//**@version=**5

indicator("ATR Based Stoploss , overlay=true)

main = "Main"

//NATR Surge

natrlbprd = input.int(30, "ATR Lookback Period", group=main, tooltip="Lookback Period for Volatility Expansion")

atrLength = input.int(14, "ATR Length", group=main)

tnatrSim = 100 \* ta.atr(1)/close

natr = ta.atr(atrLength)

natrSim = ta.atr(1)

natrSH = ta.highest(natrSim, natrlbprd)

surgeReset = ta.barssince(natrSH > natrSH[1]) > 5

natrSurgeH = 0

natrSurgeH := natrSH > natrSH[1] ? 1 : surgeReset ? 0 : natrSurgeH[1]

freqnatrSurge = ta.crossover(natrSurgeH, 0)

SimVal = 0.

SimVal := freqnatrSurge ? natrSim : SimVal[1]

var **float**[] natrSHArray = array.new\_float(0)

var **float** natrSHAvg = na

if freqnatrSurge

    array.push(natrSHArray, natrSH)

if array.size(natrSHArray) > 0

    natrSHAvg := array.avg(natrSHArray)

changeLines = natrSHAvg != natrSHAvg[1]

natrSurge = freqnatrSurge and tnatrSim > 1

usenavg = input.string("ATR Surge Average", options=["ATR", "ATR Surge Average"], title="Stop Loss Take Profit Type", group=main)

natrPM = input.float(4, "ATR Profit Multiplier", group=main)

natrLM = input.float(1, "ATR Loss Multiplier", group=main)

natrP = usenavg == "ATR Surge Average" ? natrSHAvg\*natrPM : natr\*natrPM

natrL = usenavg == "ATR Surge Average" ? natrSHAvg\*natrLM : natr\*natrLM

psnatr = 0.

psnatr := natrSurge ? natrP : psnatr[1]

lsnatr = 0.

lsnatr := natrSurge ? natrL : lsnatr[1]

// The MA

maLength = input.int(8, title="MA Length", group=main)

theMA = ta.sma(ohlc4, maLength)

theMAPlus = theMA+psnatr

theMANeg = theMA-psnatr

theplusstop = theMA+lsnatr

thenegstop = theMA-lsnatr

plot(theMA, "Moving Average", color=color.new(color.blue, 0))

plot(theMAPlus, title='Long Take Profit', color=color.new(color.lime, 60), linewidth=1)

plot(theMANeg, title='Short Take Profit', color=color.new(color.maroon, 60), linewidth=1)

plot(theplusstop, title='Short Stop Loss', color=color.new(color.fuchsia, 80), linewidth=1)

plot(thenegstop, title='Long Stop Loss', color=color.new(color.orange, 80), linewidth=1)

//natrSPump = natrSurge and open < close

natrSDump = natrSurge and open > close

//plotshape(natrSPump ? low : na, title='Surge Up', text='💥', style=shape.labelup, location=location.absolute, color=color.new(color.black, 100), textcolor=color.new(color.green, 0), size=size.tiny)

//plotshape(natrSDump ? high : na, title='Surge Down', text='🔥', style=shape.labeldown, location=location.absolute, color=color.new(color.black, 100), textcolor=color.new(color.red, 0), size=size.tiny)

//Simple Alerts

//alertcondition(natrSurge, "Volatility Expansion", "Volatility Increasing")

//Preparing Table

tablePosition = input.string("Bottom right", options=["Bottom right", "Top right", "Top left", "Bottom left"], title="Table Position")

tablePosinp = tablePosition == "Top right" ? position.top\_right : tablePosition == "Top left" ? position.top\_left : tablePosition == "Bottom right" ? position.bottom\_right : position.bottom\_left

var **table** dashboarD = table.new(tablePosinp, 3, 2, border\_width=1)

var tbbgcolor = color.new(color.black, 0)

tableF(\_table, \_column, \_row, \_title, \_value, \_bgcolor, \_txtcolor) =>

    \_cellText = \_title + '\n' + \_value

    table.cell(\_table, \_column, \_row, \_cellText, bgcolor=\_bgcolor, text\_color=\_txtcolor, text\_size = size.small)

tnatr = 100 \* ta.atr(atrLength)/close

tnatrSH = ta.highest(tnatrSim, natrlbprd)

var **float**[] tnatrSHArray = array.new\_float(0)

var **float** tnatrSHAvg = na

if freqnatrSurge

    array.push(tnatrSHArray, tnatrSH)

if array.size(tnatrSHArray) > 0

    tnatrSHAvg := array.avg(tnatrSHArray)

tnatrP = usenavg == "ATR Surge Average" ? tnatrSHAvg\*natrPM : tnatr\*natrPM

tnatrL = usenavg == "ATR Surge Average" ? tnatrSHAvg\*natrLM : tnatr\*natrLM

prftpcnt = 0.

prftpcnt := natrSurge ? tnatrP : prftpcnt[1]

losspcnt = 0.

losspcnt := natrSurge ? tnatrL : losspcnt[1]

risK = input.float(0.3, title="$Risk")

funD = (risK/losspcnt)\*99.85

prfT = funD\*(1+(prftpcnt/100)) - funD

lCol = color.new(color.red, 60)

tableF(dashboarD, 0, 0, 'Fund', '$' + str.tostring(math.round(funD, 2)), tbbgcolor, color.white)

tableF(dashboarD, 1, 0, 'Profit', str.tostring(prftpcnt, format.percent)+"/"+'$'+str.tostring(math.round(prfT, 2)), tbbgcolor, color.white)

tableF(dashboarD, 0, 1, 'ATR',str.tostring(natr), tbbgcolor, color.white)

tableF(dashboarD, 1, 1, 'Loss', str.tostring(losspcnt, format.percent)+"/"+'$'+str.tostring(math.round(risK, 2)), lCol, color.white)