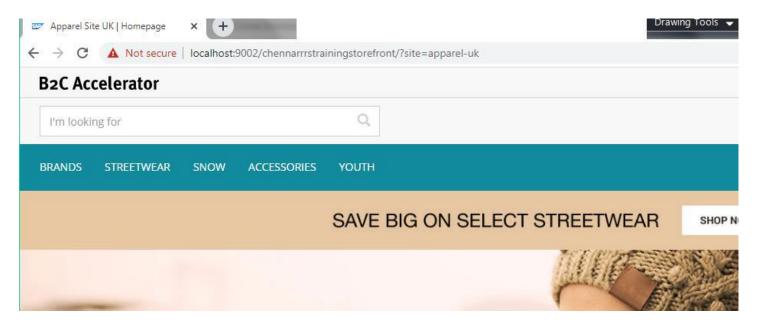


Note = After starting server, there will be some cronjob running every 1 min by default.

Q = Where can we see that default running cronjobs? = hAC



Note = After installation of "SAP Comm" ... We get **80% Site** ready which is suitable for customer. Like below: -



We are able to see above site results because are there lots of tables created behind?

Q1 = When those tables are created?

During the INIT / Update.

Q2 = What are the table created?

Cart ... User ... Order ... Product ... Category ...

Q3 = Those tables are created means, there is code behind. Where can we see that code?

*-items.xml

Q4 = What *-items.xml contains?

Database Modeling / Database Design

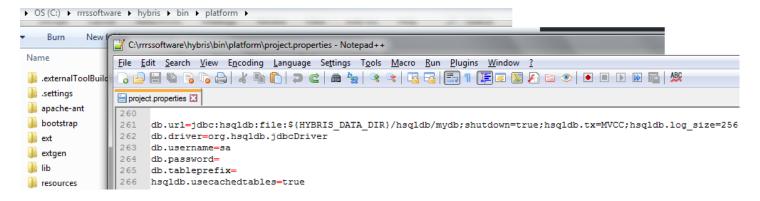
Q5 = Above tables are created where?

SAP Comm by defaults comes up with "HSQL DB".

Above tables are created in "HSQL DB".

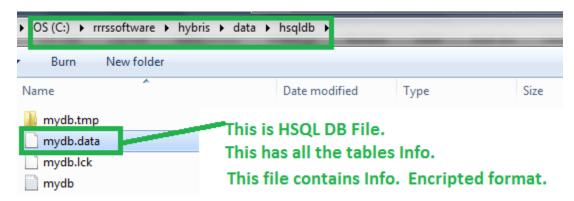
Q6 = Where can we see the SAP Comm provided HSQL DB Connection Details?

C:\rrrssoftware\hybris\bin\platform\project.properties



Q7 = Where can we see the "HSQL DB"?

C:\rrrssoftware\hybris\data\hsqldb\abcd\mydb.data



Note = mydb.data is in encrypted format.

Q = How can we see what table / columns are there in HSQL DB?

Step 1 = Download the Squirrel SQL Client [Jar file]

URL = https://sourceforge.net/projects/squirrel-sql/

a squirrel-sql-snapshot-20200915_2206-sta... 9/16/2020 10:36 PM Executable Jar File 59,801 KB

Step 2 = Install the Squirrel SQL Client [By DClick on Jar File] Next Next Enter the Installation Path



 \rightarrow Next \rightarrow Next \rightarrow Next \rightarrow Done

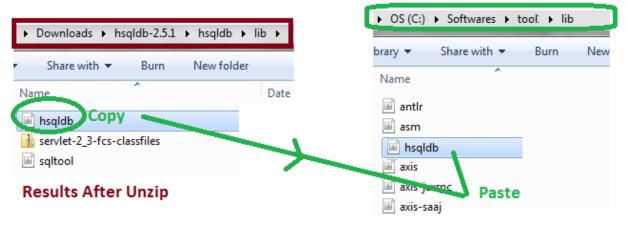
Step 3 = Download HSQL Driver

URL = https://sourceforge.net/projects/hsqldb/



Unzip the download "hsqldb"

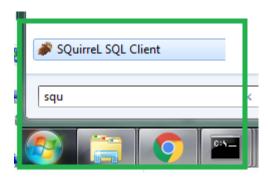
Step 4 = Copy the HSQLDB Jar file & Paste in Squirrel SQL Client



