GWAVA Inc.

GWAVA® Retain™

For GroupWise®

Exalead® Install Guide

For Retain 2.6

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Overview

Exalead is an extremely robust indexing system which has the ability to completely scale to the largest email archiving operations. The system requirements will vary depending on the size of the system being archived. The minimums listed are for a bare installation, and minimum use for the data directory and hard drive space. Medium size systems will vary somewhere between the minimum and recommended settings, though the recommended settings will guarantee quick response and performance from the indexing service. In general, the index service will perform better with ample ram, and multiple processor cores tied to the number of hard disks in the system due to disk I/O. SATA disks are not recommended due to disk I/O use and requirements. Exalead should be installed and run on a dedicated server for best performance. Exalead should not be run on the same machine as the Retain Server.

All systems should have clocks synchronized via a NTP server, as time stamps are used and must be consistent.

Licensing

Exalead is not a standard feature of the Retain system, but does improve the scalability and adds robust searching and management of the Retain archive. **Exalead requires a separate purchase and license in addition to Retain licensing. Please contact your Retain sales representative for more information and for download and access.**

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Minimum System Hardware Requirements

- 2 HD disks with appropriate space for indexing needs.
  (Exalead indexing will consume about 40% of total archived mail space.)
- 16 GB of available ram
- Dual core processor

Recommended System Requirements

- 4-8 core system
- 32 GB Ram
- 8 SCSI or SAS Hard Disks, (or 1 per processor core), to maximize disk I/O performance while indexing. RAID 5 is fine.

Linux System Requirements

- 64-bit Suse Linux Enterprise Server 10, or 11.
- Sun Java 1.5
- **EXT-3 File system** (Reiser file system will NOT work.)
- The following packages **must** be installed:
  - compat-libstdc++
  - Gtk 32-bit library
  - Hard limit of file descriptors must be increased. Add the following line to /etc/security/limits.conf

```
*     soft  nofile      65537
*     hard nofile       65537
```

Windows System Requirements

- MS Windows 2003 Server
- MS Windows 2008 Server
- Sun Java 1.5
- All OS versions must have all available service packs installed.

All systems require 100 open ports for Exalead to use, starting at the 'base port' specified in the installation. See below.

The installation also requires an internet connection.

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Exalead installation

Exalead Installation is essentially identical between both MS Windows and Linux platforms. The Install first checks for Java 1.5, and then prompts automatic (Linux) or manual (Windows) download and installation of Java 1.5 if it is not found. If Java is found, the install then proceeds to download and install and create a basic configuration for Exalead. The installation requires a live internet connection. After the install completes, there is no need to perform further configuration of Exalead in order for it to work with Retain; all pertinent configuration is performed in the installation and with the schema control by the Retain Server.

During the install, several variables must be provided for your system. Defaults are shown between brackets and can be applied simply by pressing <Enter> when prompted. However, the DNS or IP connection address must be manually specified for the system to function. The different variables required, and defaults, are:

- Executable installation folder — C:\exabin -or- /opt/beginfinite/exabin
- Data directory installation folder — C:\exadata -or- /opt/beginfinite/retain/exadata

The exabin and exadata directory settings MUST be different directories; they cannot be set to the same directory, or the install will fail.

- Hostname or IP Address — --MUST be the Hostname or IP Address of the server— (Hostname or IP Address cannot be 127.0.0.1)
- Base port (default is port 10000) — Exalead uses 100 ports, starting with this port
- Exalead server instance name — reatainex
- Base Port — 10000
- Number of used CPUs — 2 (Defaults to the maximum detected on the server)
- Build Type — buildsearch
- Number of 'slices' — 2 (minimum of 2 or number of available HD disks)
- Exalead Console Password — exalead

The install finally displays your settings and asks for confirmation then proceeds to finish the install and start Exalead. In Linux, Exalead is automatically set to run in runlevels 3 and 5. In MS Windows, Exalead runs as a service.

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Linux Install

Download the Retain install package and extract it to its own folder. Enter the folder and locate the ExaleadInstall.sh file.

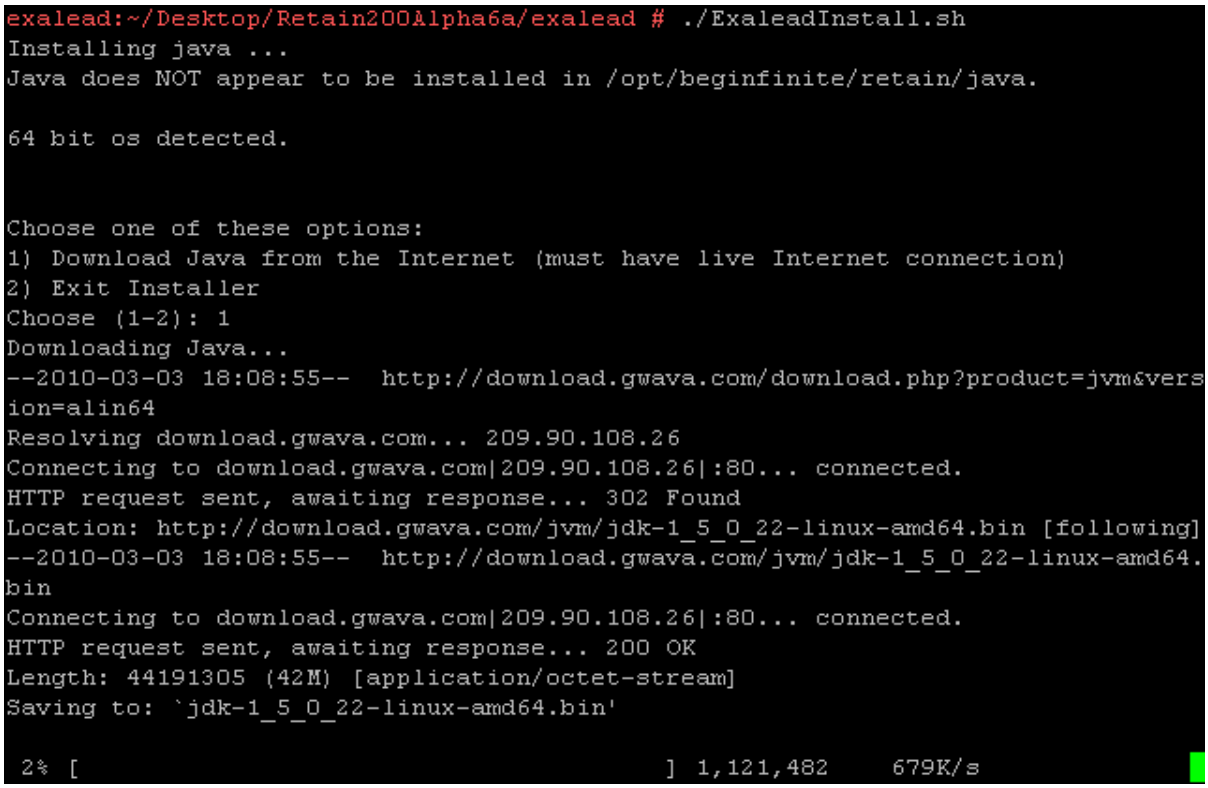
Add the execute permission to ExalaedInstall.sh

```
chmod +x ExaleadInstall.sh
```

Run the Exalead installation program on the target install server.

```
./ExaleadInstall.sh
```

The install first checks for Java 1.5. If Java is not found to be present in the system, the installer will download and begin the Java installation. If Java is already installed, the Exalead installation will continue to install.



