Research Express is on its way!

- The demonstration will start at 12:30 pm.
- To use the Live Chat:
  - Maximize your browser window so you can see the postings.
  - If you refresh the browser page, you'll need to log in again.
  - After the demonstration, staff will remain available in the chat for a few minutes to answer additional questions.

Today's topic: Perl Modules
Perl Modules using CPAN and VALET
Objectives

- How to install a Perl module with CPAN and a package manager on local machine
- Testing a Perl module installation, database connection
- Using VALET on Mills to use
Welcome to CPAN

The Comprehensive Perl Archive Network (CPAN) currently has 105,692 Perl modules in 24,631 distributions, written by 9,627 authors, mirrored on 281 servers.

The archive has been online since October 1995 and is constantly growing.

Search CPAN via
- metacpan.org
- search.cpan.org

Recent Uploads
- Net-GitHub-0.44
- HTTP-Response-Maker-0.01
- MARC-Transform-0.003001
- Module-Install-CPANfile-0.03
- Module-CPANfile-0.9005
- Module-Install-CPANfile-0.02
- Module-Install-CPANfile-0.01
- Finance-Bank-IE-0.26
- App-GitHub-0.13
- Math-Complex_C-0.05
- more...

Getting Started
- Installing Perl Modules
- Learn Perl

Perl Resources
- The Perl Programming language
- Perl Documentation
- Mailing Lists
- Perl FAQ
- Scripts Repository
**DBD-mysql-4.020**

<table>
<thead>
<tr>
<th>Modules</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bundle::DBD::mysql</td>
</tr>
<tr>
<td>DBD::mysql</td>
</tr>
<tr>
<td>DBD::mysql::GetInfo</td>
</tr>
</tbody>
</table>

**Other Files**

| INSTALL.html |
Installing with CPAN

First of all, you do not need an installed MySQL server for installing DBD::mysql. However, you need at least the client libraries and possibly the header files, if you are compiling DBD::mysql from source. In the case of MySQL, you can create a client-only version by using the configure option --without-server. If you are using precompiled binaries, then it may be possible to use just selected RPM's like MySQL-client and MySQL-devel or something similar, depending on the distribution.
All Software

- mysql-cluster-client-5.1
- MySQL database client library
  libmysqlclient16
- MySQL database client (metapackage depending on the latest version)
  mysql-cluster-client
- MySQL database common files, e.g. /etc/mysql/my.cnf
  mysql-common
- MySQL database connectivity module for SER
  ser-mysql-module
- MySQL database connector for CLI
  libmysql-cil-dev
- MySQL database connector for CLI
  libmysql6.4-cil
- MySQL database core client binaries
  mysql-client-core-5.1

MySQL database development files
libmysqlclient-dev

More Info

Remove
Hide 369 technical items
mearns@bm-vb-ubun2:~$ cpan

CPAN is the world-wide archive of perl resources. It consists of about 300 sites that all replicate the same contents around the globe. Many countries have at least one CPAN site already. The resources found on CPAN are easily accessible with the CPAN.pm module. If you want to use CPAN.pm, lots of things have to be configured. Fortunately, most of them can be determined automatically. If you prefer the automatic configuration, answer 'yes' below.

If you prefer to enter a dialog instead, you can answer 'no' to this question and I'll let you configure in small steps one thing after the other. (Note: you can revisit this dialog anytime later by typing 'o conf init' at the cpan prompt.)

Would you like me to configure as much as possible automatically? [yes]

Autoconfigured everything but 'urllist'.