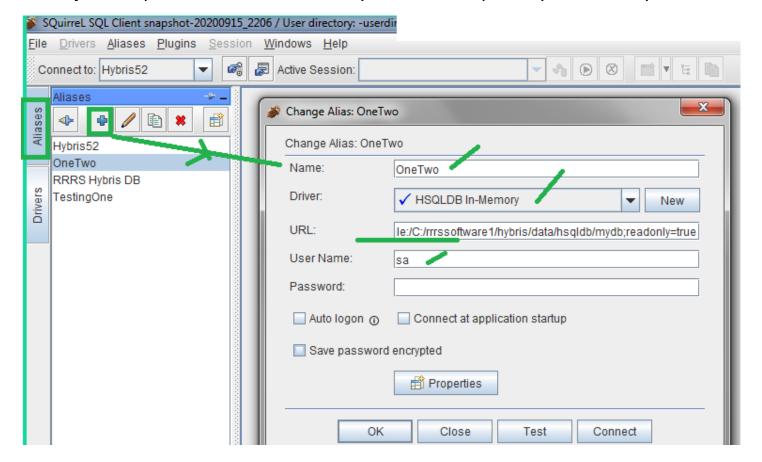
Step 5 = Open the Squirrel Client & Configure the HSQL DB

Solution 1 = C:\Softwares\tool>**squirrel-sql.bat**

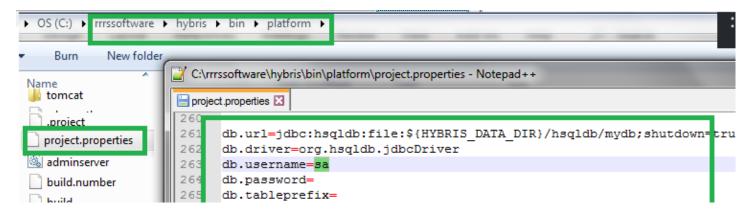
Solution 2 = Click on Start Button – Search for "Squirrel" & Open it



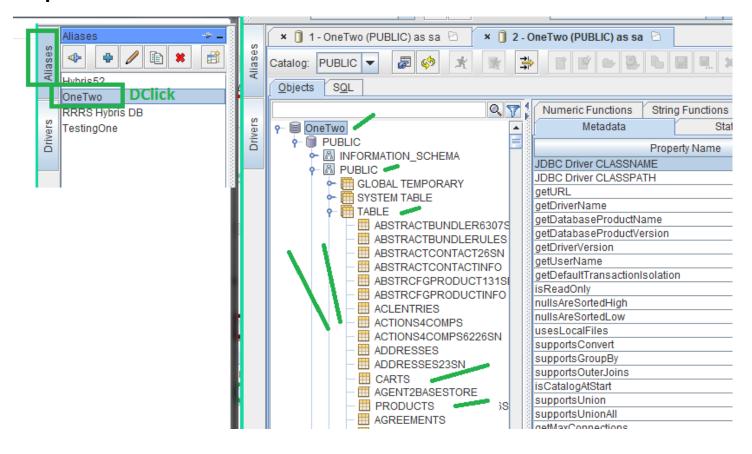
URL = jdbc:hsqldb:file:/C:/rrrssoftware/hybris/data/hsqldb/mydb;readonly=true
URL = jdbc:hsqldb:file:C:/rrrssoftware/hybris/data/hsqldb/mydb;readonly=true
URL = jdbc:hsqldb:file::/rrrssoftware/hybris/data/hsqldb/mydb;readonly=true



Q = From where we are getting the User Name & Password?

