UNIX-based Software Guide

Updated and Revised by
MOHAMED ALAJATI

College of Engineering –UNIX Based Software Guide
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**HOW TO RUN UNIX BASED SOFTWARE’S**

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**Abaqus (version 5.8)**

**Description**

Abaqus is a batch program designed for use in any type of infinite analysis such as static, dynamic, and eigenvalue extraction.

**Available on the following systems**

*Gigastar server*

**How to Run**

Type: `abaqus` at the UNIX command prompt.


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**Acrobat Reader (version 5.0)**

**Description**

A suite of programs developed by Adobe Systems.Inc. for reading and distributing electronic documents. Programs in the suite allow you to read a Portable document Format (PDF) file for a document. You can then distribute the PDF file electronically to people who view the document with the Acrobat Reader.

**Available on the following systems**

*Gigastar Server and UNIX Workstation*

**How to Run**

Type: `acroread` at the UNIX command prompt.

C++ (version 5.0)

Description

A high-level programming language developed by Sun Microsystem. C++ is one of the most popular programming language for graphical applications, such as those that run in Windows and Macintosh environments.

Available on the following SYSTEMS
Gigastar Server and UNIX Workstation

How to Run
Type: workshop at the UNIX command prompt

http://www.sun.com/990209/workshop/

Fluent (version 4.5 and 5.5)

Description

Fluent is a general-purpose program for modeling fluid flow. It allows the engineer or designer to quickly analyze complex flow problems without requiring prior expertise in computational fluid dynamics or computer programming.

Available on the following systems
UNIX Workstation

How to Run
Type: fluent at the UNIX command prompt

http://www.fluent.com
GNU C Compiler (version 2.4.5)

Description

Gcc (GNU C) is a GNU compiler with a C front-end. It retains the powerful optimizer and maintains a high degree of source-level debugging support.

Available on the following systems
Gigastar Server and UNIX Workstation

How to Run
Type: gcc filename at the UNIX command prompt.

http://www.gnu.org/

HyperMesh (Version 5.0)

Description

A high performance finite element pre-and post-processor that enables engineers to quickly and efficiently creates finite element and finite difference models for simulation and analysis. It allows engineers to develop and compare contrast many design conditions in a highly interactive and visual environment.

Available on the following SYSTEMS
UNIX Workstation

How to Run
Type: hm at the UNIX command prompt

http://www.altair.com/
**IMSL (version 2.1)**

**Description**

The IMSL libraries are a collection of mathematical and statistical FORTRAN subroutines that can be called and used within FORTRAN application programs. ISML Exponent Graphics—a companion software package—is a library of FORTRAN subroutines that provides powerful, versatile graphics capabilities to complement the computational capabilities of the IMSL libraries.

**Available on the following systems**

*UNIX Workstation*

**How to Run**

Link your FORTRAN source program with the IMSL libraries while compiling. *Example: f77 myprogram.f -limslib*


---

**Java2 Platform**

**Description**

A software development kit (SDK) for producing Java programs. The Java2 is developed by Sun Microsystems's JavaSoft division. The most recent version, 1.1, includes the JavaBeans component architecture and support for JDBC.

**Available on the following SYSTEMS**

*Gigastar Server and UNIX Workstation*

**How to Run**

Type: **javac** at the UNIX command prompt

[http://java.sun.com/products/jdk/1.1](http://java.sun.com/products/jdk/1.1)
Matlab (version 6.0)

Description

Matlab is a high-performance, interactive software package for engineering and scientific computation.

Available on the following systems
Gigastar server

How to Run
Type: \texttt{matlab} at the UNIX command prompt.

http://www.mathworks.com/

Nastran (version 2001)

Description

Nastran is a large-scale, general-purpose program designed to solve a wide variety of engineering problems by the finite element method. It was originally developed for the National Aeronautics and Space Administration.

Available on the following systems
Gigastar server

How to Run
Type: \texttt{nastran} at the UNIX command prompt

http://www.mscsoftware.com/
Adams (Version 1.1)

Description

IT use virtual prototypes to refine and prove out their designs of suspensions, tires, shift linkages, window mechanisms, door latches, windshield-wiper systems, anything with moving parts.

Available on the following systems
UNIX Workstation

How to Run
Type: adams11 at the UNIX command prompt

http://www.adams.com/

AMESim (Version 3.5)

Description

AMESim provides an application-oriented environment for modeling, simulation and analysis of 1D fluid, thermal and mechanical engineering systems.

Available on the following systems
UNIX Workstation

How to Run
Type: AMESim at the UNIX command prompt

http://www.amesim.com/
**Gambit (version 1.3)**

**Description**

Fast geometry modeling and high quality meshing are crucial to successful use of CFD. GAMBIT gives you both.

