

# **PLANTSCAPE SERVER**

## **SERVER WIDE CONFIGURATION**

## TABLE OF CONTENTS

Points and Alarms.....	5
Overview .....	5
System Wide Items .....	5
History Assignment .....	6
Schedules.....	7
Shifts .....	7
Holidays .....	7
Point Control Schedule.....	7
Stations .....	8
Stations Server Wide Configuration.....	8
Message Text .....	12
Configuring Messages .....	12
Associating a Message with a Point .....	12
Extended Event Archiving.....	13
Configuration .....	13
Extended Event Collection.....	13
Status .....	13
Alarm Priority.....	13
Archive Cycle Period .....	13
Maximum Number of Events Archived each Period.....	13
Number of Records in Online .....	14
Maximum Tolerable Time delay between collections.....	14
Extended Event collection will not occur if free disk space falls below: .....	14
Disable use of NT Backup .....	14
Extra Status Data .....	15
Status .....	15
Number of Records in Online Extended Event File .....	15
Next Record Number in Online Extended Event File .....	15
Current Push Record .....	15
Maximum standard Events .....	15
Last standard Event Collected.....	15
Last Time when Events Collected.....	15
Lab Exercises - Point Control Schedules.....	16
Lab Exercises – History Assignment .....	17
Lab Exercises – External Audible Alarm .....	18

## **SESSION OBJECTIVES**

At the end of this section of the course the student will be able to:

- Configure system wide parameters which apply generally to:
  - Points
  - Stations
  - Schedules
  - Reports and Printers

## REFERENCES

*Knowledge Builder: Server and Client Configuration Guide*

# Points and Alarms

## Overview

There are a number of PlantScape Server parameters which apply to the whole Server rather than a specific item, such as a Station or a Point. The following notes explain the configuration methods and details of each of these parameters.

## Server Wide Items

Display the Points Server Wide Items Configuration page by choosing:  
either: **Server Menu→System Configuration →Points**  
or: **Configure→Points→Server Wide Items**

Points

Server-Wide Items Fast History Standard History Extended History

**Alarming**

☒ Alarms enabled server-wide [Define Alarm Messages](#)

**External Alarm Notification**

Priority	Notify Point	Parameter
<input type="checkbox"/> Low		
<input type="checkbox"/> High		
<input type="checkbox"/> Urgent		
<input type="checkbox"/> Any		

☐ Event Journaling of Alarm Notifications Enabled

**Alarm Priority Elevation**

☐ Alarm Priority Elevation enabled

Low to High	0:00:00	hours
High to Urgent	0:00:00	hours

**Point Processing Limits**

	Unreasonable value		PV clamp	
High limit	110.0	%	110.0	%
Low limit	-10.0	%	-10.0	%

[Alarming Configuration](#)

Alarming	Uncheck to disable ALL alarm notification
Ext Alarm Notification	Enables an external hooter to be sounded when a specified alarm priority occurs on the Server.
Alarm Priority Elevation	Set the time interval after which an unacknowledged alarm will have its priority elevated. Feature can be enabled or disabled.
PV Clamp Limits	When the PV of a point with Clamping enabled reaches the upper (lower) clamp limit it is “clamped” to 100% (0%). The default values of the PV Clamp Limits are as displayed above.
Unres High & Low Limits	When an Analog or Accumulator point PV reaches the unreasonably high (low) limit an RSHI (RSLO) alarm is generated with a priority defined by the point configuration. The default values of these limits are as displayed above

## Points and Alarms.....continued

### History Assignment

Non-Hybrid controller points can be assigned to History whilst they are being defined in Quick Builder.

All point types can be assigned to History from the History Assignment pages on Station (this is the only method available for Hybrid controller points).