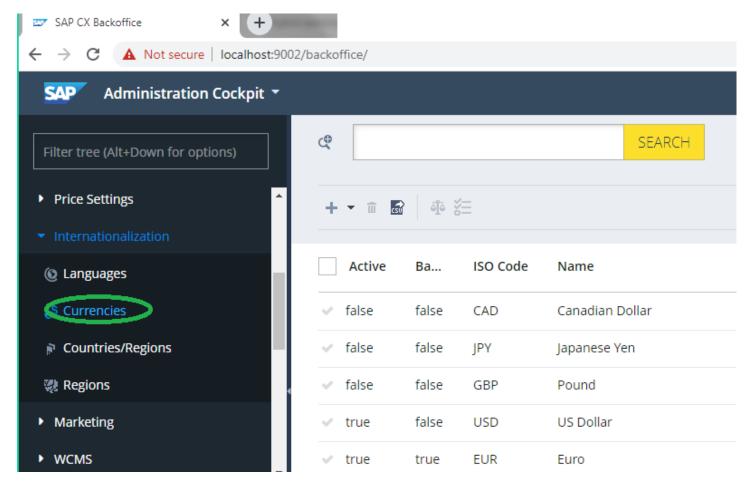


Step 6 = Check the results

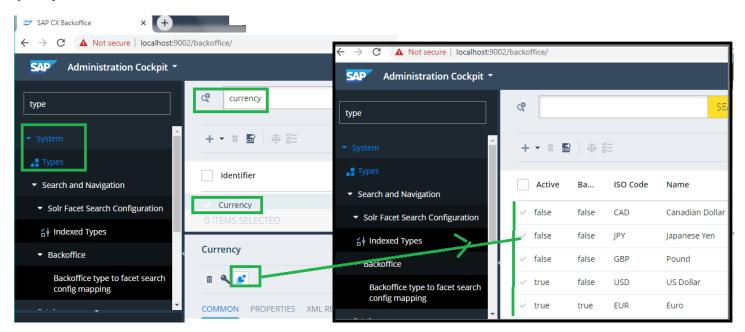


Scenario = What are the different ways to see the table records?

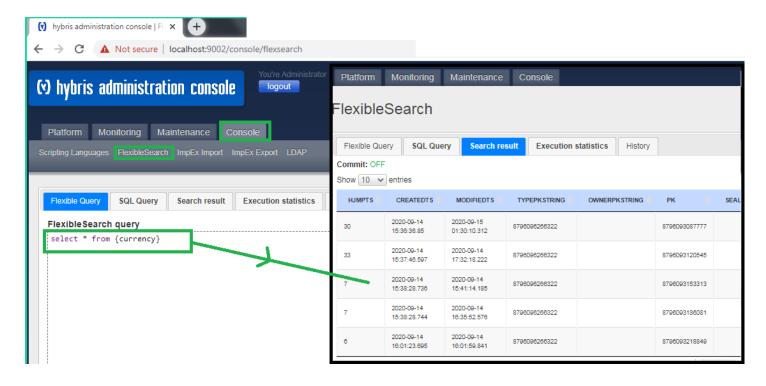
Solution 1 = Backoffice Tool



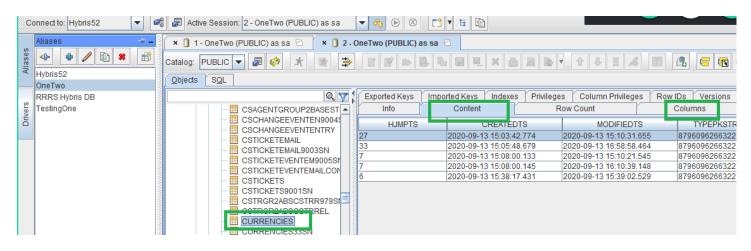
(OR)



Solution 2 = hAC Tool



Solution 3 = DB



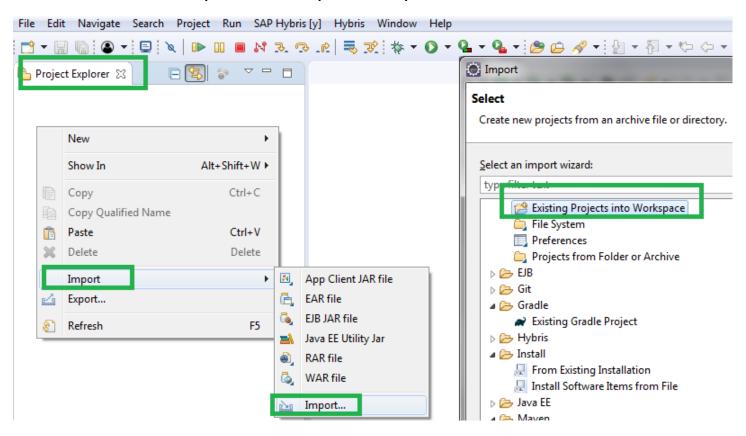
Scenario = Install Eclipse Editor

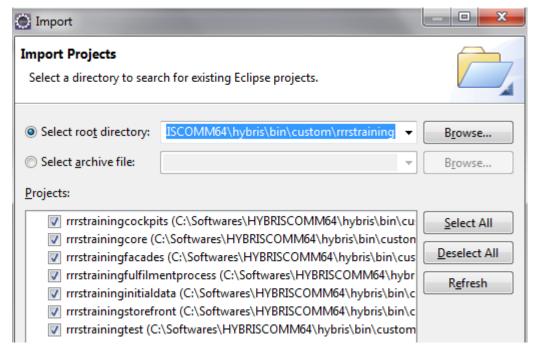
In C Lang – Where do we write the code? = Turbo C Editor / Visual C++ / Similarly – To write the Hybris code we can use any Editor = Eclipse / NetBeans / Notepad /

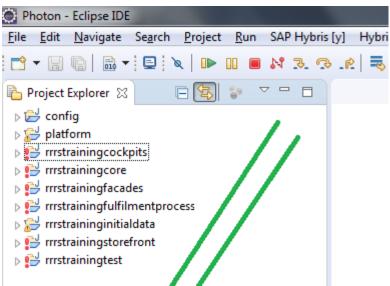
We can download Eclipse form = https://www.eclipse.org/downloads/
Note = You can download any version / flavor of Eclipse & install it.

