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# Genesys Administrator Extension Developer's Guide

Operating System Manipulation Elements

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# Operating System Manipulation Elements

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Operating System Manipulation Elements are used to execute various tasks on a host. They include the following:

- `<os:verifyHost>`: Verify that a particular hostname is defined in the DNS.
- `<os:verifyGDA>`: Verify that the GDA on a host is operational and reachable.
- `<os:execShellCmd>`: Execute a script or command on a host.
- `<os:execSQL>`: Execute SQL commands against a database.
- `<os:setEnvVar>`, `<os:getEnvVar>`, and `<os:verifyEnvVar>`: Set, get, and verify environment variables on a host.
- `<os:installPackage>`: Deploy an IP on a remote host.

### `<os:list>`

Declares the list of parameters to use during the installation of the IP. See `<os:property>` for an example.

#### Child Elements

- `<os:property>`

#### Attributes

Name	Type	Description	Default	Values
mode	string	This attribute has no meaning when used in conjunction with <code>&lt;os:installPackage&gt;</code> .	—	clear, merge
name	string (required)	This attribute must be of the value <code>silentInstall</code> as the sub-elements define the parameters to use during silent installation of the IP.	—	—

### `<os:property>`

Specifies information to be used during the silent install of an IP. The parameters required for installation are defined in the `silent_install.ini` file which ships with every IP. The following is an example of its usage:

```
<os:installPackage appName="${appname}" host="${host}" folder="Applications/Segment_01"
longName="SIP Server" version="8.1.0" tenantdbid="41" skipIfInstalled="true"
appPort="${appport}">
  <os:list name="silentInstall">
    <os:property section="IPCommon" key="InstallPath"
value="${INSTALL_BASE_PATH}${FILE_SEPERATOR}TSrvSIP"/>
  </os:list>
</os:installPackage>
```

```

        <os:property section="IPCommon" key="DataModel" value="${DATA_MODEL}"/>
        <os:property section="License" key="AccessType" value="LicenseManager"/>
        <os:property section="License" key="Port" value="${LICENSE_PORT}"/>
        <os:property section="License" key="Host"
value="${LICENSE_HOST}"/>
    </list>
</os:installPackage>

```

### Attributes

Name	Type	Description	Default	Values
data	object	—	—	—
key	string (required)	Specifies the key in a key/value pair.	—	—
result	string	—	—	—
section	string (required)	Specifies the section for the key/value pair that is specified in this element.	—	—
value	string (required)	Specifies the value in a key/value pair.	—	—

### <os:execSQL>

A directive to execute a SQL command against a specified database.

### Attributes

Name	Type	Description	Default	Values
blobfield	string	Specifies the name of a field in the SQL statement, specified by <b>sql</b> , that contains a field of type <b>blob</b> and that must be updated with binary data. The <b>file</b> attribute specifies the file that contains the binary data to use when updating this field with blob data.	—	—
dapdbid	integer	Specifies the DBID of the DAP (for example: CfgApplication of type	—	—

Name	Type	Description	Default	Values
		Database Access Point) that should be used for connection to the database. If a DAP is not specified, the information in <b>host</b> and <b>port</b> is used.		
data	object	This attribute can specify a JavaScript variable that contains a JSON representation of all attributes that are used or required to execute this action. It can be used instead of individually specifying all attributes.	—	—
dbtype	string	Specifies the database type for the request.	oracle	postgre, oracle, mssql
file	string	Specifies the file that contains binary data to use when updating a field in the database that is of type <b>blob</b> and is specified by <b>blobfield</b> . This attribute is always used in conjunction with <b>blobfield</b> .	—	—
gdaport	integer	Defines the GDA port on the target host to which to connect.	—	—
host	string	Specifies the host Configuration object name upon which this task is to be performed.	—	—
password	string	Specifies the password to use when connecting to the database.	—	—
port	integer	Specifies the port of the database to which to connect, if a DAP is not specified.	—	—
result	string	Defines the name of a JavaScript variable that contains the result of	—	—

Name	Type	Description	Default	Values
		the action. The variable contains the output of the SQL command if it is a success; if it fails, the execution stops.		
servicename	string	Specifies the Service Name.	—	—
sid	string	Specifies the SID.	—	—
sql	string	Defines the SQL statement to execute.	—	—
sqlclienthost	string	Specifies the host of the database to connect to from the SQL client. This is used in conjunction with <b>port</b> .	—	—
sqlscript	string	Defines a script that contains SQL statements to execute. Only one <b>sql</b> or <b>&lt;UNHANDLED:ATT&gt;script</b> can be defined, and <b>sql</b> takes precedence.	—	—
user	string	Specifies the username to use when connecting to the database.	—	—

### <os:execShellCmd>

A directive to execute a shell script/command on the target host.

