

## Real Time Clock (RTC) Timed Push Intervals

ScriptBasic can be used to create custom push intervals to a webserver. Because the Real Time Clock (RTC) is available to ScriptBasic, ScriptBasic can use the RTC to push data that is aligned to time throughout the day. The program is fairly simple and can be used for any events that need to coincide with wall clock time.

### Real Time Clock Access

ScriptBasic can access certain system variables through the API. For a complete list of these system variables, refer to the ScriptBasic Instruction Manual (p/n [191745](#)). The command syntax for accessing the real time counter is:

```
RTC_Clock = API(102)
```

In our ScriptBasic example, the program uses a function called `GetRTC` to read the RTC data through the API command and parse the data into individual variables.

```
' Gets the real time clock data and parses it into separate fields.
' RTC format: 2016-06-22 15:33:48
FUNCTION GetRTC
  LOCAL RTC_SecondExtra
  RTC_Clock = API(102)
  SPLIT RTC_Clock BY " " TO RTC_Date, RTC_Time
  SPLIT RTC_Date BY "-" TO RTC_Year, RTC_Month, RTC_Day
  SPLIT RTC_Time BY ":" TO RTC_Hour, RTC_Minute, RTC_SecondExtra
  'Remove extra character at the end of the seconds' string.
  RTC_Second = LEFT(RTC_SecondExtra,2)
END FUNCTION
```

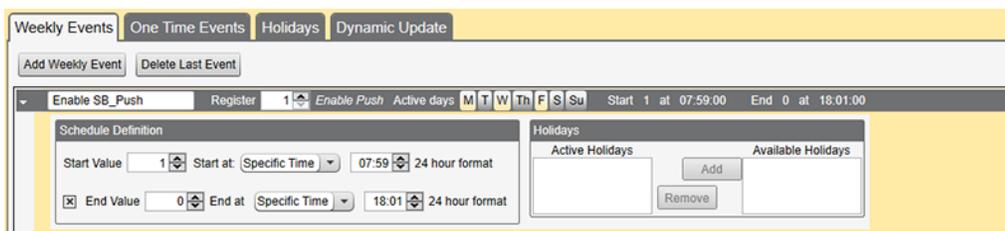
### Scheduler for Enabling Push

The main program loop first reads a Local Register to see if the push mechanism should be active. The ScriptBasic function `GETREG` is used to read the global Local Register data.

```
'Read the local register set by the scheduler, if '1' or greater do pushes.
RdData = GETREG(ScheduleStart_reg, LocalReg, HoldingReg)
```

It is the job of the Scheduler to write Local Register 1, called `'ScheduleStart_reg'` in ScriptBasic, to enable pushing to the website. The Scheduler can be programmed to set the register at certain times of the day or certain days of the week.

In this example, the push will be active Monday, Wednesday, and Friday from 8 am until 6 pm. The scheduler is configured one (1) minute before 8 am and one (1) minute after 6 pm to make sure the pushes happen at 8:00:00 and 18:00:00.



### ScriptBasic Push

After the `'ScheduleStart_reg'` is detected by the ScriptBasic program, the `GetRTC` function is called to get the real time clock data. From the real time clock variables, the program searches to see if the current RTC time matches the user-defined push times in the strings `MinuteString`, `SecondString`. This is done with the string compare command `LIKE`;

```
' String "MinuteString" contain the minutes when to push
' String "SecondString" contain the seconds when to push
' The beginning and ending commas aid in the pattern matching command LIKE.
CONST MinuteString = ",00,15,30,45,"
CONST SecondString = ",00,"
```

If the minute and second values compare to the current RTC time, the single function call API(6) creates a push to the website. After the API command to push is executed, a SLEEP command creates a pause in the program to make sure there are not multiple pushes caused by the program.

```
WHILE (1)
  'Read the local register set by the scheduler, if '1' or greater do pushes.
  RdData = GETREG(ScheduleStart_reg, LocalReg, HoldingReg)
  '
  IF RdData >= 1 THEN
    GetRTC
    ' See if the current time matches anything in the user strings, "*" aid in pattern matching.
    WildCardRTC_Minute = "*" & RTC_Minute & "*"
    WildCardRTC_Second = "*" & RTC_Second & "*"
    IsMinute = MinuteString LIKE WildCardRTC_Minute
    IsSecond = SecondString LIKE WildCardRTC_Second
    IF IsMinute AND IsSecond THEN
      PRINT "RTC Reading: ", RTC_Clock, "\n"
      'Send a push...
      WrErr = API(6)
      SLEEP(5)
    END IF
  END IF
  '
WEND
```