Display the a Points History Assignment page by choosing:

either: **System Menu→System Configuration →Points**  
and click on the appropriate tab

or: **Configure→Points→History Assignment**

Point ID	Parameter	Description	History Gate Point	Parameter	Collect State
1 SINEWAVE1	PV	SYSTEM CLOCK SINEWAVE			0
2 VLV1101	PV	TANK 1 OUTLET VALVE			0
3 VLV1102	PV	TANK 2 OUTLET VALVE			0
4 VLV1103	PV	TANK 3 OUTLET VALVE			0
5 VLV1104	PV	TANK 4 OUTLET VALVE			0
6 VLV1105	PV	TANK 5 OUTLET VALVE			0
7 VLV1106	PV	TANK 6 OUTLET VALVE			0
8 VLV1107	PV	TANK 7 OUTLET VALVE			0
9 VLV1108	PV	TANK 8 OUTLET VALVE			0
10 VLV1109	PV	TANK 9 OUTLET VALVE			0
11 VLV1110	PV	TANK 10 OUTLET VALVE			0
12 ACC1101	PV	No. Opens for VLV1101			0
13 PVALGO1	PV	TANK TOTAL CALCULATION			0
14 TANKTOTAL	PV	TANK TOTAL			0
15 AGIT1	PV	AGITATOR ONE			0
16 AGIT2	PV	AGITATOR TWO			0
17 BLOWER1	PV	COOLING COIL BLOWER			0
18 HEATER1	PV	PRODUCT HEATER			0
19 ACC1102	PV	No. Opens for VLV1102			0
20 ACC1103	PV	No. Opens for VLV1103			0

Standard history (1 minute snapshots and averages) will be collected for each of these points.  
Assigning history collection is usually done when the point is defined.

For each of the three types of History, Fast, Standard and Extended, the currently assigned Point ID and Parameters are displayed, together with any Gating Point.

To add a parameter to History scroll down the page to the next blank entry and enter the required Point ID and Parameter.

History Gating enables or disables the History data collection for points that have a gating Point.Parameter defined.

If the gating parameter is not in the Collect state then a “Bad PV” is entered into the History file.

Such entries are excluded from subsequent average calculations.

## Schedules

### Shifts

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This function is accessed on the Shift Configuration page by choosing:

either: **System Menu**→**System Configuration**→**Schedules**  
and click on the **Shifts** tab

or: **Configure**→**Schedules**→**Shifts**

24-hour history snapshots are taken two minutes after the **Start of Day**.

The **Length of Shift** must be evenly divisible into 24.

Shift boundaries can be used with Algorithms, Point Control Schedules and Reports.

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### Holidays

The Holiday Configuration page is accessed by choosing

either: **System Menu**→**System Configuration**→**Schedules**  
and click on the **Holidays** tab

or: **Configure**→**Schedules**→**Holidays**

Up to 30 holidays can be entered using the standard PlantScape Server date format (DD-MMM-YY) and can be used by the Point Control Schedule. These dates should be updated annually.

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### Point Control Schedule

The Point Control Schedule is accessed by choosing

either: **System Menu**→**System Configuration**→**Schedules**  
and click on the **Point Control** tab

or: **Configure**→**Schedules**→**Point Control**

It enables a control to be executed automatically at some time in the future on a one-off or repetitive basis.

The parameter to be controlled must have been configured with a destination address.

Use the Schedule Maintenance fields to enter a schedule or update or delete an existing one.

Schedules will be deleted automatically once they have been activated.

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# Stations

## Stations Server Wide Configuration

To display the Stations Server Wide Configuration page choose:

either: **System Menu→System Configuration→Stations→**  
and click the **Server Wide** tab,

or: **Configure→Hardware→Stations**  
and click the **Server Wide** tab

Audible active time	Time period for which audible alarm will sound unless silenced
Audible re-alarm time	Time period after which audible alarm will sound again unless it has been silenced
Full page alarm acknowledgement	Enables/disables operation of <b>Acknowledge Page</b> on Alarm, Message, and Downtime Summaries
Alarm line shows	<b>Newest</b> or <b>Oldest</b> highest priority unacknowledged alarm
Enable Individual Alarm Priority	Defines Alarm Summary <b>Priorities</b> combobox choices:  Enabled:        Urgent only, High only, Low only  Disabled:       Urgent only, High & Urgent, All