If Sun Java has not been installed, the install will automatically download and install the JDK. The server MUST have internet access for this installation to work. Work through the license agreement, specify the JAVA_HOME variable, and complete the Java install.

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The Exalead install must be restarted after Java installation. Re-run the Exalead installation.

```
./ExaleadInstall.sh
```

```
exalead:~/Desktop/Retain200Alpha6a/exalead # ./ExaleadInstall.sh
64 bit os detected.
--2010-03-04 02:40:36--  http://download.gwava.com/download.php?product=retain&v
ersion=exalin64
Resolving download.gwava.com... 209.90.108.26
Connecting to download.gwava.com|209.90.108.26|:80... connected.
HTTP request sent, awaiting response... 302 Found
Location: http://download.gwava.com/exalead/cloudview-oem-linux64-tag-5.0.3.1261
4.tar.gz [following]
--2010-03-04 02:40:36--  http://download.gwava.com/exalead/cloudview-oem-linux64
-tag-5.0.3.12614.tar.gz
Connecting to download.gwava.com|209.90.108.26|:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: 358535174 (342M) [application/x-gzip]
Saving to: `cloudview-oem-linux64-tag-5.0.3.12614.tar.gz'

 2% [>                                      ] 10,058,125   730K/s  eta 7m 58s
```

Exalead source and installation files will be downloaded to the target server. After the download finishes, the install will begin.

```
Executable file directory [/opt/beginfinite/retain/exabin]:
```

Default is shown. This is where Exalead will store its executable binary files.

```
Index data directory [/opt/beginfinite/retain/exadata]:
DNS or IP Address of index server []: 192.168.1.106
```

Exalead will also ask where it should store the data files for the index. This should be a location that can be backed-up.

The exabin and exadata directory settings MUST be different directories; they cannot be set to the same directory, or the install will fail.

Exalead will also require you to specify the IP address or DNS name of the target server. There is no default. This MUST be an address that the Retain Server can contact the Exalead server through, or the system will not work. Verify the selected address will work then specify the IP address or DNS Hostname and continue. This setting cannot be 127.0.0.1.

```
Instance name [retainex]:
basePort [10000]:
```

The instance name is what Exalead reports as its name to the Retain Server.

Exalead requires 100 ports to use. The base port is the port Exalead starts with, and then advances +100 ports as required. ie. By default, Exalead will use ports 10000-10100. Make sure these ports are open,

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or, change them according to your system. If changed from default, keep track of the base port, as it must be entered into the Retain Server configuration.

```
basePort [10000]:
CPUS to use for analyzers [2]: 2
```

You will also be asked how many CPUs to utilize from the host system. This should be changed to the total number of processor cores in the host system, and a MINIMUM of 2 to support the minimum number of 'slices' for the system.

```
CPUS to use for analyzers [2]: 2
The buildtype should be left as buildsearch unless you consult with support,as t
his is the normal operational mode. purebuild greatly enhances indexing speed, b
ut disables ALL searching. It can bea useful option when first priming your inde
x.
buildtype [buildsearch]:
```

Enter the initial buildtype. The default, and what should be used in all but immediate setup, is the 'buildsearch' setting. It is highly recommended to leave this setting as default: buildsearch.
If a large system is being migrated to Exalead, the search function of Exalead may be disabled to allow the index to be built faster; the 'purebuild' option. *Note: if the 'purebuild' option is selected, the setting must be changed to 'buildsearch' for searching to work.*

```
Short version: Leave this at 2 unless directed by support. Long version: must be
 between 2 and 8, while constrained by Min(CPU,Disk).
Slices [2]:
```

The 'slices' setting basically represents the number of working threads Exalead will run, and has a minimum number of 2. The 'Slices' setting should be set to the number of hard drive disks installed in the system. The number of slices cannot be lower than '2', and cannot exceed the total number of available CPUs. I.e., if the system has two quad core processors and five SCSI disks, the slices setting should be set to '5'. Exalead will then split data job queues into 5 processing 'slices' which will do equal amounts of importing work.

```
Slices [2]:
Used for access to Exalead consoles
Administrator password [exalead]:
```

Set the access password for the Exalead. This password will be used for the admin password to access the Exalead Configuration Console, (the admin console).

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```
Install Executables to:                 /opt/beginfinite/retain/exabin
Install data directory to:              /opt/beginfinite/retain/exadata
Use this host name:                     192.168.1.106
Use this base port:                     10000
Use this instance:                      retainex
Use these many cpus:                    2
Use this buildtype:                     buildsearch
Use these many slices:                  2
Use this password:                      exalead

Confirm your selections (yes or no)   [yes]:
```

Verify your settings, or change them, then continue.