#### Attributes

Name	Type	Description	Default	Values
asAdmin	Boolean	If set to true, this action is performed as the root user.	false	—
cmd	string (required)	Specifies the command or script to run on the target host.	—	—

Name	Type	Description	Default	Values
data	object	This attribute can be used to specify a JavaScript variable that contains a JSON representation of all attributes that are used or required to execute this action. It can be used instead of individually specifying all attributes.	—	—
gdaport	integer	Defines the GDA port on the target host to which to connect.	—	—
host	string (required)	Specifies the host Configuration object name upon which this task is to be performed.	—	—
ignoreretval	string	If set to true, then continue execution regardless of whether the execution is a success or a failure.	—	—
result	string	Defines the name of a JavaScript variable that contains the result of the action. The variable contains the output of the script/command if it is a success; if it fails, the execution stops, unless ignoreretval="true" is specified.	—	—

## <os:getEnvVar>

A directive to get the value of an environment variable on the target host.

### Attributes

Name	Type	Description	Default	Values
asAdmin	Boolean	If set to true, this action is performed as the root user.	false	—

Name	Type	Description	Default	Values
data	object	This attribute can be used to specify a JavaScript variable that contains a JSON representation of all attributes that are used or required to execute this action. It can be used instead of individually specifying all attributes.	—	—
gdaport	integer	Defines the GDA port on the target host to which to connect.	—	—
host	string (required)	Specifies the host Configuration object name upon which this task is to be performed.	—	—
name	string (required)	Specifies the name of the environment variable to retrieve.	—	—
result	string	Defines the name of a JavaScript variable that contains the result of the action. The variable contains the value of the environment variable if it is a success; if it fails, (for example, the variable is not found), the execution stops.	—	—

## <os:installPackage>

A directive to install an installation package (such as software) to a specified host. To successfully install an installation package, certain key-value parameters must be supplied. These are defined by using the <os:list> tag of type `silentInstall` with individual parameters specified using the <os:property> tag. Refer to [<os:property>](#) for an example.

### Attributes

Name	Type	Description	Default	Values
appMergeMode	string	—	—	—
appName	string (required)	Defines the name of the CfgApplication	—	—



Name	Type	Description	Default	Values
		object to create for this installation.		
appPort	integer (required)	Specifies the default port to define in the CfgApplication object.	—	—
backupConfServ	string	Optional. Defines the name of the Backup Configuration Server Application Object that is specified during IP installation. If unspecified, the Backup Configuration Server used by GAX is selected.	—	—
buildNumber	string	—	—	—
data	object	This attribute can specify a JavaScript variable that contains a JSON representation of all attributes that are used or required to execute this action. It can be used instead of individually specifying all attributes.	—	—
debug	Boolean	Indicates to GDA that temporary files that are created during installation should not be removed.	false	—
existingAppName	string	—	—	—
folder	string (required)	Defines the CfgFolder, which is where the related CfgApplication object for this IP will be created.	—	—
gdaport	integer	Defines the GDA port on the target host to which to connect.	—	—
host	string (required)	Specifies the host Configuration object name upon which this task is to be performed.	—	—
localeId	string	—	—	—

Name	Type	Description	Default	Values
longName	string (required)	Specifies the application template long name that is required for installation.	—	—
nickname	string	—	—	—
osType	string	Defines the target operating system. This is used to ensure that the correct IP is installed for the target host.	—	—
overrideTemplate	string	Deprecated, since the template is uploaded during IP upload time. Defines the name of the template file to use instead of the template within the IP. This is used if the template that is supplied in the IP is incorrect.	—	—
primaryConfServ	string	Optional. Defines the name of the Primary Configuration Server Application Object that is specified during IP installation. If unspecified, the Primary Configuration Server used by GAX is selected.	—	—
result	string	Defines the name of a JavaScript variable that contains the result of the action. A value of "true" indicates success. A value of "false" indicates failure. Note: The execution stops if a failure occurs.	—	—
skipIfInstalled	Boolean	Specifies whether the installer should skip the installation of an IP if it is already installed.	false	—
tenantdbid	integer (required)	Defines the DBID of the Tenant where the CfgApplication that is specified in <b>appName</b> is created.	—	—