## Stations.....continued

### Stations Server Wide Configuration

.....continued

System start up page	<p>Defines the page number or name that all stations will display when they are first started and connected to the Server.</p> <p>Subsequent reconnects will display the page that was being displayed when Station stopped or was disconnected.</p>
Select timeout	<p>The time period after which, having selected an update point on Station, it will be automatically deselected <u>even if the user is currently entering data.</u></p> <p>An entry of 0 (zero) defines no timeout action.</p> <div style="border: 1px solid black; padding: 10px; text-align: center;"> <p><b>Attention</b></p> <p>Do not set a time between 1 and 10 seconds, you could have difficulty resetting to a longer time.</p> </div>
Idle timeout	<p>Defines the time period of no operator activity after which:</p> <ul style="list-style-type: none"> <li>• with Station Based Security: Security Access level will revert to Oper, and (optionally) Station will display a preset page</li> <li>• with Operator Based Security: the current operator will be signed off</li> <li>• for a Rotary Station: the Station will be disconnected to enable others to connect if required</li> </ul>
Fast Raise/Lower step	<p>Defines the percentage step change sent to a controller when using the function keys Fast Raise &lt;Alt&gt;+&lt;F9&gt; and Fast Lower &lt;Alt&gt;+&lt;F10&gt;.</p> <p>Default value is 10%.</p>
Show Redundant Link Status	<p>Check to display Redundant Channel status on Channel and Controller Status Summary</p>
Minimum Security Level Required to Toggle Enable/Disable	<p>Defines minimum security access level required to enable/disable channels, controllers, and printers.</p>

## Stations.....continued

**Station Configuration** The following configurations do not apply Server wide but are applied to each Station individually.  
However, they are included here for completeness.

To display the Station Configuration page choose:

either: **System Menu→System Configuration→Stations**  
and select the required Station,

or: **Configure→Hardware→Stations**  
and select the required Station

Station 1 Station 01 Status OK

**General** Area Assignment Function keys

**Associated Stations**

First station 2

Second station 0

**Idle Timeout Action**

☐ Change page to 0

Number of prior displays 9

☐ Station Failure Alarm

**Audible Alarm**

☐ Activate for LOW Alarms

☐ Activate for HIGH alarms

☐ Activate for URGENT alarms

**Printer Assignment**

Alarm/Event Printer

Report Printer

☐ Print LOW alarms

☐ Print HIGH alarms

☐ Print URGENT alarms

☐ Print Events

☐ Print Delays

☐ Print Operator changes

Associated Station	Used in conjunction with Function Keys when Parameter 1 = 19. Also pre-configured function key <Alt>+<F8>, "Disp Set" (Uses First Associated Station).
Idle Timeout Action	Enables or disables change of Station page to a defined name or number when Idle Timeout occurs.
Number of prior displays	Defines number of pages that are remembered for use by <b>Prior Display</b> function.  Allowable range is 1 to 32767

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## Stations.....continued

### Station Configuration .....continued

Station Failure Alarm	<p>Disabled: Station(s) status(s) indicated only by Station Status Summary.</p> <p>Enabled: As for “disabled” plus an alarm is raised when a Station connection is lost <u>but not at the Station that has lost the connection</u>.</p>
Audible Alarm	<p>Enables/Disables generation of audible alarm at each of the three priorities Low, High, and Urgent. Each definition is independent of the other two.</p>
Printer Assignments	<p>Alarm / Event Printer: Defines which printer will be used to print alarms and events associated with items which belong to Areas which are associated with the Station.</p> <p>Report Printer: Defines the Station default printer can be used for Reports requested from the Station by a user.</p>
Area Assignment tab	<p>Accesses Station Area Assignment page where Areas are assigned to the Station</p>
Function keys tab	<p>Accesses the Function Key Configuration page where the functionality of</p> <p>&lt;Ctrl&gt;+&lt;Fn&gt; and &lt;Shift&gt;+&lt;Fn&gt;</p> <p>(where <math>n = 1</math> to 12)</p> <p>can be defined as required.</p> <p>For details refer to <i>Knowledge Builder</i>: Server and Client Configuration→Customising Station Settings→Configuring Function Keys.</p>

# Message Text

**Configuring Messages** Messages that appear in the Message Summary are configured from the Alarm Messages Configuration page.

