1. Read save DEW database into excel files as shown in “DiTTo\ditto\readers\DEW\DataBase”
2. Initially read the excel sheets and corresponding columns, and the values are stored (SheetName\_ColoumnName)
3. Node names and corresponding voltages are extracted as follows:

* If $CMP tag is found then in 18th filed if the value is 513 then it is node, the name of node is given by the tag $CMPNAM.
* To find the voltage of the node, trace back to the transformer/substation secondary since in DEW node voltage is not directly provided.
* In $CMP tag if the 18th field is 16 then it is transformer and if 18th field is 1032 then it is substation.
* For node positions in $CMP tag search 13th and 14th fields
* For type of phase $CMP tag 7th field.

1. **Regulator:** If $CMP tag and 5th field is 22 then it is voltage regulator

* $CMP tag of regulator and field 7 gives phases
* $CMPSERIALNUM tag which comes between $CMP and $CMPNEWDATA1 gives the name of the voltage regulator
* From element and to element of the transformer are determined based on trace indices of the components and nodes.
* $CMP tag and 6th field gives the IPTROW number, using that number search in database PTXFRM\_SNUMSTEPS to get high and low steps.
* Type of transformer configuration can be obtained from IPTROW, then find PTXFRM\_IXFRMCON using that search in APIXFRMCONIDX\_STNAM
* $CMPCTR tag which comes between $CMP and $CMPNEWDATA1, 50th field gives delay values, 18th field gives bandwidth, 37th field gives pt\_phase, 17th feidl gives band center.
* $CMPADDPT tag which comes between $CMP and $CMPNEWDATA1, and 7th field gives CT and PT ratios.

1. Windings/Tranforemrs: If $CMP tag and 18th field is 16 then it is transformer.

* **$CMP** 7th field gives phases
* **$CMP** 6th field gives iptrow number using that number and search in database for resistance, reactance, primary (PTXFRM\_DPRIKV) and secondary voltages(PTXFRM\_DSECKV) etc.,
* $CMPCTR tag which comes between $CMP and $CMPNEWDATA1, 19th and 20th positions gives compensator r and x.
* Using IPTROW number all the the important parameters can be extracted.

1. Phase Capacitor : If $CMP tag and 18th field is 32 or 40 then it is phase capacitor.

* CMPCTR tag which comes between $CMP and $CMPNEWDATA1, 50th field gives capacitor control delay, switchable if 3rd field is 1

1. **WireData/LineData:** If $CMP tag and 18th field is 1,65,129,258,2 and 6 then it is wire

* $CMPCHN tag which comes between $CMP and $CMPNEWDATA1 and 6th row is used to search in database to find the geometry of the wire.
* Here also IPTROW number is used to extract any information from database
* If $CMP and 5th field 8or 100 then it is a fuse
* If $CMP and 5th field 4,5,120,141,516,221,222,226,238,246,6,7,53,58,76 the it is a switch
* $CMPOPER tag which comes between $CMP and $CMPNEWDATA1, 5th field is 1 then it is blown or open

1. **Load:** If $CMP tag and 5th field is 115 the it is load

* $CMPCHN tag which comes between $CMP and $CMPNEWDATA1 and 21st field gives phase A active power, 22 gives phase A reactive power, 23 gives phase B active power, 24 gives phase B reactive power, 25 gives phase C active power and 26 gives phase C reactive power. 17th field gives type of connection if 1 the delta else wye. 38 and 39 fields gives type vmax and vmin.