```
Installation successfull
You must first launch the product using  /opt/beginfinite/retain/exadata/bin/cvi
nit.sh
To complete the product setup, the configuration can be generated using : /opt/b
eginfinite/retain/exadata/bin/postinstall
retain-exalead            0:off  1:off  2:off  3:on   4:off  5:on   6:off
Exalead is installed and will run automatically on reboot. Starting right now...
.
Wait 5 minutes, and then try accessing http://ipaddress:127.0.0.1:10001/api-ui
Starting Exalead CloudView daemonexa: license expires in 10 days
                                                                      done
exalead:~/Desktop/Retain200Alpha6a/exalead #
```

Exalead will then complete the install and set the system to run on runlevels 3 and 5 by default.

If you wish to check for a successful installation, wait several minutes then open a browser and access: http://<your server IP address or DNS>:<chosen base port +1>/admin . The admin console should be secured, whether by restricting access to the port to only the Admin computer, or through other network security measures appropriate for the system. Again, the admin console access port is the specified base port +1.

Login: admin
Password: (whatever was specified in setup, default: Exalead)

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After logging into Exalead, you should view a management configuration page for the Exalead server. In almost every instance, configuration and installation of Exalead for Retain Server has been completed. No further configuration is needed. However, there are endless configuration options. GWAVA inc. and Retain 2 does not require any further configuration.

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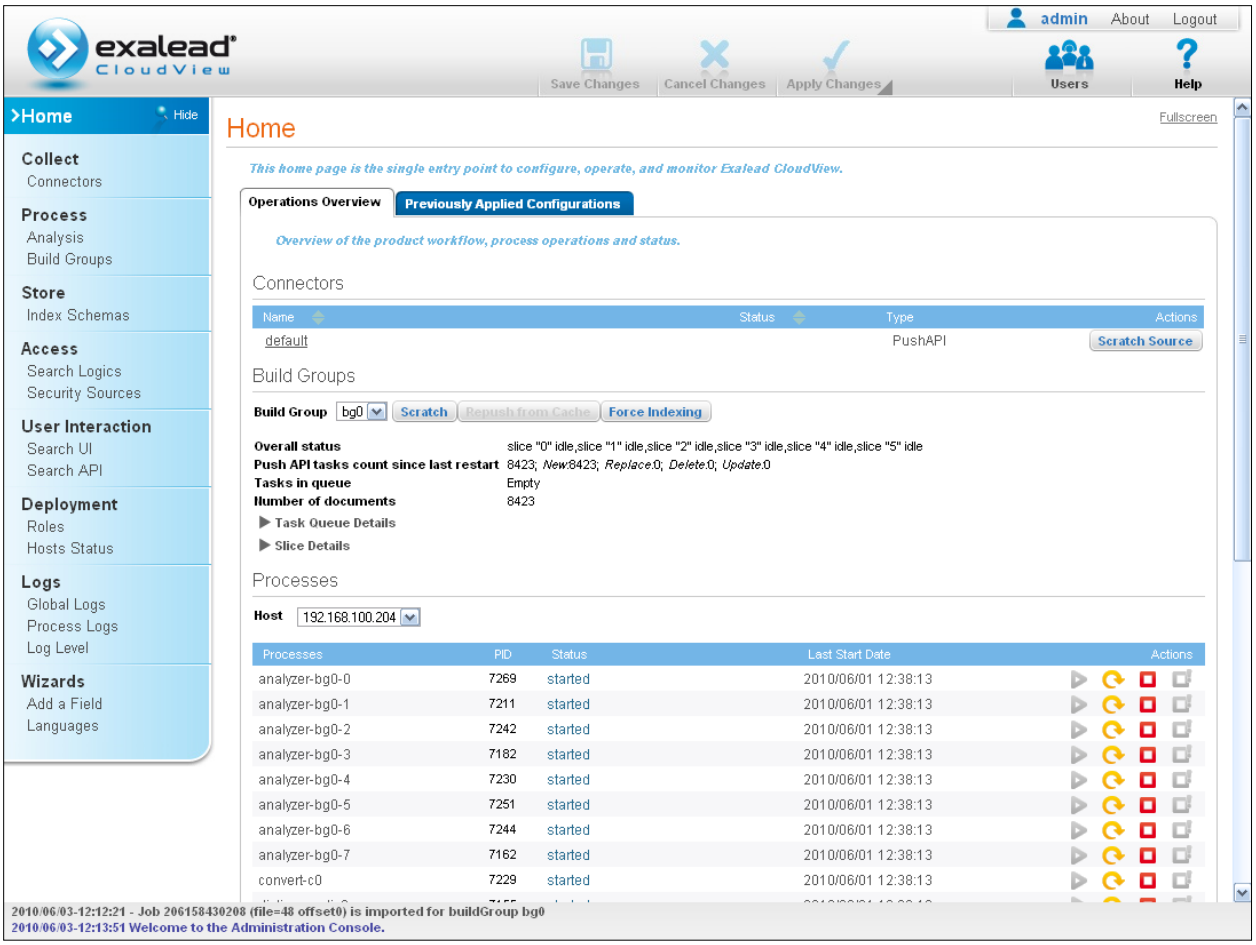

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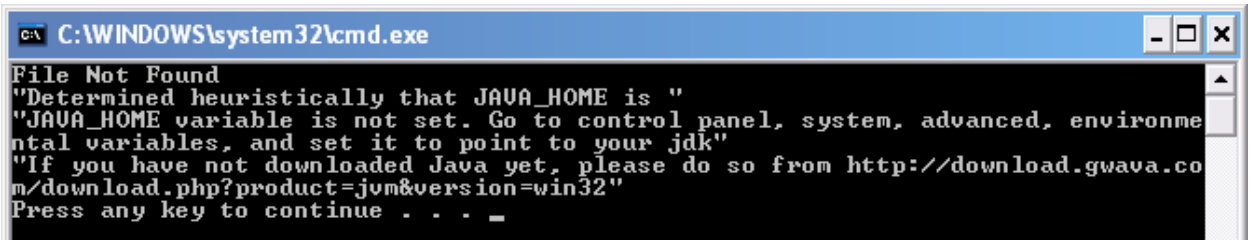
Windows Install

Download the Retain install package and extract it to its own folder. Enter the 'exalead' folder.

In the 'exalead' directory, locate and run the 'ExaleadInstall.bat' file.

The install first checks for Java 1.5. If Java is not found to be present in the system, the installer will prompt you to manually download the Java installation files and install Java 1.5. If Java is already installed, the Exalead installation will continue to install.

To download Java 1.5, browse to http://download.gwava.com/download.php?product=jvm&version=win64 or to the link specified by the installer.

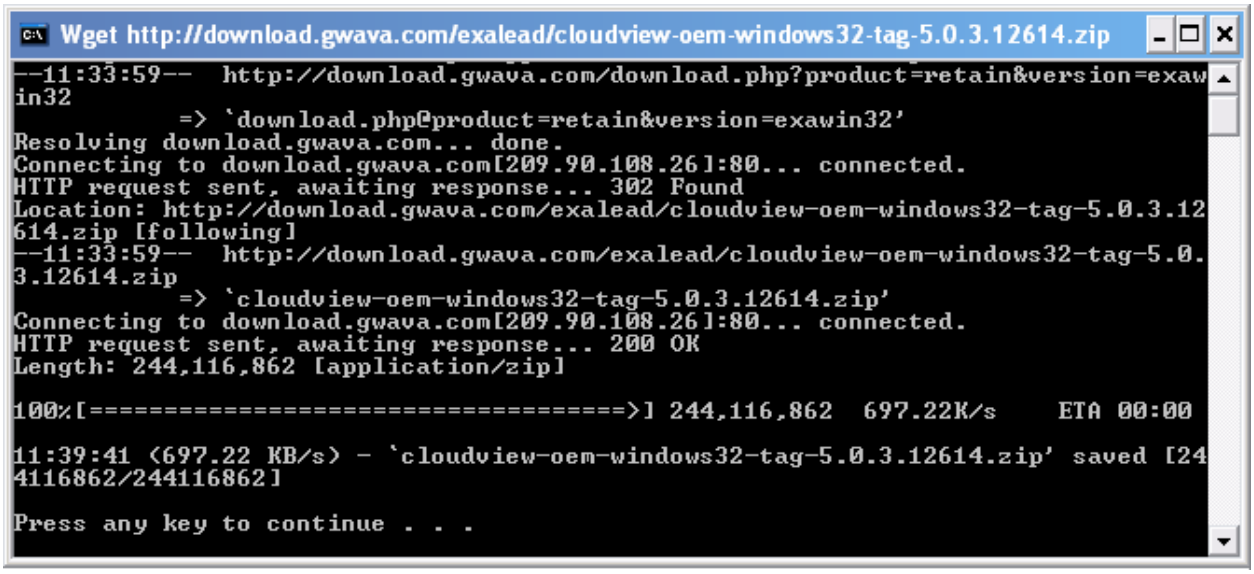


Save, and run the install. The server MUST have internet access for this installation to work. After the installation has completed, specify the JAVA_HOME variable.