- A graphical user interface (GUI), based upon the library, providing a common look-and-feel across platforms.
- Fast Modeling
- CAD/CAE Integration

**Available on the following systems**

UNIX Workstation

**How to Run**

Type: *gambit* at the UNIX command prompt


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**Gnu Fortran 77 Compiler**

**Description**

GNU Fortran, or g77, is designed initially as a free replacement for, or alternative to, the UNIX f77 command. (Similarly, gcc is designed as a replacement for the UNIX cc command.)

**Available on the following systems**

UNIX Workstation

**How to Run**

Type: *g77* at the UNIX command prompt

**LS-Dyna 950**

**Description**

This is the most advanced general purpose nonlinear finite element program capable of simulating complex real world problems.

**Available on the following systems**

Gigastar server and UNIX Workstation

**How to Run**

Type: *ls-dyna* at the UNIX command prompt


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**LS-Post version (1.2)**

**Description**

LS-POST is the new post-processor for LS-DYNA. The graphic user interface was carefully crafted to create a user friendly environment.

**Available on the following systems**

UNIX Workstation

**How to Run**

Type: *ls-post* at the UNIX command prompt

Madymo (version 5.4)

Description

MADYMO is an engineering software tool that allows users to design and optimise occupant safety systems efficiently, quickly and cost-effectively

Available on the following systems
Gigastar server

How to Run
Type: madymo54 at the UNIX command prompt

http://www.madymo.com/

Mixsim (version1.7)

Description

MixSim™ is a mixing-specific software suite that utilizes the power of FLUENT under the hood. It specifically addresses mixing and related flow phenomena. All of the tools you need to achieve a complete modeling solution for mixing are in the suite, including HYPERTRACE™ for additional particle flow visualization.

HYPERTRACE is a joint development of Fluent and SGI.

Available on the following systems
UNIX Workstation

How to Run
Type: mixsim at the UNIX command prompt

http://www.fluent.com/
**MotionView (version 5.0)**

Description

Altair MotionView is a general purpose pre- and post-processor and visualization tool for mechanical system simulation with industry-leading flexbody capabilities.

**Available on the following systems**

UNIX Workstation

**How to Run**

Type: `mview` at the UNIX command prompt


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**Pam-Crush (version 98.0)**

Description

PAM-CRASH is an explicit finite element package from the field of structure dynamics, PAM-CRASH is an application-specific industrial software used to perform realistic and predictive virtual crashworthiness simulations in the transportation industries of the simulation packages of the ESI Group.

**Available on the following systems**

Gigastar server

**How to Run**

Type: `pamcrash` at the UNIX command prompt

SDRC Ideas (version 5.8)

Description
This is the an integrated CAD/CAM/CAE solution that allows customers to design new products by leveraging the Internet. I-DEAS provides the type of communication environment that leads to greater product innovation.

Available on the following systems
UNIX Workstation

How to Run
Type: ideas at the UNIX command prompt

http://www.sdrc.com/ideas

STAR-CD (version 3100a)

Description
STAR-CD offers you unrivalled ability to handle complex geometries; through state-of-the-art meshing flexibility and solver technology that achieves accurate solutions on a wide range of mesh types.

Available on the following systems
UNIX Workstation

How to Run
Type: prostar at the UNIX command prompt

http://www.cd.co.uk/
Sun Fortran 77 Compiler

Description

The Sun FORTRAN 77 compiler f77 is an enhanced FORTRAN development system execution Commands and Step-by-Step Log In

Available on the following systems
UNIX WorkStation and Gigastar server

How to Run
Type: f77 at the UNIX command prompt

http://www.sun.com/990209/workshop/

Sysnoise (version 5.4)

Description

SYSNOISE is a numerical analysis system for solving one-, two-, and three-dimensional acoustic problems in open or closed regions. SYSNOISE also allows to model fluid-structure interaction problems by combining most of these models with a structural finite element model.

SYSNOISE predicts the radiation, scattering and transmission of sound waves and the structural vibrations induced by the loading effects of an acoustic fluid onto a structure. The program calculates a wide variety of results such as sound pressure and radiated sound power, acoustic velocities and intensities, contributions of panel groups to the sound, energy densities, vibro-acoustic sensitivities, normal modes and structural deflections.