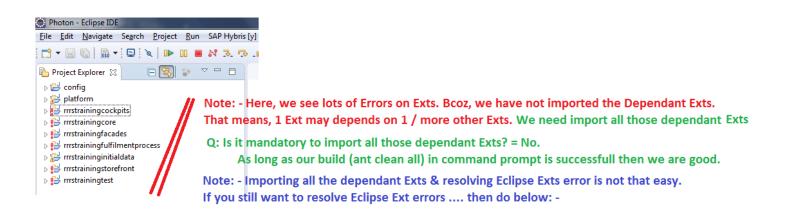


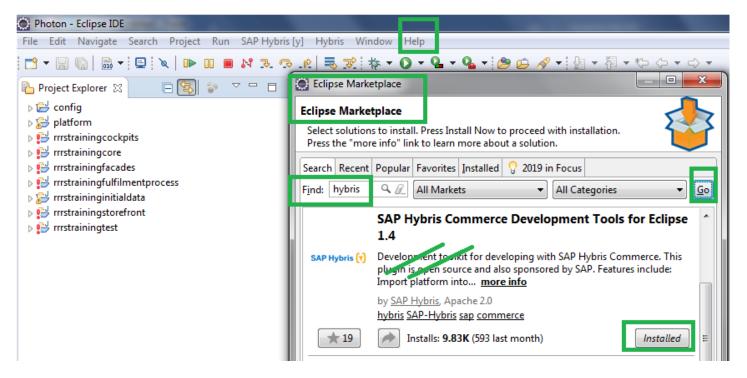
After installation, Open the Eclipse & Import the Exts: -



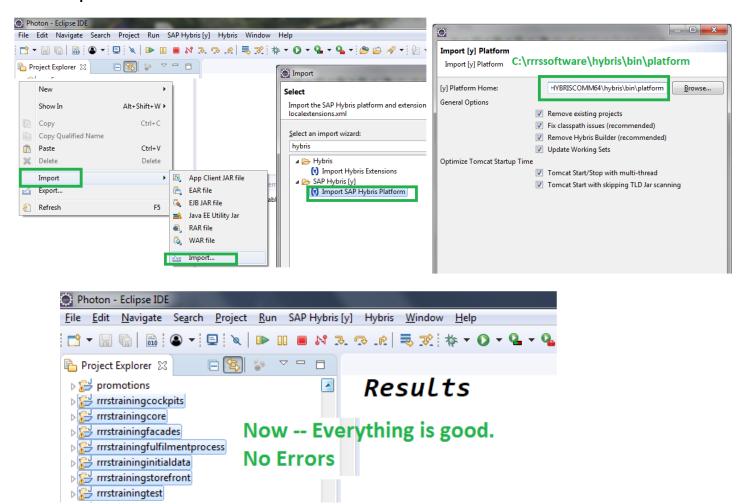






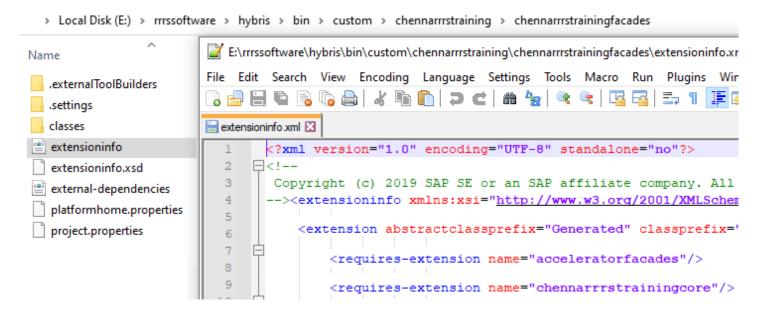


Note = After installation of "SAP Hybris Commerce Development Tools for Eclipse" – Do below:



Note = 1 Ext can depend on 1 / more other Exts.