The JAVA_HOME variable is found under **Start** | **Control panel** | **System**. Select the **Advanced** tab and then select the '**Environment Variables**' button near the bottom. JAVA_HOME should be listed in your System variables table and point to your Java 1.5 installation directory. If it is incorrect, correct the information. If it is missing, select 'New' and add the path. Syntax as follows:

Variable Name JAVA_HOME
Variable Value <Path to Java installation directory> ie. C:\Program Files\Java\jdk1.5.0_22

After Java has been installed, re-run the ExaleadInstall.bat file to initiate the installation.



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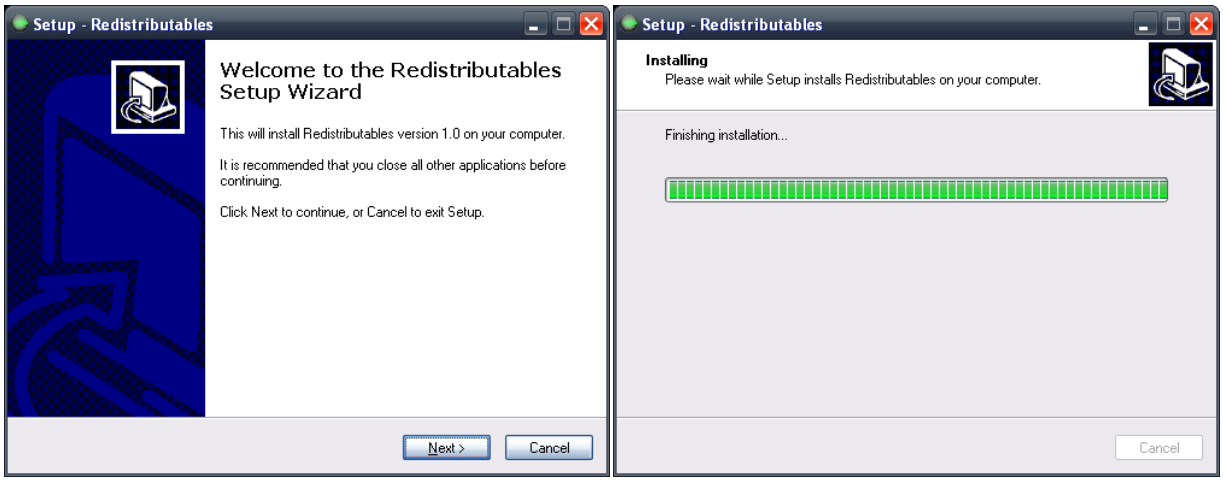
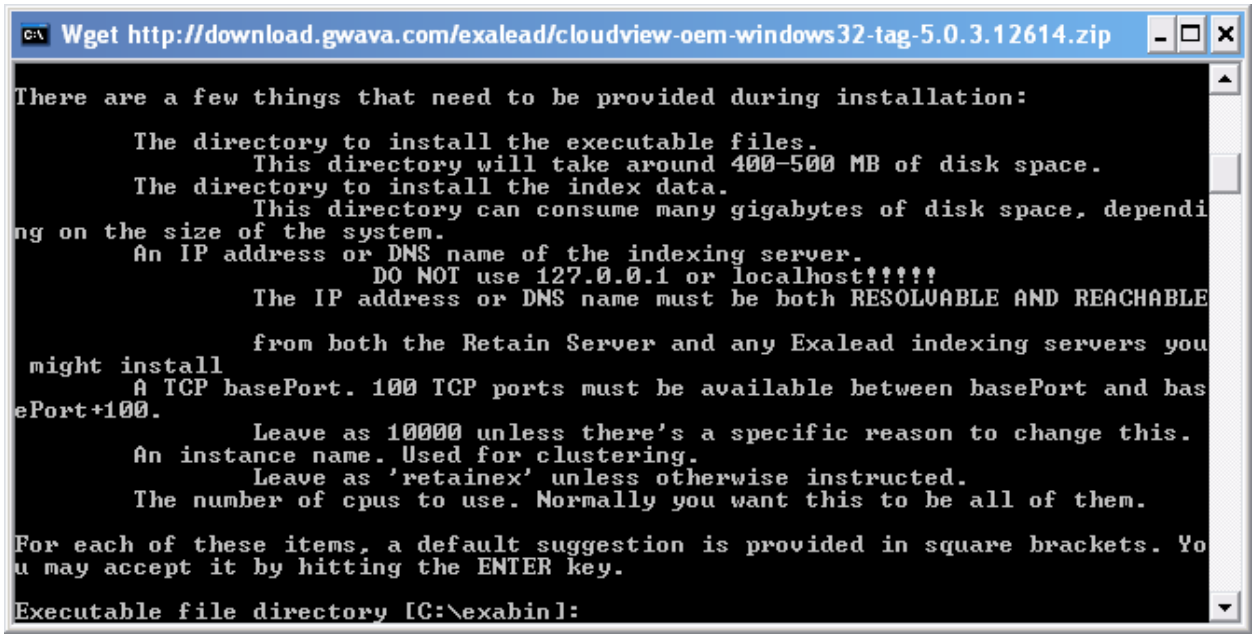
Exalead requires C++ SP1 Redistributable to be installed. The Exalead install will download and automatically run the installation file. When the installation dialog opens, select next and allow the install to complete.



Exalead will then continue to install through the console. Defaults for the required variables are shown between the brackets of the install prompts. Pressing <enter> on a blank option will accept defaults, or custom settings may be specified.



Default is shown. This is where Exalead will store its executable binary files.

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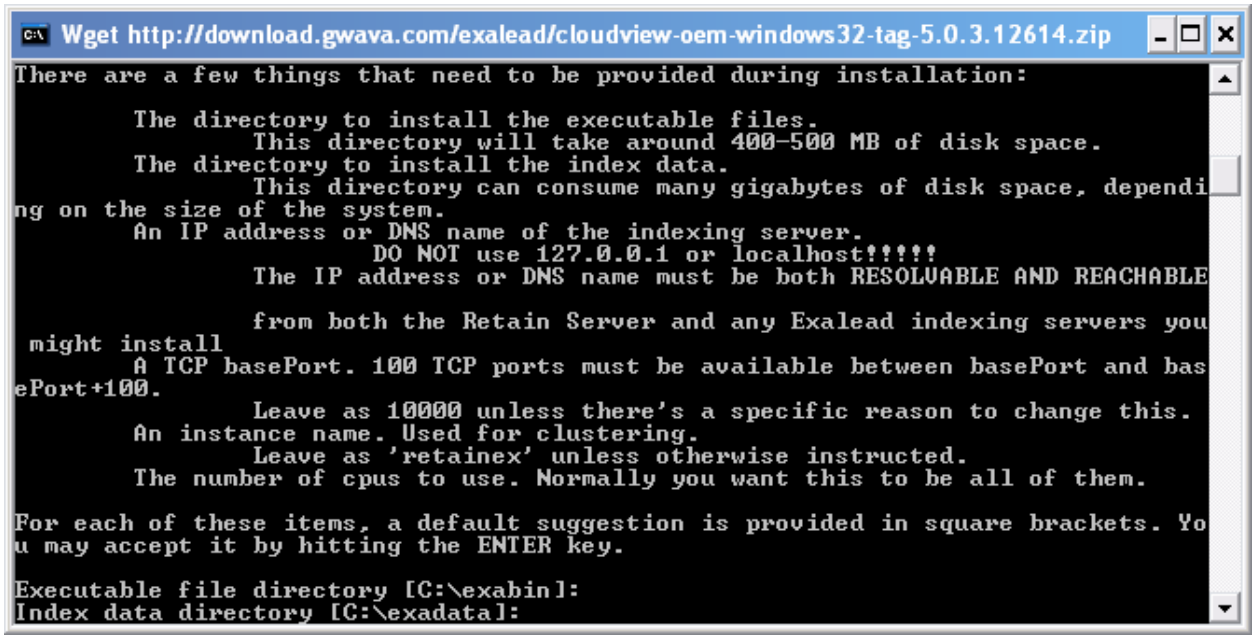
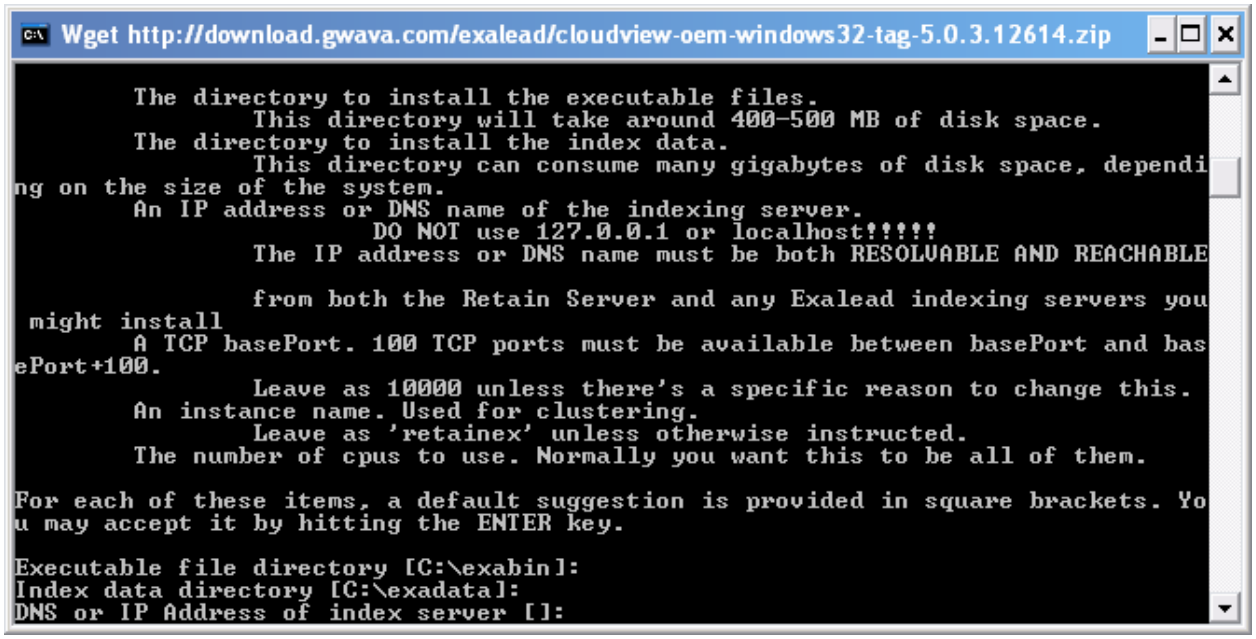


Exalead will also ask where it should store the data files for the index. This should be a location that can be backed-up.