To display it choose:

**System Menu→System Configuration→Points**

and click **Define Alarm Messages**

At the Supv, Engr or Mngr level up to 1000 messages can be defined as two strings of 30 characters each.

Alarm Messages

	Line 1	Line 2
1	Help, I'm in alarm and you can	find me in Area A1...HELP ME!!
2	Help, I'm in alarm and you can	find me in Area A2...HELP ME!!
3	Help, I'm in alarm and you can	find me in Area A3...HELP ME!!
4	Help, I'm in alarm and you can	find me in Area A4...HELP ME!!
5	Help, I'm in alarm and you can	find me in Area A5...HELP ME!!
6	Help, I'm in alarm and you can	find me in Area A6...HELP ME!!
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

**Associating a Message with a Point** The message to be used when a specific non-Hybrid Controller point goes into alarm, or in association with a Hybrid Controller message function block, is defined in the point's configuration using the message index numbers.

Attention

These messages cannot be used when Hybrid Controller points go into alarm.

# Extended Event Archiving

## Configuration

The parameters of extended event archiving are configured from the Extended Event Archiving Configuration page.

To display it choose:

**System Menu→System Configuration→**

**Extended Event Archiving→Configuration tab**

Extended Event Archiving

Configuration Operations Status

Extended Event Collection (Enable/Disable) **Enabled**

Status **OK**

Alarms Priority **Urgent**

Archive Cycle Period **60** seconds

Maximum Number of Events Archived each Period **0**

Number of records in Online Extended Event File **20**

Maximum Tolerable Time Delay between collections **100** minutes

Extended Event collection will not occur if free disk space falls below: **100.00** Mbytes

Advanced

Disable Use of NT Backup **Yes**

Generate Alarm when time to archive **Yes**

Start LRN when time to archive **Yes**

LRN to Start **0**

Only displayed after clicking Advanced

## Extended Event Collection

Extended Event Collection can be enabled or disabled.

The Archiving Status is also displayed.

## Status

Explained in the *Operations* section of this course.

## Alarm Priority

Defines the priority of alarm generated following an archive.

## Archive Cycle Period

Defines the period between event collections (default: 300 sec).

## Maximum Number of Events Archived each Period

Defines the maximum number of events that will be collected each Cycle Period.

This is an empirical value.

Set it initially to twice the average number of events expected per Cycle Period and check the operation.

The final value used needs to ensure that:

- the Status is not permanently Overload
- the Server is not overloaded so that other functions are delayed

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## Extended Event Archiving.....continued

<b>Number of Records in Online</b>	<p>Defines how many events can be stored in the Online file.</p> <p>The value set here will depend on the size of the server's hard disk drive, the rate at which events typically occur, the desired interval between Saves to tape, and the tape capacity.</p>
<b>Maximum Tolerable Time delay between collections</b>	<p>This is an empirical value, set it to the time period over which it is expected to generate the "Maximum Standard Events" defined above.</p> <p>When extended event archiving is enabled the length of the previous period of inactivity is compared with this value.</p> <p>If extended event archiving had been disabled for less than this value then collection resumes as normal, although there may be a period during which the archiving status is "Overload".</p> <p>If extended event archiving had been disabled for greater than this value then it is assumed that the standard Events file has started to be overwritten and some events have been irrecoverably lost. Extended event archiving will ignore all events that occurred prior to it being enabled.</p>
<b>Extended Event collection will not occur if free disk space falls below:</b>	<p>Should be set to a reasonable value to minimise the risk of an overfull disk drive severely disrupting Server operation.</p> <p>If the free space on the Server's hard disk drive falls below this value the Extended Event Archiving status will change to "Full Disk" and an alarm will be generated.</p> <p>Unwanted files should be deleted to allow Extended Event Archiving to resume.</p>
<b>Disable use of NT Backup</b>	<p><b>No:</b> An alarm will be raised when an Archive occurs to alert the operator to perform a Save of Archived Events to tape using ntbackup.exe. No further Archive can occur until this Save has been performed.</p> <p><b>Yes:</b> Archives occur each time the Online file is full. An alarm at this time is optional. It is also possible to configure an automatic backup of Archived Events using any preferred method. (Use of LRNs is covered in the course <i>PSc Server Implementation – 2</i>)</p>