Name	Type	Description	Default	Values
version	string (required)	Specifies the release number of the IP to install, such as "8.1" or "8.1.0". You can specify the release number to any level of numbering. GAX will select the latest, most up-to-date IP that matches the specified release.	—	—

### Supported List Names

Name	Type	Description	Default	Values
silentInstall	<os:property>	—	—	—

### <os:setEnvVar>

A directive to set the value of an environment variable on the target host.

### Attributes

Name	Type	Description	Default	Values
asAdmin	Boolean	If set to true, this action is performed as the root user.	false	—
data	object	This attribute can be used to specify a JavaScript variable that contains a JSON representation of all attributes that are used or required to execute this action. It can be used instead of individually specifying all attributes.	—	—
gdaport	integer	Defines the GDA port on the target host to which to connect.	—	—
host	string (required)	Specifies the host Configuration object name upon which this task is to be performed.	—	—

Name	Type	Description	Default	Values
name	string (required)	Specifies the name of the environment variable to retrieve.	—	—
result	string	Defines the name of a JavaScript variable that contains the result of the action. The variable contains the value of the environment variable if it is a success; if a failure occurs (for example, the variable is not found), the execution stops.	—	—
shell	string	Specifies the operating system shell to use when setting the environment variable.	—	—
value	string	Specifies the value of the environment variable to be set.	—	—

### <os:verifyEnvVar>

A directive to verify the existence of an environment variable, or that an environment variable equals a specified value on the target host.

#### Attributes

Name	Type	Description	Default	Values
asAdmin	Boolean	If set to true, this action is performed as the root user.	false	—
data	object	This attribute can be used to specify a JavaScript variable that contains a JSON representation of all attributes that are used or required to execute this action. It can be used instead of individually specifying all attributes.	—	—

Name	Type	Description	Default	Values
gdaport	integer	Defines the GDA port on the target host to which to connect.	—	—
host	string (required)	Specifies the host Configuration object name upon which this task is to be performed.	—	—
name	string (required)	Specifies the name of the environment variable to retrieve and to verify that it exists.	—	—
result	string	Defines the name of a JavaScript variable that contains the result of the action. The variable contains <code>true</code> if the variable exists and matches <b>value</b> , if specified. The variable contains <code>false</code> if the variable is not defined or does not match <b>value</b> .	—	—
value (optional)	string	Specifies a value to which the environment variable on the target host should be compared.	—	—

### <os:verifyGDA>

A directive to verify that a connection to the GDA on a remote host can be established. To properly handle errors, it is important to perform this step before performing other Operating System Manipulation commands.

#### Attributes

Name	Type	Description	Default	Values
data	object	This attribute can be used to specify a JavaScript variable that contains a JSON representation of all attributes that are used or required to execute this action. It can be used instead of	—	—

Name	Type	Description	Default	Values
		individually specifying all attributes.		
gdaport	integer	Defines the GDA port on the target host to which to connect.	—	—
host	string (required)	Specifies the host Configuration object name upon which this task is to be performed.	—	—
result	string	Defines the name of a JavaScript variable that contains the result of the action. The variable contains true if GDA is accessible, and false if GDA does not respond.	—	—

## <os:verifyHost>

A directive to verify that a specified hostname is resolvable in DNS.

### Attributes

Name	Type	Description	Default	Values
data	object	This attribute can be used to specify a JavaScript variable that contains a JSON representation of all attributes that are used or required to execute this action. It can be used instead of individually specifying all attributes.	—	—
host	string (required)	Specifies a hostname to resolve in DNS.	—	—
result	string	Defines the name of a JavaScript variable that contains the result of the action. The variable contains true if the host is accessible, and false if the hostname does not resolve.	—	—