The exabin and exadata directory settings MUST be different directories; they cannot be set to the same directory, or the install will fail.



Exalead will also require you to specify the IP address or DNS name of the target server. There is no default. This MUST be an address that the Retain Server can contact the Exalead server through, or the system will not work. Verify the selected address will work then specify the IP address or DNS Hostname and continue. This setting cannot be 127.0.0.1.

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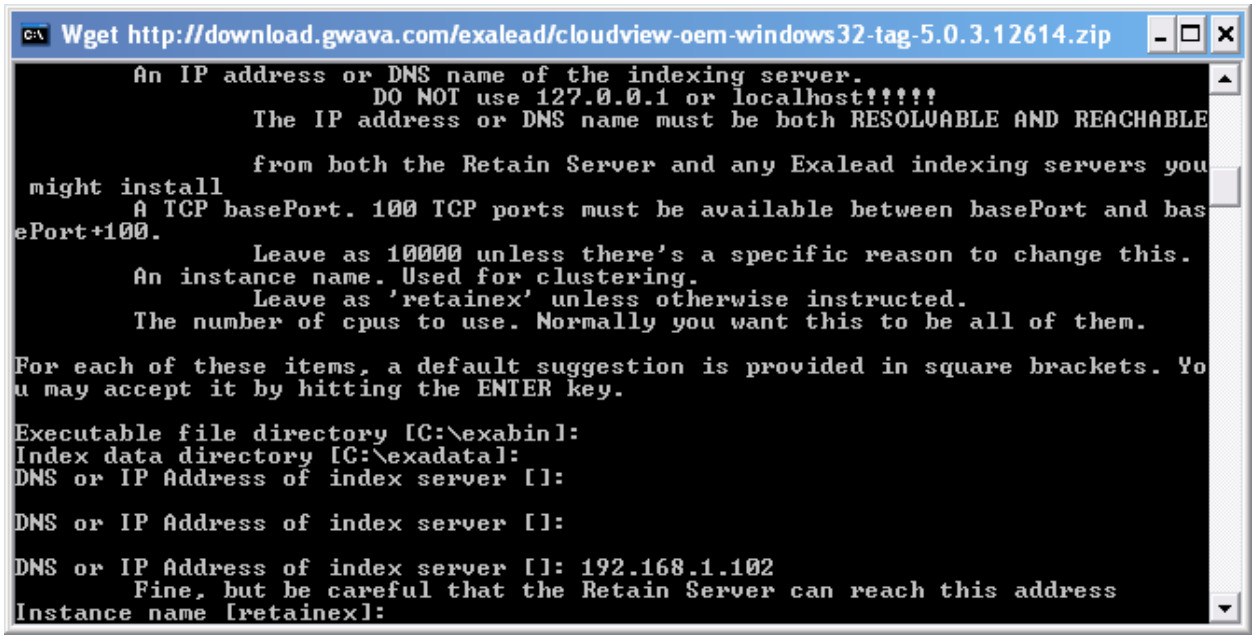
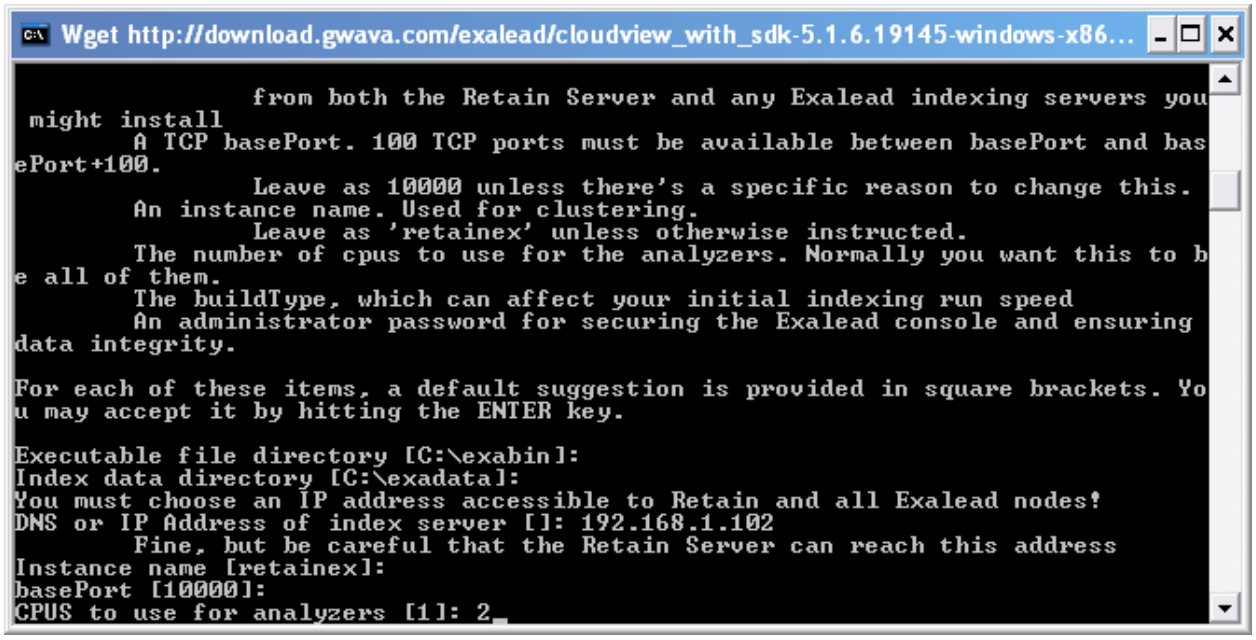


The instance name is what Exalead reports as it's name to the Retain Server.



Exalead requires 100 ports to use. The base port is the port Exalead starts with, and then advances +100 ports as required. ie. By default, Exalead will use ports 10000-10100. Make sure these ports are open, or, change them according to your system. If changed from default, keep track of the base port, as it must be entered into the Retain Server configuration.

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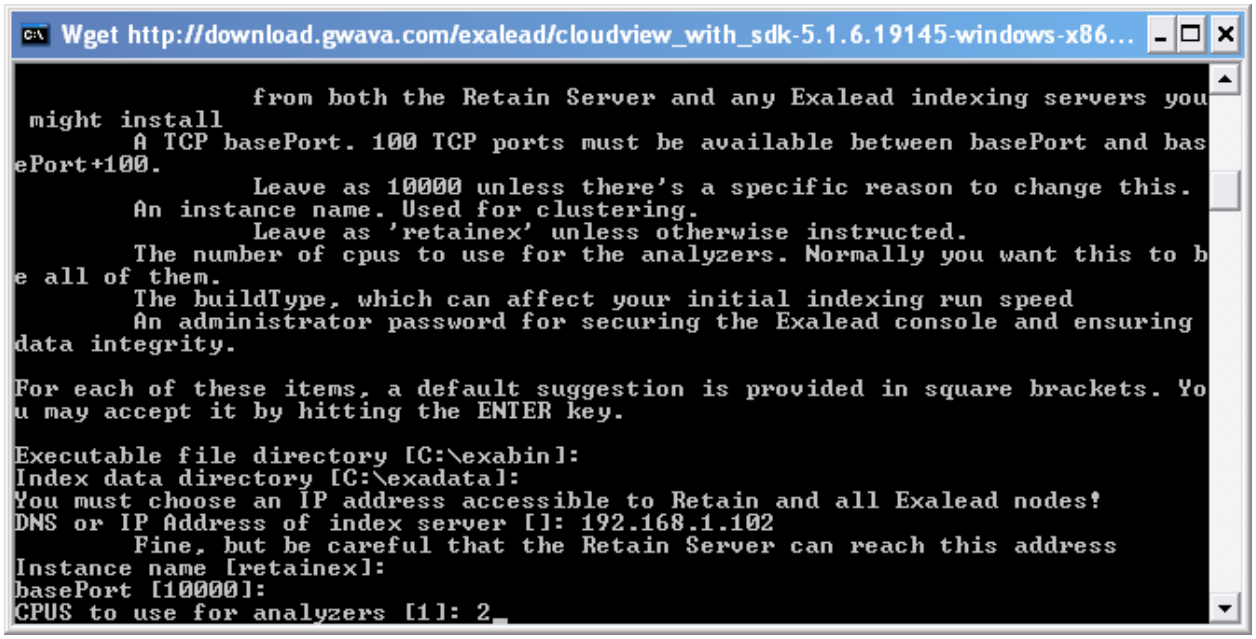
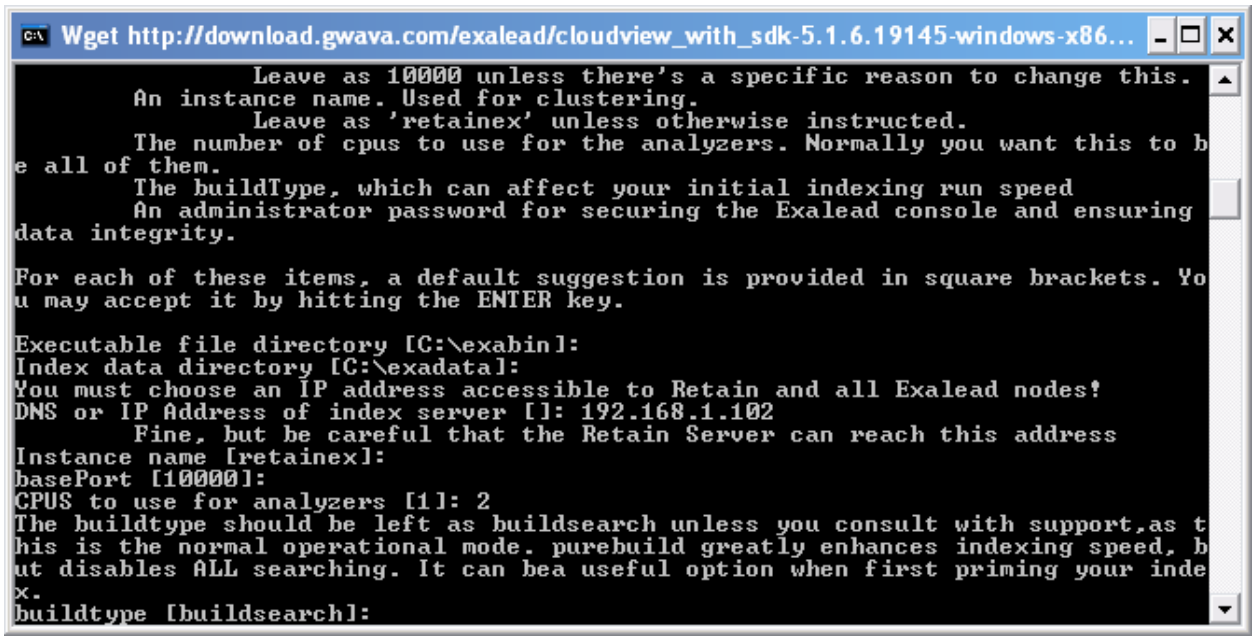


You will also be asked how many CPUs to utilize from the host system. This should be changed to the total number of processor cores in the host system, and a MINIMUM of 2 to support the minimum number of 'slices' for the system.