Available on the following systems
UNIX WorkStation

How to Run
Type: sysnoise at the UNIX command prompt

http://www.ingeciber.com/eng/products/sysnoise
HOW TO RUN UNIX BASED SOFTWARE’S

Using UNIX Workstation (Local)

1. Log in to the workstation using your Access_ID / Password

   For more information on how to use your access Id and password please visit:
   http://www.eng.wayne.edu/computing/connectservices/help_desk/faq/faq.htm

2. Open a terminal
   (Right click on mouse → Tools → Terminal)

3. Type the command to run your program as describe earlier in the description of UNIX software.

   (For example Type hm to run Hypermesh)

Using UNIX workstation (Remotely)

1. Open the terminal
   (Right click on mouse → Tools → Terminal)

2. Use telnet to log into the remote server

3. Type the following line at the command prompt at the telnet session

   Server_name% setenv DISPLAY host_name:0

You can find out find your Host_Name by typing who at the command prompt
For example:

zimbabwe %who
aj1171 pts/45 Jan 30 15:45 141.217.24.39
aj8463 pts/44 Jan 30 15:23 (ireland)

This means there is two user at the server.
(Your host name should be located next to your access_id).
4. Run Exceed from the PC

Start ➔ Programs ➔ Hummingbird Connectivity ➔ Exceed

5. Type the command to run your program as described earlier in the description of UNIX software

(For example Type hm to run Hypermesh)

Using Exceed from PC (Engineering PC lab + SEL PC’s)

1. Log in to the workstation using your Access_ID / Password

For more information on how to use your access Id and password please visit: http://www.eng.wayne.edu/computing/connectservices/help_desk/faq/faq.htm

2. Open a telnet session

Start ➔ Run ➔ Type cmd ➔ Type telnet server_name

<table>
<thead>
<tr>
<th>Server IP Address</th>
<th>Server name</th>
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<tr>
<td>141.217.202.36</td>
<td>violet.eng.wayne.edu</td>
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Or you can pick any of the following sun workstations to run your software if the UNIX lab is closed

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<thead>
<tr>
<th>Workstation IP Address</th>
<th>Workstation</th>
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<td>141.217.200.7</td>
<td>lethoso.eng.wayne.edu</td>
</tr>
<tr>
<td>141.217.200.8</td>
<td>egypt.eng.wayne.edu</td>
</tr>
<tr>
<td>141.217.200.9</td>
<td>chad.eng.wayne.edu</td>
</tr>
<tr>
<td>141.217.200.10</td>
<td>sudan.eng.wayne.edu</td>
</tr>
<tr>
<td>141.217.200.11</td>
<td>malawi.eng.wayne.edu</td>
</tr>
<tr>
<td>141.217.200.12</td>
<td>mali.eng.wayne.edu</td>
</tr>
<tr>
<td>141.217.200.13</td>
<td>zambia.eng.wayne.edu</td>
</tr>
<tr>
<td>141.217.200.14</td>
<td>kenya.eng.wayne.edu</td>
</tr>
<tr>
<td>141.217.200.15</td>
<td>zimbabwe.eng.wayne.edu</td>
</tr>
<tr>
<td>141.217.200.16</td>
<td>nigeria.eng.wayne.edu</td>
</tr>
<tr>
<td>141.217.200.17</td>
<td>ghana.eng.wayne.edu</td>
</tr>
</tbody>
</table>
Note:

If you login to the Workstation and find out there is more than one user at the same try another workstation. This will balance the load on the workstations and make your software run faster.

You can find out how many users are logged in to the server by typing **who** for example:

```
zimbabwe %who
aj1171 pts/45 Jan 30 15:45 141.217.24.39
aj8463 pts/44 Jan 30 15:23 (ireland)
```

This means there is two users at the server.

3. **Log in to the server using your access id / password**

For more information on how to use your access Id and password please visit:


4. **Type this line at the command prompt at the telnet session**

    server_name% setenv DISPLAY host_name:0
you can type `who` at the command prompt to find your host_name.

zimbabwe % who

aj1171 pts/45 Jan 30 15:45 earth01
aj8463 pts/44 Jan 30 15:23 (ireland)

(Your host name should be located next to your access id).

5. Run exceed from the pc

   Start ➔ Programs ➔ Hummingbird Connectivity ➔ Exceed

6. Type the command to run you programs

   (For example Type hm to run Hypermesh)

Using Exceed from PC (UGL)

1. Log in to the workstation using your Access_ID / password

   For more information on how to use your access Id and password please visit:
   http://www.eng.wayne.edu/computing/connectservices/help_desk/faq/faq.htm

2. Locate a folder called Engineering Software and double click on it

3. Double click on Exceed software icon

4. Double click on Host explorer telnet program

5. Type the host name in the host name field

   (For Example gigastar.eng.wayne.edu)

6. Type the following line at the command prompt at the telnet session

   Server_name% setenv DISPLAY Host_Name:0

You can type `who` at the command prompt to find your Host_Name.
   (you Host_Name should be located next to your access_id).
Example: if your access ID was aj1171 then your Host_Name should be 141.217.24.39

```
zimbabwe %who
aj1171   pts/45   Jan 30 15:45   141.217.24.39
aj8463   pts/44   Jan 30 15:23   ireland
```

7. **Type the command to run your program as describe earlier in the description of UNIX software**

   *(For example Type hm to run Hypermesh)*

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**Dear Student:**

*If you have any problems running the software please contact the engineering helpdesk:*

**Voice:** (313) 577-3824.  
*helpdesk@eng.wayne.edu.*