# PowerScheduler Building the Master Schedule – Next School Year

1. **Set Target Number of Sections:** Once Tally and Staffing process is complete. Set “Target Number of Sections” by hand, auto-set, or auto-calculate. This allows you to use the “Visual Scheduler” for hand editing or creating a Master Schedule by hand. (Use Course List Report – “Sections to Offer” column which reports the Target Number of Sections currently in each Course and your Excel Tally Report – “Sections Needed” column to check your setting in Courses.)
2. **The Scheduling Engine:**
3. The “Scheduler-Side Engine Loader” in the PowerScheduler Menu is now used only if you are using the BUILDER Function! If you have used the BUILDER Function in previous years, you may already have the Server-Side Engine loaded on your desktop. If you do not have it downloaded, go to Tools in PowerScheduler Menu, click on Engine Download, then double click on PSSchedEngineInstall.zip, and download the Scheduler-Side Engine on your desktop. If you have difficulty, please consult your PS Liaison or your IT person.
4. **Make sure that the setup of the Course Catalog, Course File, Room File, Teacher File, and Student Files have been completed. See, Prepare to Build document.**
5. **There are 3 Ways to Create Your Master Schedule: Remember! All three ways are described in detail in the PowerScheduler Procedures Manual - 2014!**
6. **Use an existing Master Schedule: (easiest)** Copy existing Master Schedule into the PowerScheduler in the New Year. Follow instructions in Scenario Setup document.
	* 1. Compare your “Tally of Sections” to the “Course Enrollment Counts” Report # of Sections column from the Live-Side in the current school year to determine if editing the existing Master Schedule is the way you want to go or not. This comparison will allow you to see both what needs to be dropped and what needs to be added for the next school year.
		2. Edit the Master Schedule by hand, using your Tally and staffing information. Sections can be added, deleted, moved, or edited using either the Master Schedule file (either use Sections File from Menu or open Master Schedule Matrix Report) or use the Visual Scheduler (must have Target Number of Sections set in Course File to use the Visual Scheduler). (If you move/edit or add a section in the Visual Scheduler, make sure you open the section to make sure all data is showing correctly.)
		3. Once editing of Master Schedule is complete, set any needed Load Relationships and/or Load Constraints. See, PowerScheduler Procedures - 2014 document.
		4. Validate your Load: go to Load screen, check Validate and click execute. The Server-Side Engine Report will show up automatically on screen. Fix all Data Errors and re-Validate, until Data Errors are eliminated.
		5. Load Students: go to Load screen, do not check Validate, check Close Sections at Maximum, click execute. The Server-Side Engine Report will show up automatically on screen. If Load % looks ok, Import Master Schedule Load. **See: Loading Student Course Requests and Evaluating the Master Schedule document.**
		6. Evaluate the Load, using Reports from Reports Menu. **See: Loading Student Course Requests and Evaluating the Master Schedule document.** You can always make changes in the Master Schedule, re-Load, and re-Import.
7. **Create a New Master Schedule, by hand: (time consuming)** Do **not** copy your existing Master Schedule. If you already have copied it, go to Functions and use Delete Master Schedule function to remove it.
	* 1. Create a priority list of Courses (Sections to be created) from Must Have’s, to singletons, to doubletons, to triples, etc. until all Courses are listed.
		2. Create a “Conflict Matrix” from the PowerScheduler Reports Menu. Start with Must have’s, then Singletons, etc. Use it to guide the creating of Sections. **If you use the Visual Scheduler, it already contains a Conflict Matrix!**
		3. Create all Sections. Use either the Visual Scheduler (drag and drop, must set Target Number of Sections in Course File) or Sections File from PowerScheduler Menu (open Course, click on New Section, fill in information, click Submit) to create Sections. Master Schedule can be viewed in either Master Schedule file or Visual Scheduler. **You should be using a “Schedule Board” so you can see your whole Master Schedule as you create it!**
		4. Once your Master Schedule is complete, set any needed Load Relationships and/or Load Constraints. See, PowerScheduler Procedures – 2014 document.
		5. Validate the Load: go to Load screen, check Validate and execute. The Server-Side Engine Report will show up automatically on screen. Fix all Data Errors and re-Validate, until all Data Errors are eliminated.
		6. Load Students: go to Load, do not check Validate, check Close Sections at Maximum, click execute. The Server-Side Engine Report will show up automatically on screen. If Load % looks ok, Import Master Schedule Load. **See: Loading Student Course Requests and Evaluating the Master Schedule document.**
		7. Evaluate the Load, using Reports from Reports Menu. **See: Loading Student Course Requests and Evaluating the Master Schedule document.** You can always make changes in the Master Schedule, re-Load, and re-Import.
8. **Create Master Schedule using the Builder:** **(time consuming)** Additional setup needed in Course, Room and Teacher Files.
9. Teacher File: Teacher must be checked to Schedule, enter a Preferred Room (if possible), set Maximum Consecutive Periods correctly, (1 less than the number of periods the Teacher teaches).
10. Course File: Valid Start Periods must be set correctly for each Course.
11. Teacher Assignments: Using either the Teacher File or the Course File, enter the correct Teacher Assignments for each Course. Only setup in one, assignments will show up automatically in the other File. Use your Tally Report!
12. Once Assignments have been entered, setup any necessary Build Relationships and/or Build Constraints. See, PowerScheduler Procedures – 2014 document.
13. Create a Build Rank. See, PowerScheduler Procedures – 2014 document.
14. Validate the Build: **The Build Function ONLY uses the Scheduler-Side Engine!** (Make sure it has been downloaded.) Go to Build screen in Menu, check Validate and execute. Go to Build “Q” to Results View for results. Fix all Errors and re-Validate, until all Errors are eliminated.
15. Once Validating is complete, Build the Master Schedule, click on Build, do not check Validate, click execute. **“Important”** The Builder may not, probably will not, build all your Sections! Check the Build “Q” to Results View to see your results. Look at both the Build View Log and the Results View Log to determine any problems. Fix problems and **continue to build** until 100% of Sections are built. Then Import the Master Schedule Build. Use Reports to evaluate the Master Schedule and edit it. The Builder can be run multiple times, if necessary!
16. Once Sections are built and Master Schedule is complete, set any needed Load Relationships and/or Load Constraints. See, PowerScheduler Procedures – 2014 document.
17. Validate the Load: go to Load, check Validate and execute. The Server-Side Engine Report will show up automatically on screen. Fix all Data Errors and re-Validate, until Data Errors are eliminated.
18. Load Students: go to Load, do not check Validate, check Close Sections at Maximum, click execute. The Server-Side Engine Report will show up automatically on screen. If Load % looks ok, Import Master Schedule Load. **See: Loading Student Course Requests and Evaluating the Master Schedule document.**
19. Evaluate the Load, using Reports from Reports Menu. **See: Loading Student Course Requests and Evaluating the Master Schedule document.** You can always make changes in the Master Schedule, re-Load, and re-Import.