

Dopo avere accennato nella prima lezione alla teoria dei DB relazionali, passiamo ora alla pratica, e vediamo come ottenere ed installare MySQL sul nostro PC.

Per il download ci rivolgeremo naturalmente al sito ufficiale di MySQL AB www.mysql.com. La pagina dei download si trova attualmente (novembre 2005) a questo indirizzo, e qui possiamo verificare qual è la versione raccomandata, cioè la più recente considerata stabile. Per la nostra guida scaricheremo e installeremo la versione 5.0.

Una volta scelta la versione ci troviamo davanti ad una lista di file scaricabili che si differenziano in base alle piattaforme supportate e al tipo di file che ci interessa. Inoltre abbiamo la possibilità di scegliere se scaricare i file binari eseguibili o i sorgenti da compilare. Ci occuperemo qui delle versioni per Windows e per Linux, e per semplicità (oltre che per il fatto che è consigliato dal produttore), utilizzeremo direttamente i file binari.

Installazione su Windows

MySQL può girare su qualsiasi sistema operativo Windows a 32 bit (quindi da Windows 95 in poi); per poterlo installare sulla nostra macchina ci basta il supporto per TCP/IP e circa 200 Megabytes di spazio disponibile. La situazione ideale tuttavia è quella di un sistema da Windows 2000 in poi (oppure Windows NT), che ci permette di eseguire MySQL come un servizio. Nel nostro esempio faremo riferimento a Windows XP.

La scelta del pacchetto da installare è piuttosto semplice: ne abbiamo tre a disposizione.

Windows Essentials: come suggerisce il nome, contiene i componenti essenziali per MySQL, ed è fornito con l'installatore Windows.

Windows: è il pacchetto completo, comprensivo di componenti opzionali quali l'embedded server e la benchmark suite.

Without installer: contiene gli stessi file del pacchetto completo, ma non ha l'installatore Windows né il wizard di configurazione.

La nostra scelta cade sul pacchetto Windows Essentials, semplicissimo da installare e con tutto quello che serve per l'utente medio. Per scaricare il file selezioniamo il link 'Pick a mirror': nella pagina successiva abbiamo l'elenco dei siti da cui possiamo scaricare il nostro file, preceduto da un questionario nel quale MySQL AB ci chiede alcune informazioni: non siamo obbligati a riempirlo, e possiamo passare direttamente al download (basta selezionare 'No thanks, just take me to the downloads' per scorrere la pagina verso il basso). Scegliamo quindi il mirror più vicino e scaricheremo un file (la dimensione è circa 17 MB, per cui è consigliabile avere una connessione ADSL) il cui nome dovrebbe essere simile a questo: `mysql-essential-5.0.15-rc-win32.msi`.

È arrivato quindi il momento di fare l'installazione: a chi dovesse avere una versione precedente di MySQL già installata sulla propria macchina consigliamo di disinstallarla preventivamente. Solo se avete almeno la versione 4.1.5 installata potete effettuare direttamente l'upgrade seguendo il manuale.

Per eseguire l'installazione quindi lanciamo il file .msi, che chiama in causa l'installatore di Windows (attenzione: secondo quanto dichiara il sito ufficiale, è necessario utilizzare la versione 2.0 dell'installatore, quella fornita con Windows XP; chi utilizza sistemi più datati dovrebbe quindi effettuare l'upgrade di Windows Installer consultando questo indirizzo).

Verrà quindi avviato l'Installation Wizard di MySQL, che ci guiderà attraverso i seguenti passi:

Per prima cosa ci viene chiesto che tipo di installazione vogliamo eseguire: scegliamo "typical";

A questo punto viene effettuata l'installazione vera e propria, al termine della quale il wizard ci dà la possibilità di effettuare la registrazione a MySQL.com; possiamo saltare questo passo scegliendo 'Skip Sign-Up';

L'installazione è già terminata, ma l'ultima schermata dell'Installation Wizard ci chiede se vogliamo lanciare il Configuration Wizard. Lasciamo selezionata la checkbox per configurare immediatamente il nostro server MySQL;

Abbiamo ora la possibilità di scegliere tra una configurazione standard o dettagliata. Il nostro consiglio è di optare per la configurazione standard;

Ci viene chiesto se vogliamo eseguire MySQL come servizio, se vogliamo lanciarlo automaticamente e se vogliamo includere la directory 'bin' nel path di Windows. Selezioniamo tutte e tre le caselle;

L'ultima schermata ci consente di impostare la password di root, digitandola due volte: ovviamente è importantissimo ricordarla, perchè sarà quella che ci consentirà di amministrare il nostro server! Per una migliore sicurezza evitiamo di selezionare la casella che consente l'accesso root da macchine remote, e anche quella che genera un account anonimo;

Dopo avere dato tutte le conferme, l'installazione e la configurazione sono terminate! Dovremmo avere il nostro server installato nella directory "C:/Programmi/MySQL/MySQL Server 5.0/". La sottodirectory "data" è quella che contiene fisicamente le tabelle.