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## Extended Event Archiving.....continued

### Extra Status Data

Further data on the Status of Extended Event Archiving can be viewed by choosing:

**System Menu→System Configuration→**

**Extended Event Archiving→Status tab**

Extended Event Archiving		
Configuration	Operations	Status
Extended Event Archiving Status		
Number of records in Online Extended Event File		20
Next Record Number in Online Extended Event File		5
Current Push Record		3772
Maximum standard Events		9999
Last standard Event Collected		3770
Last Time when Events Collected		22-Oct-99 11:20:00

### Status

Explained in the *Operations* section of this course.

### Number of Records in Online Extended Event File

Displays how many events can be stored in the Online file.

### Next Record Number in Online Extended Event File

Displays the next record in Online that will be used to collect an event.

Comparing this with the above value will give an indication of the time to the next Archive.

### Current Push Record

Displays the record number of the most recent event in the standard Events file.

### Maximum standard Events

Displays the size of the standard Events file.

### Last standard Event Collected

Displays the record number of the last event collected from the standard Events file.

Comparing this with the Current Push Record shows how many standard events are awaiting collection.

### Last Time when Events Collected

Displays when the most recent event was collected into Online.

## Lab Exercises - Point Control Schedules

### Introduction

Proceed with the lab exercise below. Ask your Course Manager for any assistance if you are not sure what you are expected to do.

### Objectives

The objective of this exercise is to configure , and monitor the execution of, a one-shot Point Control.

Step	Action	
1	Display the Point Control Schedules configuration page.	
2	Use the “Schedule Maintenance” fields to define a new Point Control Schedule as follows:	
	Date	Today’s date
	Time	Approximately 2 minutes ahead of now.
	Point ID	LT10#
	Parameter	SP
	Target	8.0
	Type	1 Shot
3	Choose <b>Insert</b> .	
4	Display the Detail page of LT10# and set the SP to 3.0 metres.	
5	Observe the SP change occur at the time set in step 2 above.	
6	Redisplay the Point Control Schedules configuration page and note that the schedule inserted in step 2 above has been removed from the list.	
	This is because its Type was set to 1 Shot and it is no longer required.	



## Lab Exercises – History Assignment

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### Introduction

Proceed with the lab exercise below. Ask your Course Manager for any assistance if you are not sure what you are expected to do.

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### Objectives

The objectives of this exercise are to confirm the history assignments of non-Hybrid Controller points, and to configure the history assignment of Hybrid Controller points.

Step	Action
1	Display the Fast History Assignment page.
2	Scroll down until you find the entries for FT10# and PMP120# and confirm the details against the specification in the section “Non-Hybrid Controller Hardware and Point Building” earlier in this <i>Student Guide</i> .
3	Scroll down until you find the first available empty location and enter:  <b>Point ID: LT50#</b> <b>Parameter: PIDA.SP</b>
4	View Trend #8 and allocate LT50#.PIDA.SP to a pen and confirm that the parameter is being recorded in the 5 second history file.

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## Lab Exercises – External Audible Alarm

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### Introduction

Proceed with the lab exercise below. Ask your Course Manager for any assistance if you are not sure what you are expected to do.

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### Objectives

The objectives of this exercise are to configure a point to generate an external audible alarm, independent of Stations.

Step	Action
1	Check no other team is currently doing this Lab. It can only be done by one team at a time.
2	Display the Points Server Wide Items configuration page.
3	Under <b>External Alarm Notification</b> check <b>Any</b> and <b>Event Journaling of Alarms Notifications Enabled</b> .  Enter the data:  Notify Point: <b>PMP120#</b> Parameter: <b>OP</b>
4	Create an alarm using point FT10# and check the operation of the Point.Parameter defined in step 3.  Check also the Event file entries.
5	Delete all data entered in step 3 and uncheck the checkboxes.

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