Enter the initial buildtype. The default, and what should be used in all but immediate setup, is the 'buildsearch' setting. It is *highly recommended* to leave this setting as default: buildsearch.

If a large system is being migrated to Exalead, the search function of Exalead may be disabled to allow the index to be built faster; the 'purebuild' option. *Note: If 'purebuild' is selected, the setting much be switched in the configuration files to 'buildsearch' for searching to work.*

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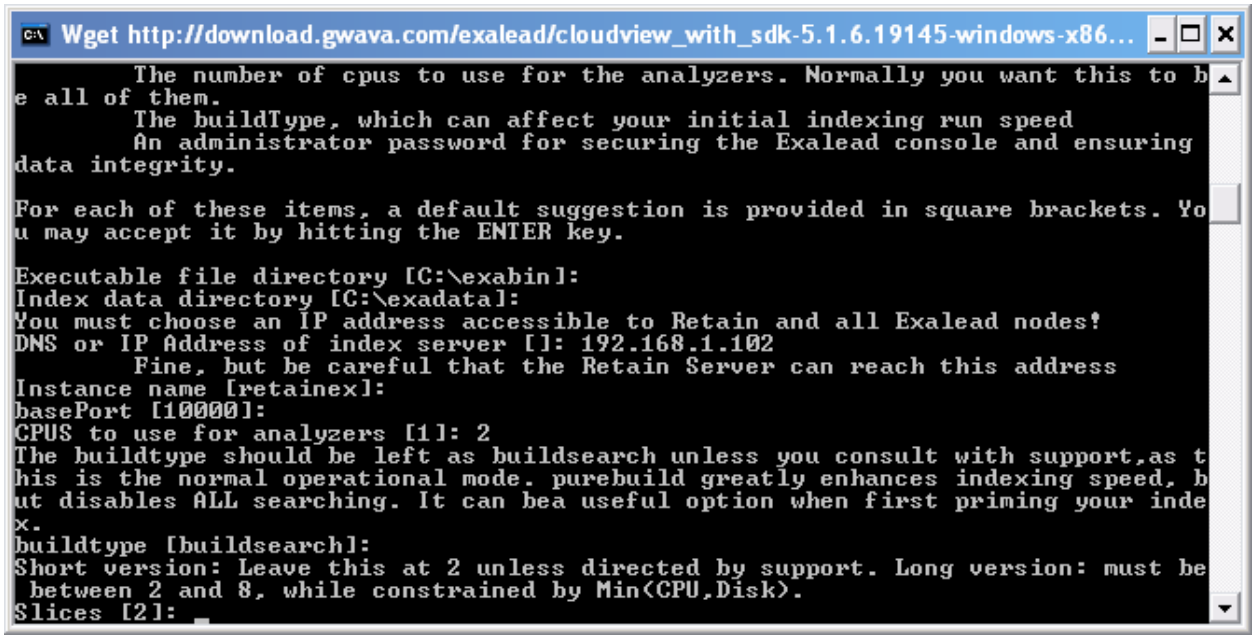
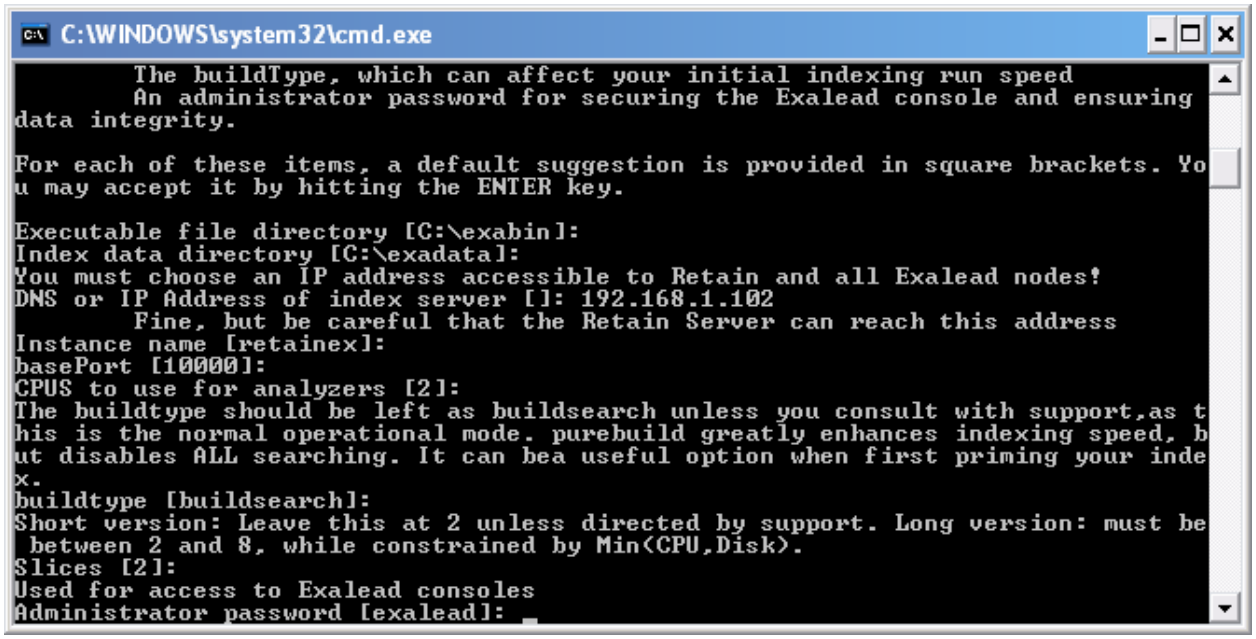


The 'slices' setting basically represents the number of working threads Exalead will run, and has a minimum number of 2. The 'Slices' setting should be set to the number of hard drive disks installed in the system. The number of slices cannot be lower than '2', and cannot exceed the total number of available CPUs. I.e., if the system has two quad core processors and five SCSI disks, the slices setting should be set to '5'. Exalead will then split data job queues into 5 processing 'slices' which will do equal amounts of importing work.



Set the access password for the Exalead. This password will be used for the admin password to access the Exalead Configuration Console, (the api-ui).