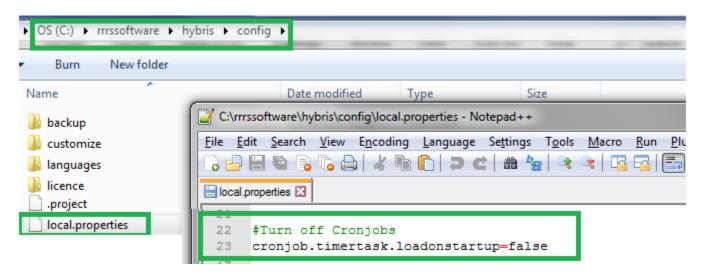
Q = Where can we see this Exts dependency mentioned / defined? = In "extensioninfo.xml" file with "requires-extension" tag.



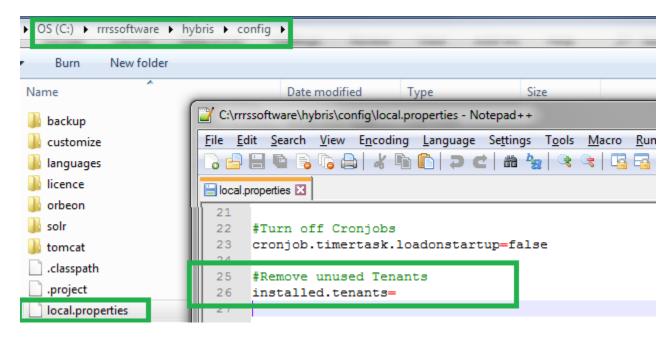
Q = How to improve / reduce "Hybris Server Startup" time?

C:\rrrssoftware\hybris\bin\platform>Hybrisserver.bat [This is taking lots
of time]

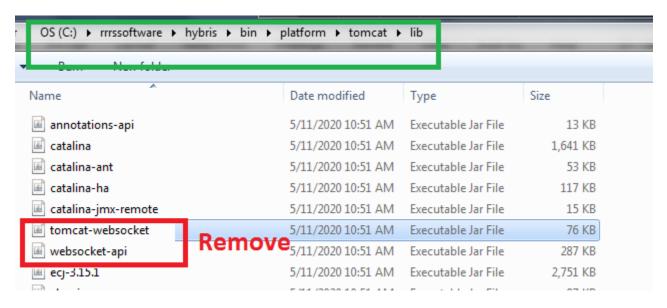
Sol1 = Turn off Cronjobs [Default Cronjobs]



Sol2 = Remove unused Tenants

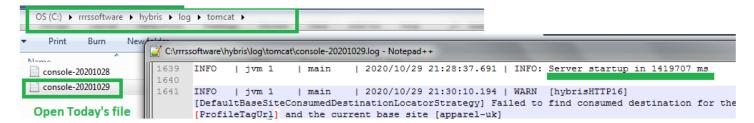


Sol3 = Remove Web Socket Jar file

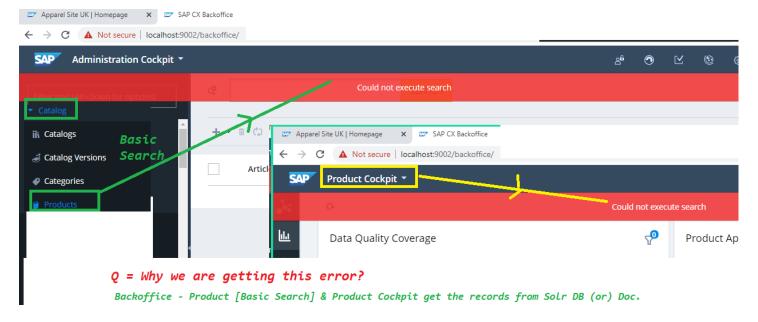


Note = After doing above 3 solutions...

Do the build ["ant clean all"] & start the server [Hybrisserver.bat] and check the server startup time / speed.

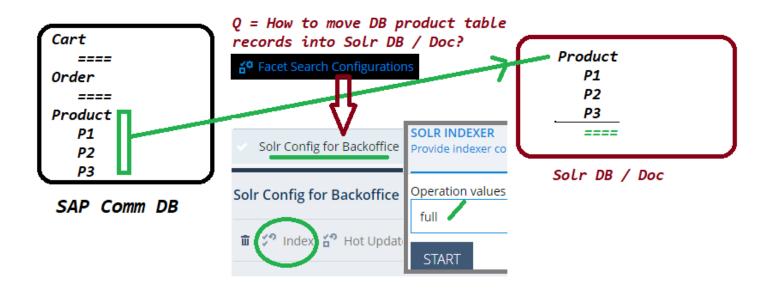


Scenario =



Note = Backoffice - Product [Basic Search] & Product Cockpit get the records from Solr DB / Doc [Not from DB].

SAP Comm provide OOTB index job. This job move "SAP Comm – Produt table records into Solr DB / Doc". Just run this Job.



Results =