Now you need to choose your CPAN mirror sites. You can let me pick mirrors for you, you can select them from a list or you can enter them by hand.
install DBD::mysql
Going to read '/home/mearns/.cpan/Metadata'
  Database was generated on Wed, 11 Apr 2012 03:47:03 GMT
Running install for module 'DBD::mysql'
Running make for C/CA/CAPTTOFU/DBD-mysql-4.020.tar.gz
Checksum for /home/mearns/.cpan/sources/authors/id/C/CA/CAPTTOFU/DBD-mysql-4.020.tar.gz ok
Scanning cache /home/mearns/.cpan/build for sizes
.................................................................DONE
---- Unsatisfied dependencies detected during ----
---- CAPTTOFU/DBD-mysql-4.020.tar.gz ----
  DBI [buildRequires]
Running make test
  Make had some problems, won't test
  Delayed until after prerequisites
Running make install
  Make had some problems, won't install
  Delayed until after prerequisites
Running install for module 'DBI'
Running make for T/NI/TIMB/DBI-1.618.tar.gz
Checksum for /home/mearns/.cpan/sources/authors/id/T/NI/TIMB/DBI-1.618.tar.gz ok
CPAN.pm: Going to build T/NI/TIMB/DBI-1.618.tar.gz
All tests successful.
Files=40, Tests=6, 4 wallclock secs ( 0.12 usr 0.06 sys + 2.29 cusr 0.32 csys = 2.79 CPU)
Result: PASS
  CAPTTOFU/DBD-mysql-4.020.tar.gz
 /usr/bin/make test -- OK
Running make install
Files found in lib/lib: installing files in lib/lib into architecture dependent library tree
Installing /usr/local/lib/perl/5.12.4/auto/DBD/mysql/mysql.so
Installing /usr/local/lib/perl/5.12.4/auto/DBD/mysql/mysql.bs
Installing /usr/local/lib/perl/5.12.4/Bin/DBD/mysql.pm
Installing /usr/local/lib/perl/5.12.4/DBD/mysql.pm
Installing /usr/local/lib/perl/5.12.4/DBD/mysql/GetInfo.pm
Installing /usr/local/lib/perl/5.12.4/DBD/mysql/INSTALL.pod
Installing /usr/local/man/man3/DBD::mysql.3pm
Installing /usr/local/man/man3/Bundle::DBD::mysql.3pm
Installing /usr/local/man/man3/DBD::mysql::INSTALL.3pm
Appending installation info to /usr/local/lib/perl/5.12.4/perl/local.pod
  CAPTTOFU/DBD-mysql-4.020.tar.gz
 /usr/bin/make install -- OK

$
# PERL MODULES WE WILL BE USING
use DBI;
use DBD::mysql;

# CONFIG VARIABLES
$platform = "mysql";
$database = "DATABASENAME";
$host = "HOSTNAMEORIP";
$port = "3306";
$tablename = "TABLENAME";
$user = "USERNAME";
$pw = "PASSWORD";

# DATA SOURCE NAME
$dsn = "dbi:mysql:$database:$host:3306";

# PERL DBI CONNECT
$connect = DBI->connect($dsn, $user, $pw);

# PREPARE THE QUERY
$query = "SELECT * FROM $tablename ORDER BY name";
$query_handle = $connect->prepare($query);

# EXECUTE THE QUERY
$query_handle->execute();

while ( $ref = $query_handle->fetchrow_arrayref() )
{
    print "@{$ref}\n";
}
mearns@bm-vb-ubun2:~$ perl '/home/mearns/re0412/dbisectquery.pl'
Content-type: text/html
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1 admin 6c7f96a2d365d4c158206c8eaa613afb mearns@udel.edu 0 0 0 0 1266503718 1322856309 1322856309 1 18000
mearns@udel.edu a:1:{s:13:"form_build_id";s:37:"form-dc8a4a1bc2e430db2ed064058d255ad9";}
Perl Modules on Mills

- Using VALET on Mills
  
  `vpkg_require perl
  perl dbiselectquery.pl`

- Using VALET on compute node
  
  `qlogin
  vpkg_require perl
  perl dbiselectquery.pl`
Summary

- On your local machine
  - CPAN is an easy way to install Perl modules
  - You may need to use a package manager to get some dependencies

- On Mills
  - You can use all systems-installed Perl Modules through Valet
Upcoming

How to do on **Mills** what we demonstrated today on Ubuntu
More information

- IT Research Computing
  http://www.it.udel.edu/research-computing
Contact the IT Support Center

- **Email**: consult@udel.edu
- **Phone**: (302) 831-6000
- **Text**: (302) 722-6820