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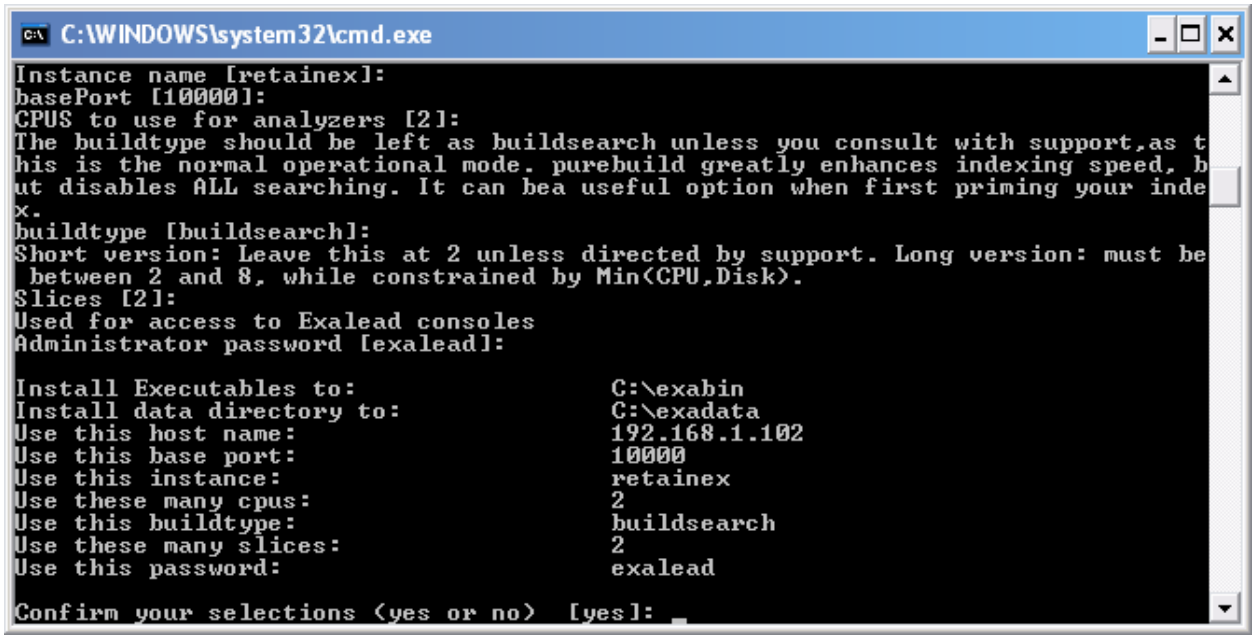
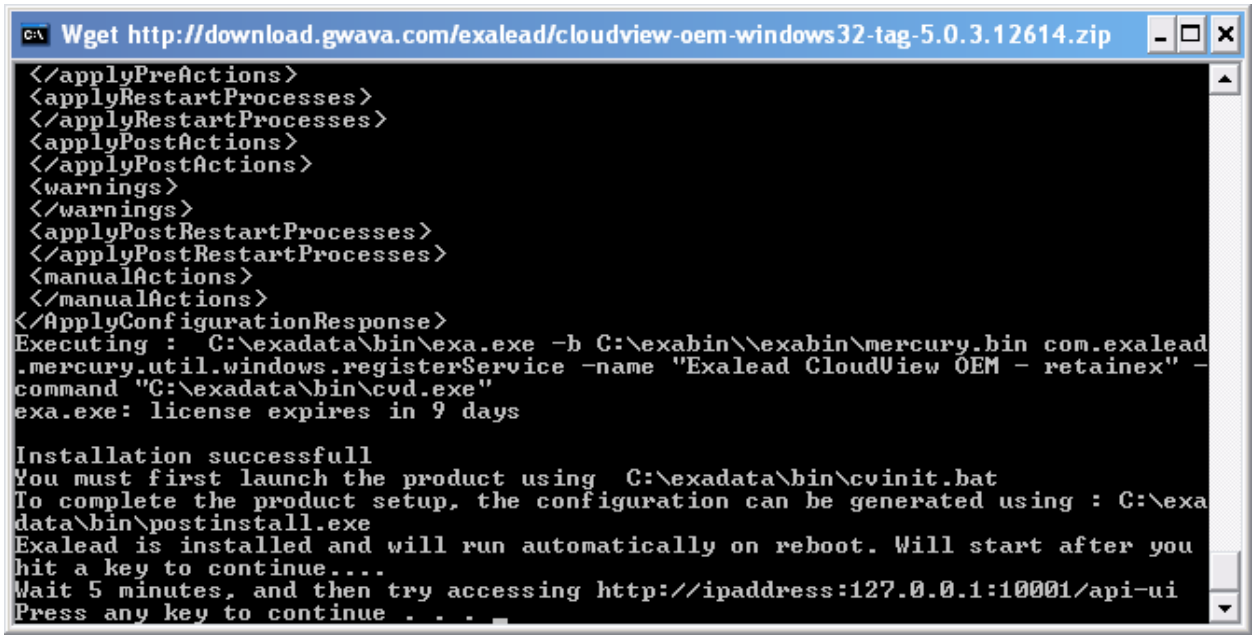


Verify your settings, or change them, then continue.



Exalead will then complete the install and set to run as a system service.

The Windows system should be restarted after installation.

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If you wish to check for a successful installation, wait several minutes then open a browser and access: http://<your server IP address or DNS>:<chosen base port +1>/admin . The API-UI should be secured, whether by restricting access to the port to only the Admin computer, or through other network security measures appropriate for the system. Again, the API-UI access port is the specified base port +1.

Login: admin
Password: (whatever was specified in setup, default: Exalead)

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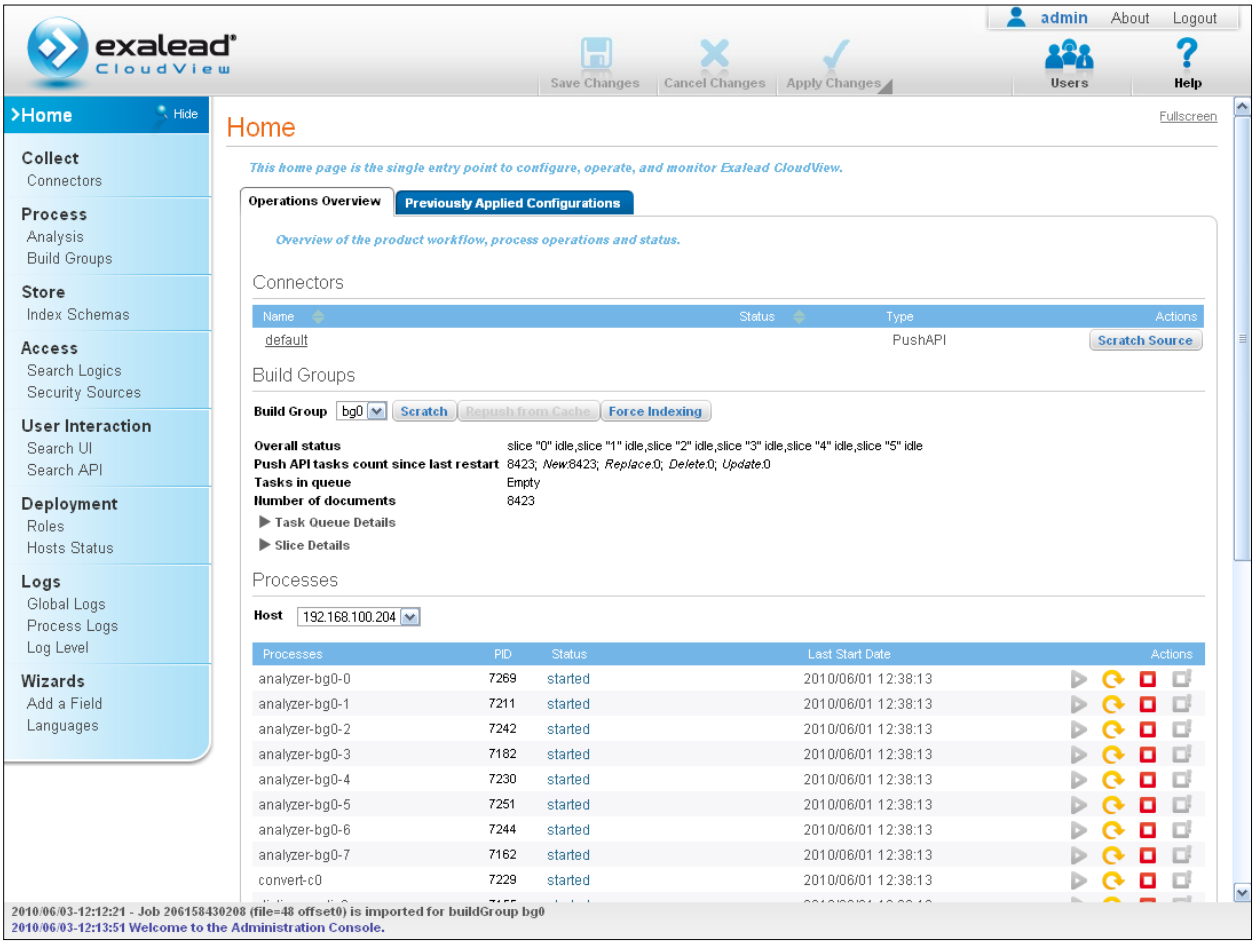
After logging into Exalead, you should view a management configuration page for the Exalead server. In almost every instance, configuration and installation of Exalead for Retain Server has been completed. No further configuration is needed. However, there are endless configuration options. GWAVA inc. and Retain 2 does not require any further configuration.



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