Installazione su Linux

MySQL richiede come minimo la versione 2.0 del kernel Linux. Alcuni problemi sono stati segnalati con la versione 2.2.14: se usate questo kernel il consiglio è di fare l'upgrade almeno alla versione 2.2.19 o, meglio, ad una 2.4.

Va anche ricordato che buona parte delle distribuzioni Linux comprendono il server MySQL, generalmente in versione 3.23. Il nostro consiglio, in questo caso, è di disinstallare la versione installata prima di installare la 5.0

Per l'installazione su Linux possiamo scegliere fra i pacchetti RPM e quelli nel formato .tar.gz. MySQL AB raccomanda l'utilizzazione dei pacchetti RPM, che troviamo disponibili per tre piattaforme:

x86

Intel IA64

AMD64 / Intel EM64T

Se il nostro sistema supporta i pacchetti RPM e utilizza le librerie glibc, possiamo scaricare questi pacchetti, selezionando quelli che ci interessano (fra parentesi i nomi dei file per i pacchetti relativi a sistemi generici x86):

Server (MySQL-server-VERSIONE.i386.rpm): questo è il server MySQL vero e proprio, e naturalmente dovremo scaricarlo senz'altro;

Client (MySQL-client-VERSIONE.i386.rpm): è il client che si connette al server MySQL; anche questo è sicuramente da scaricare;

Max (MySQL-Max-VERSIONE.i386.rpm): aggiunge funzionalità al server quali il supporto alle tabelle BDB, ad OpenSSL, alle User-Defined Functions. Potete evitare di scaricarlo se non intendete avvalervi di queste possibilità.

Esistono altri pacchetti, non indispensabili, dei quali potete trovare la descrizione su questa pagina. Tuttavia per avere MySQL perfettamente funzionante i pacchetti Server e Client sono sufficienti: possiamo quindi installarli così

```
shell> rpm -i MySQL-server-VERSIONE.i386.rpm
```

```
shell> rpm -i MySQL-client-VERSIONE.i386.rpm
```

I pacchetti che abbiamo appena visto si adattano, come detto, a sistemi generici x86 con versioni di glibc precedenti alla 2.3; se il vostro sistema utilizza invece quest'ultima versione, dovrete scaricare i pacchetti corrispondenti, contrassegnati dall'indicazione 'glibc 2.3'. Se il vostro sistema è invece uno di quelli a 64 bit, tutti i pacchetti richiedono la versione 2.3 di glibc.

Se infine utilizzate una delle distribuzioni RedHat Enterprise Linux 3, RedHat Enterprise Linux 4 o SuSE Linux Enterprise Server 9, avete a disposizione ulteriori pacchetti specifici per ciascuna piattaforma.

Una volta effettuata l'installazione come abbiamo visto prima, il nostro server dovrebbe essere già funzionante. Il pacchetto RPM crea un utente mysql che manderà in esecuzione il server, e registra nella directory /etc/init.d/ le informazioni necessarie per l'avvio automatico.

Rimane però ancora una cosa importantissima da fare, cioè la messa in sicurezza del server attraverso l'impostazione delle password e l'eliminazione degli account anonimi.

Cominciamo con quest'ultimo passo, cioè eliminiamo la possibilità di collegarsi anonimamente al server:

```
shell> mysql -u root
mysql> DELETE FROM mysql.user WHERE User = "";
mysql> FLUSH PRIVILEGES;
```

La prima riga si collega al server come utente root, che per il momento è ancora senza password. Con la seconda riga eliminiamo dalla tabella degli utenti quelli che hanno il nome utente vuoto, e con la terza diciamo al server di aggiornare i privilegi, per riconoscere la modifica che abbiamo appena fatto.

Passiamo all'impostazione delle password di root, utilizzando la connessione già aperta in precedenza:

```
mysql> UPDATE mysql.user SET Password = PASSWORD('pwd')
-> WHERE User = 'root';
mysql> FLUSH PRIVILEGES;
```

Al posto di 'pwd' metteremo quella che sarà la nostra password di root, che sarà poi importantissimo ricordare: da questo momento in poi infatti ogni volta che ci collegheremo al nostro server MySQL come utente root dovremo fornire questa password.

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